Phase I Final Report

Rocket Paste Production Buildings Investigation
Badger Army Ammunition Plant
Baraboo, Wisconsin

Stone & Webster, Inc.
A Shaw Group Company

June 24, 2003

Report Documentation Page

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LIST OF ABBREVIATIONS AND ACRONYMS

ACM	asbestos-containing material
BAAP	Badger Army Ammunition Plant
CRREL	Cold Regions Research and Engineering Laboratory
°C	degrees Celsius
DEP	diethyl phthalate
DNPA	di-n-propyl adipate
DNT	dinitrotoluene
DoD	Department of Defense
DS	differential speed
ES	even speed
ESTCP	Environmental Security Technology Certification Program
HMX	high melting explosive
mg/kg	milligram(s) per kilogram
mm	millimeter(s)
µg/cm^2	microgram(s) per cubic centimeter
µg/g	microgram(s) per gram
NC	nitrocellulose
2-NDPA	2-nitrodiphenylamine
NG	nitroglycerine
ng	nanogram(s)
nm	nanometer(s)
NMT	not more than
OSC	Operations Support Command
PBB	Paste Breaker and Blender House
PETN	pentaerythritol tetranitrate
RDX	Royal Demolition eXplosive
RP	Rocket Paste
RPD	relative percent difference
SASW	Spectral Analysis of Surface Waves
SIC	Standard Industrial Classification
SOP	standard operating procedure
SVOC	semivolatile organic compound
USEPA	U.S. Environmental Protection Agency
WDNR	Wisconsin Department of Natural Resources

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1.0 Introduction

1.1 Background Information

Badger Army Ammunition Plant (BAAP) is included in the first group of 13 inactive Army ammunition plants with transitioning missions. Operations Support Command (OSC) currently manages these plants and is in varying stages of transferring the properties out of Department of Defense (DoD) control. To accomplish this, many buildings used in the production, loading, handling, and storage of explosives must be demolished or characterized and decontaminated to a level protective of human health and the environment. BAAP alone has more than 1,400 buildings on the installation that will have to be addressed. Compounds associated with the buildings include nitrocellulose (NC), nitroglycerine (NG), dinitrotoluene (DNT), and common compounds such as asbestos-containing material (ACM), solvents, and metals.

There are no full-scale technologies for non-destructive *in situ* characterization of hard to reach surfaces (e.g., under floors) in explosive-contaminated buildings. With adequate characterization, many buildings could be safely left in place, resulting in substantial cost avoidance and the ability to transfer the properties out of DoD control more quickly.

This Environmental Security Technology Certification Program (ESTCP) Demonstration evaluated a variety of methods for characterizing the foundations, adjacent areas, and underlying soils without having to remove the buildings and foundations first. The intent of this demonstration was to show that the evaluated methods could be applied to many of the buildings at BAAP and at similar sites throughout the United States. Further information on the ESTCP can be found at http://www.estcp.org.

As part of this demonstration, field test methods including Raman spectroscopy, Expray® colorimetric indicator, and the Cold Regions Research and Engineering Laboratory (CRREL) Royal Demolition Explosive (RDX) colorimetric field screening method were evaluated to determine the presence and/or concentration of NC or NG in soil samples and concrete slabs.

Results from these field measurements were compared to laboratory analyses of NC and NG in the same materials to evaluate the reliability of the field screening and analytical methods for identifying and quantifying NC and NG in building foundations and soil. Raman spectroscopy was also evaluated for identifying the presence of other organic compounds used in the manufacturing processes within the study area.

1.2 Objectives of the Demonstration

The objectives of the demonstration were to evaluate the reliability of field instrumentation and analytical techniques for identifying and measuring NC and NG on building foundations and in underlying soils and to compare the field results to reference laboratory analytical methods. The demonstration was conducted on NC and NG, but could be used for other explosive compounds. Potential NC and NG contamination in soils, on building foundation surfaces, and in cracks and flaws in concrete floors were investigated.

This demonstration took place at BAAP, located on 7,354 acres of land in Sauk County, Wisconsin, and approximately 30 miles northwest of Madison, Wisconsin. BAAP is one of several smokeless propellant powder plants built in the United States in the early 1940's to meet the propellant and explosive needs of the United States during World War II. The area at BAAP that was used for the demonstration is the Rocket Paste (RP) production area. This area was reportedly constructed in the late 1940's for the manufacture of rocket propellants. RP is a double-based plasticized propellant used in solid-fuel rockets. It is compounded from NC and NG with the addition of several plasticizers and burn rate modifiers during various mixing stages of the process. Five buildings associated with the manufacture of RP at BAAP were selected for characterization.

1.3 Regulatory Issues

There are no state or federal numerical environmental standards for NC and NG cleanup within soils and building materials. Nitroglycerine is both a federal and Wisconsin listed waste (P081) and is considered a possible carcinogen by the U.S. Environmental Protection Agency (USEPA). There is a site-specific Wisconsin Department of Natural Resources (WDNR) cleanup criterion for NG in the RP area soils of 3.6 milligrams per kilogram (mg/kg). This concentration was determined by the WDNR to be an acceptable risk-based concentration and was a result of an ecological risk evaluation for terrestrial receptors. There is also no DoD standard for NC and NG residual contamination; however, safety concerns related to the explosive nature of these materials provided the driver for this investigation. OSC Regulation 385-1 addresses explosive safety at all Army industrial facilities and requires buildings be classified and remediated if necessary prior to transfer. The regulation provides guidance in detecting explosive contamination, determining the contamination status, recommending decontamination methods, and marking contaminated items. Buildings may not be released to the public until they do not pose an explosive safety hazard and are safe for welding, drilling, sawing, and sale to the general public. OSC Regulation 385-1 defines an the amount of explosives required to create an explosive safety hazard as dependent on the properties of the explosive, the concentration or distribution of the contaminant on the surface, and the amount of confinement in the potential incident. In *Testing to Determine Relationship Between Explosive Contaminated Sludge*

Components and Reactivity[1], Army considers soils containing concentrations of primary explosives, such as NG, in excess of 4 percent to be an explosive hazard. In *Analysis, Preliminary Determination and Draft Plan on the Explosive Decontamination and Demolition at BAAP*[2] regarding open burning of buildings at BAAP, WDNR also cited OSC Regulation 385-1 with regard to explosive safety at BAAP. No numerical limits pertaining to concentrations of NC or NG were included with this citation.

1.4 Previous Testing of the Technology

The following sections describe previous testing of the three technologies evaluated during this demonstration.

1.4.1 Raman Spectroscopy. A large amount of testing related to chemical analysis has been done since the discovery of Raman spectroscopy. This testing was related to qualitative and quantitative analysis of chemicals in the laboratory. As technology has progressed in the past decade, field measurement of chemicals has become possible. Examples of previous field technical demonstrations for Raman spectroscopy include *Demonstration of Portable, Restricted Access, Raman Based EM Detection Device*[3] and *Fourier Transform Raman Spectroscopy of Some Energetic Materials and Propellant Formulations II*[4].

1.4.2 Expray® Colorimetric Indicator. Expray® has been used for screening at transportation facilities, in forensic applications to identify the presence of explosives, and for testing for the presence of explosives in soil. No testing has been performed on Expray® for use as a screening method to detect explosive compounds in buildings and soils. Scientific evaluations of this technology can be found in *Analysis of Energetic Material Detection Technologies for Use at Army Energetic Material Production Facilities*[5]; *Detection of Trace Amounts of Explosives: A Comparison of EPA Method 8330, Immunoassay, Colorimetric, and Ion Mobility Spectroscopic Techniques*[6]; and *Performance Evaluations of Commercial Trace Explosives Detection Systems*[7].

1.4.3 CRREL RDX Method. Currently, the USEPA is in the process of adopting the CRREL RDX Method as SW-846 Method 8510 for measurement of RDX. The method was developed by Cold Regions Research and Engineering Laboratory, a branch of the U.S. Army Corps of Engineer Research and Development Center. The method is not specific for NC or NG, and these compounds are identified in the USEPA draft method as interferences rather than analytes. No testing has been done on the technology for field quantitation of NC and NG in buildings or soils.

2.0 Technology Description

Three distinct technologies for identifying and quantifying NC and NG in the field were evaluated against laboratory analysis. These included:

- Raman spectroscopy,

- Expray® colorimetric indicator, and
- CRREL RDX colorimetric field screening method.

Each of these technologies is addressed in the following sections.

2.1 Raman Spectroscopy

2.1.1 Description – Theory, Functionality, and Operation. Raman spectroscopy technology has been developed and proven for detecting and identifying chemicals through inelastic scattering of incident light. The basis for this technology derives from the observation that a small fraction of the light falling on a material will be absorbed by exciting the chemical bonds in the molecule, resulting in molecular vibration. When the molecule returns to its ground state, this excitation energy is released as a photon. This photon will have energy different from the incident light and the characteristic of the chemical bond that was previously excited. Each chemical will therefore have a characteristic Raman spectrum.

Recent advances in laser technology and signal processing have resulted in miniaturization of Raman spectroscopy devices. The device that was evaluated in the course of this project was approximately 1 inch in diameter. The probe contained a laser for illuminating the sample. The probe was connected to the signal-processing unit by way of a fiber optic cable, so that the probe could be deployed into remote locations.

Raman spectroscopy is not significantly limited by sample size, particularly in the case of solids. The intensity of the Raman scattered light is essentially constant for any size particle larger than the wavelength of the incident illumination. The Raman spectroscopy unit that was evaluated in this study used an illumination wavelength of 632 nanometers (nm). This resulted in the ability to detect and identify sub-microgram particles of NC or NG.

The Raman spectroscopy probe can be used under adverse circumstances, including wet conditions and limited access. The device is capable of resolving and identifying particles in a complex matrix such as soil or concrete. The selected Raman spectroscopy probe is also capable of detecting NC or NG on building or equipment surfaces. The probe can be pushed into soil and used to detect NC and NG particles below the soil surface. The Raman device is capable of measuring particles on surfaces. The Raman device is not capable of measuring particles within materials, unless those materials are physically exposed to the probe.

Raman spectroscopy has been used to identify organic chemicals since its discovery in the late 1920's. Recent developments over the last decade in laser technology, signal processing, and miniaturization has greatly enhanced the capability of the technique. Rugged field deployable Raman spectroscopy units have been available for use since approximately 1998. Potential applications for the technology include a wide range of measurement techniques for both qualitative and quantitative measurements of organic and inorganic chemicals. Liquids, solids, gases, and vapors can be analyzed. Measurements can be made at room temperature as well as at very low or high temperatures.

2.1.2 Strengths, Advantages, and Weaknesses. The significant advantages of this technology are that positive identification of the target compounds NC and NG can be made in the field. This provides an advantage over current laboratory techniques, which require sampling, packaging, shipping, and analysis of the sample. Determinations can be made *in situ* without disturbing the material. The system can be deployed to remote or inaccessible locations including pipes, cracks, and other irregularities that may serve as collection points. This provides an advantage over conventional investigation, which would require removal of portions of the structure being analyzed to access the sampling locations. The technology is extremely sensitive, capable of detecting sub-microgram particles of NC or NG.

The principal drawback of the technology is that while it provides positive identification of NC or NG, it does not provide quantitative information. The system may not be capable of distinguishing trivial quantities of NC and NG from quantities requiring remediation. The probe, while small, will not be able to access locations smaller than a 1-inch width or certain locations where the geometry of the location would prohibit a probe.

2.1.3 Factors Influencing Cost and Performance. The principal factor affecting cost and performance is the reliability of the instrument and the system as a whole. The Raman spectroscopy system generally performs reliably as long as the system components (i.e., computer, probe, etc.) are all functioning in unison. This is generally a matter of having the equipment supplier properly integrate the equipment prior to shipment to the field. Performance is not affected by distance between the probe and the signal-processing unit. Typically, five to ten Raman analyses can readily be performed in an hour under normal field circumstances.

2.2 Expray® Colorimetric Indicator

2.2.1 Description – Theory, Functionality, and Operation. The Expray® system consists of a set of three aerosol sprays. The sprays are used in a fixed sequence to identify a variety of explosive compounds, including NC and NG. Explosive compound identification is performed colorimetrically.

Expray® is applied to a filter paper that has been previously wiped over a suspect surface. The wipe is then sprayed with the first spray. A color change indicates the presence of trinitrotoluene (dark brown/violet), dinitrotoluene (blue-green), or trinitrobenzene, picric acid, or other Group-A explosives (orange). If the first spray does not react, the second spray is applied. A pink color indicates the presence of Group-B explosives, including NC and NG. Following this, the third spray is applied, which will indicate the presence of inorganic nitrates.

Expray® is a detect/nondetect method. Performance evaluations conducted by Sandia National Laboratories show a detection level for trinitrotoluene at +200 nanograms (ng) total sample, although the manufacturer claims a detection level less than this.

Expray® has been used for several years for screening persons, baggage, and other items at transportation facilities. It has also been used in forensic applications to identify the presence of

explosives. A modification of this method has been developed for testing for the presence of explosives in soil.

2.2.2 Strengths, Advantages, and Weaknesses. Expray® is a demonstrated technology for identifying a wide variety of explosive compounds in the field. This technology gives a qualitative indication of whether explosive compounds exist at the testing site, and also provides information on what type of explosive compounds have been detected. This provides an advantage over conventional analysis, which requires sampling, packaging, shipping, and analysis of the sample. Expray® is rapid and has a low rate of false negatives.

Disadvantages of the technology include the method is not quantitative and the identification will not be specific for either NC or NG. Some interferences have been observed in the field, causing development of other colors that may mask positives or be misinterpreted as explosives.

2.2.3 Factors Influencing Cost and Performance. No factors have been identified that affect cost and performance. Typically, 30 Expray® analyses can readily be performed in an hour under normal field circumstances.

2.3 CRREL RDX Method

2.3.1 Description – Theory, Functionality, and Operation. The CRREL RDX Method is a colorimetric quantitative field portable analytical method for identifying and quantifying RDX and certain other explosives, including pentaerythritol tetranitrate (PETN), high melting explosive (HMX), NC, NG, and tetryl. The method involves extracting the soil (or other solid material) with acetone to remove the explosive compounds. The extract is filtered, acidified, and treated with zinc dust. Treatment with acid and zinc liberates the nitro groups from the compound as nitrite ions. Nitrite is then quantified using Hach Chemical Company's proprietary NitroVer 3® reagent. This reagent reacts with nitrite to form a pink color whose intensity is proportional to the concentration of nitrite. The absorbance of the treated extract is measured at a wavelength of 507 nm.

This method was developed by Cold Regions Research and Engineering Laboratory, a branch of the U.S. Army Corps of Engineers Research and Development Center. The method was originally published in *Development of a Field Screening Method for RDX in Soil*[8] in 1991. The authors and others have used the method extensively for evaluating soils contaminated with RDX. The method is also in the process of adoption by the USEPA as SW-846 Method 8510.

Potential applications for the technology include quantitative field analysis of NC and NG at locations where RDX is not present as is the case at BAAP and similar sites.

2.3.2 Strengths, Advantages, and Weaknesses. The advantage of the method lies in its speed, simplicity, and low cost. The method can be used with minimal training. The method produces a numerical quantitative value for the explosive compounds in the soil based on the quantity of nitrite present.

The method is not specific for NC or NG and was developed and used for RDX quantitation. However, since NC and NG are the only explosives present at the demonstration site, this does not constitute a technical problem.

The method cannot distinguish between NC and NG, since the extract treatment destroys both of the parent compounds, liberating the nitro groups from both. NC is not a discrete molecule of constant composition. Consequently the method is not strictly quantitative for NC. Nitrite measured in the extract must be converted to an arbitrary average value NC equivalent that may differ in detail from the NC present in the sample.

2.3.3 Factors Influencing Cost and Performance. No factors have been identified that affect cost and performance. Typically, five soil samples can be analyzed in an hour under normal field circumstances using the CRREL RDX Method.

3.0 Site/Facility Description

3.1 Background

The test sites for performing the technology evaluation were selected using the following criteria:

- Structures were used directly in the manufacture of explosives, specifically NC and/or NG.
- Test sites were representative of a variety of potentially contaminated sites.
- Physical condition of structures exhibited some deterioration and irregularities, particularly in the foundations.
- For purposes of evaluating the overall reliability of the test methods, selected test sites had a strong potential for containing a wide range of NC and NG concentrations, including a sufficient number of uncontaminated locations.
- Test sites provided ample locations that would likely serve as specific accumulators of NC or NG residue.

The buildings previously used for the production of RP were selected as fulfilling all these criteria. The activities that occurred in the buildings generated large quantities of dust. The dust has been found in the wooden frame parts of these buildings, and it was anticipated that the dust would be found in or beneath the cracks in the concrete floors. The floors of all five buildings were regularly washed down with water and/or neutralizing solutions, which may also have carried RP compounds into the cracks or may have spilled into the soils under the gutters leading from the buildings.

3.2 Site/Facility Characteristics

The former manufacturing activities are identified as Standard Industrial Classification (SIC) 2892.

The RP area was constructed in the 1944 to 1945 timeframe for the manufacture of rocket propellants. RP is used to manufacture a double-based plasticized NC propellant used in rockets. The final propellant contains NC, NG, plasticizers, and burn rate modifiers that are added during various mixing stages of the process. The rocket propellant manufacturing process at BAAP was performed in three major processing areas: the Paste Area, Rolls and Press Area, and Finishing Area. These areas contain numerous buildings for blending, drying, pressing, and milling propellant. Visible RP was removed from the buildings and burned at the Propellant Burning Ground after BAAP went on standby status. However, potential accumulation of propellant within, around, and under the buildings' structural foundations has not been addressed. The types of rocket propellants manufactured at BAAP during the Vietnam Conflict (the most recent and most extensive period of production) are given in Table 3-1, which also shows the locations in the manufacturing process where the plasticizers and burn rate modifiers were added.

Table 3-1: Rocket Paste Production Process Locations and Formulations

Constituent	Rocket Paste Formulation[(1)]				
	N-5	**N-8**	**AA-6**	**T-16**	**XM-33**
Nitrocellulose	Pre-Mix	Pre-Mix	Pre-Mix	Pre-Mix	Pre-Mix
Nitroglycerin	Pre-Mix	Pre-Mix	Pre-Mix	Pre-Mix	Pre-Mix
Diethyl phthalate	Pre-Mix	Pre-Mix			
Triacetin			Pre-Mix	Pre-Mix	Pre-Mix
Carbon black				Pre-Mix	
2-Nitrodiphenylamine	Final Mix	Final Mix	Final Mix	Final Mix	Final Mix
Candelilla wax			Final Mix	Final Mix	Final Mix
di-n-Propyl adipate			Final Mix		
Lead hexoate					Final Mix
Lead stearate				Final Mix	
Ethyl centralite				Final Mix	
Lead salicylate	PBB[(2)]	PBB	PBB		PBB
Lead beta resorcylate		PBB	PBB		
Monobasic copper salicylate			PBB		
Powdered aluminum			PBB		

Notes:
(1) United States Army propellant formula designation
(2) PBB = Paste Breaker and Blender House

Of these additional compounds, i.e., plasticizers and burn rate modifiers, the ones that are of potential environmental concern are diethyl phthalate (DEP) and compounds containing lead, copper, and aluminum.

The flow diagram of the RP manufacturing process varies with the type of propellant being manufactured. Figure 3-1 is a flow diagram for the manufacture of various rocket propellant formulations. Only certain of the listed constituents were used in each formulation as shown in Table 3-1.

Subsequent sections discuss background activities for the buildings to be investigated. The arrangement of these buildings is shown in Figure 3-2. All buildings have been put on inactive status. No operations are currently underway at any of the buildings.

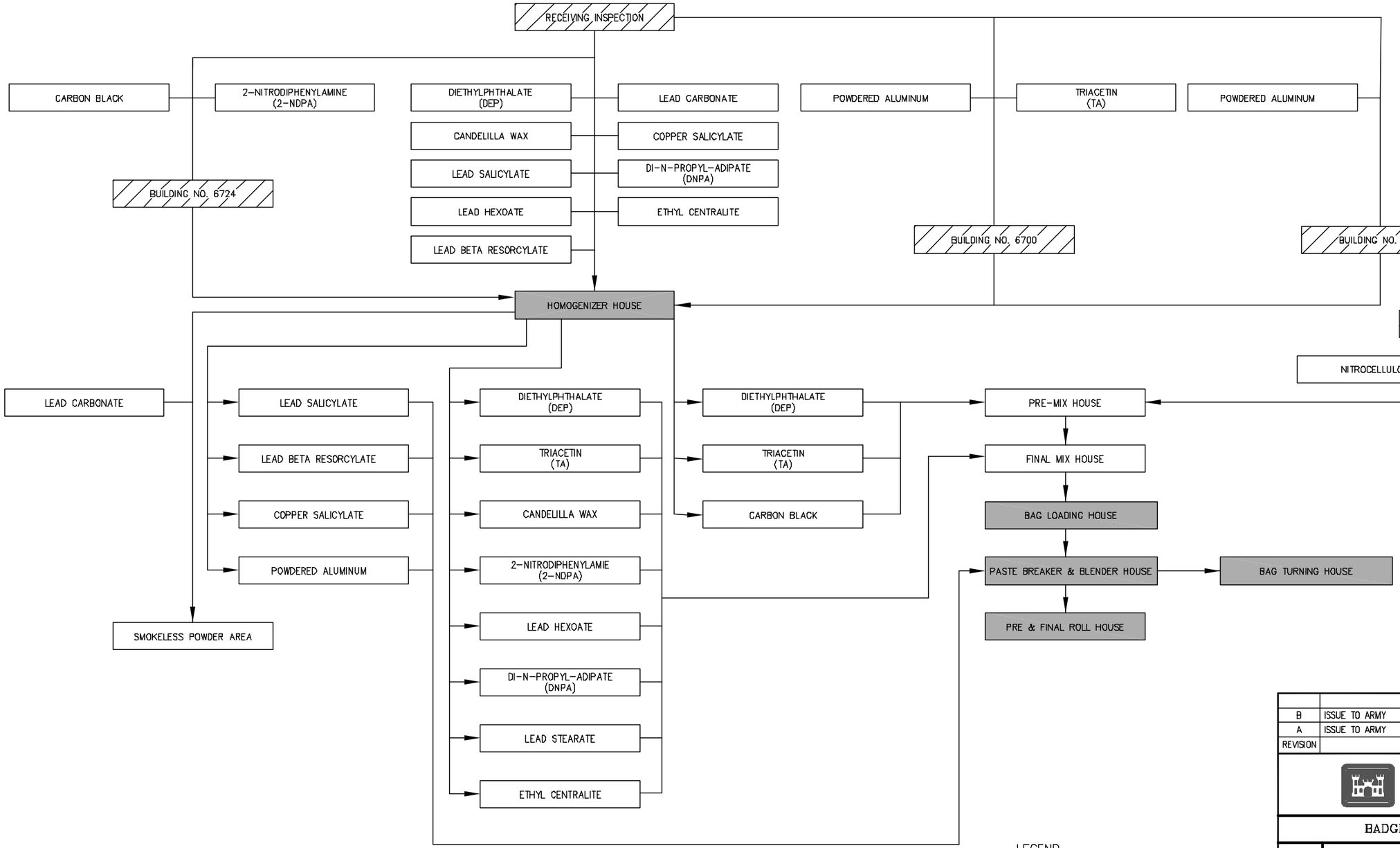
3.2.1 Homogenizer House (No. 6712). Some of the chemical ingredients of RP, other than NG and NC, were initially processed in the Homogenizer House. Processing consisted of weighing formula batch weights, heating, and mixing or homogenizing chemicals for preparation of pumping or hauling to the Pre-Mix, Final Mix, or Paste Breaker and Blender Houses. From the Homogenizer House, the chemicals were introduced into the process stream in proper sequence. This facility included an elevated 535-gallon DEP weigh tank served by feed pumps to transfer DEP to field storage tanks, two elevated and immersed steam coil heated mix tanks, transfer pumps, two high-speed homogenizers, a mixing tank and pump, dust collector system, and a scale.

The DEP was received in rail cars and pumped to storage tanks located behind the Homogenizer House. It was pumped, as required, from the storage tanks to the DEP weigh tank, weighed, and transferred by gravity feed to the Pump and Heater House. When required, it was pumped to the Pre-Mix and/or the Final Mix Houses for inclusion into the NC-NG slurry.

The stabilizer, 2-nitrodiphenylamine (2-NDPA), was ground in a hammer mill located in Building No. 6724 to reduce the particle size. It was then transferred to the Homogenizer House and emulsified or dispersed in water with exact proportions of powdered candelilla wax. The mixture was run through a homogenizer and pumped to the Final Mix House for inclusion into the NC-NG slurry.

Lead salicylate, lead beta resorcylate, and monobasic copper salicylate are burning rate modifiers. These chemicals were weighed at the Homogenizer House and transported to the Paste Breaker and Blender House were they where blended with the pre-dried paste. Finely powdered aluminum was used also as a burn rate modifier and blended with the pre-dried paste at the Paste Breaker and Blender House. The powdered aluminum was stored and weighed in Building Nos. 6700 and 6739, which are located east and west, respectively, of the Homogenizer House.

Carbon black is a fine powdered additive used to increase the burn rate of the propellant and also opacifies and prevents subsurface burning. Carbon black was stored in Building No. 6724 directly adjacent to the Homogenizer House. It was transferred to the Homogenizer House for weighing and the charges were then transferred to the Final Mix House for inclusion into the NC-NG slurry in a dry state.



LEGEND

- DEMONSTRATION PROJECT BUILDING
- TEMPORARY STORAGE/ STAGING
- CHEMICAL CONSTITUENT

REVISION	DESCRIPTION	CHECKED	APPROVED	DATE
B	ISSUE TO ARMY	KSH	DJR	01/31/03
A	ISSUE TO ARMY	KSH	DJR	11/14/02

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT

BADGER ARMY AMMUNITION PLANT

FIGURE NUMBER 3-1

SIMPLIFIED ROCKET PASTE PROCESS FLOW CHART

STONE & WEBSTER, INC.

	BY	DATE		BY	DATE	PROJECT NO.	REV.	DRAWING NO.
DSND	CMB	08/14/02	CHKD	KSH	11/14/02	13341.0730	B	3341H07B
DRAWN	MEC	08/14/02	APPR	DJR	11/14/02			

MON, JAN 27, 2003 11:19 A MEC K:\BADGER\13341\H-0730\REV-B\3341H07B.DWG

BAG TURNING HOUSE
NO.6736

PRE-MIX HOUSE
NO.6702-4

BAG LOADING HOUSE
NO.6739

FINAL MIX HOUSE
NO.6704-4

HOMOGENIZER
HOUSE
NO.6712

PASTE BREAKER
AND BLENDER HOUSE
NO.6731-2

PRE AND FINAL
ROLL HOUSE
NO.6807-13

0 350
SCALE: 1" = 350'

0 4000
SCALE: 1" = 4000'

REVISION	DESCRIPTION	CHECKED	APPROVED	DATE
B	ISSUED TO ARMY	KSH	DJR	01/31/03
A	ISSUED TO ARMY	KSH	DJR	11/14/02

U.S. ARMY
CORPS OF ENGINEERS
OMAHA DISTRICT

BADGER ARMY AMMUNITION PLANT

FIGURE NUMBER
3-2

PROJECT BUILDING LOCATIONS

STONE & WEBSTER, INC.

	BY	DATE		BY	DATE	PROJECT NO.	REV.	FILE NAME
DSND	MEC	08/14/02	CHKD	KSH	11/14/02	13341.0730	B	3341H06B
DRAWN	MEC	08/14/02	APPR	DJR	11/14/02			

MON, JAN 27, 2003 11:09 A MEC K:\BADGER\13341\H-0730\REV-B\3341H06B.DWG

Lead hexoate was stored in 5-gallon containers within the Homogenizer House. The containers were transported to the Final Mix House for inclusion into the NC-NG slurry on an as-needed basis.

Di-n-propyl adipate (DNPA) is a plasticizer that was stored and pre-weighed at the Homogenizer House. It was contained within stainless steel covered containers and transferred to the Final Mix House for inclusion into the NC-NG slurry on an as-needed basis.

Ethyl centralite is a propellant stabilizer used in at least one of the rocket paste formulations produced at BAAP. Ethyl centralite was weighed in the Homogenizer House and transferred to the Final Mix House as needed.

Lead carbonate is a white powder burn rate modifier that was stored and weighed within the Homogenizer House. It was weighed into approximately 4-pound charges for the Smokeless Powder Area. The charges were placed into paper bags and stored at the Homogenizer House pending transport to the Smokeless Powder Area.

3.2.2 Pre-Mix House (No. 6702-4) and Final Mix House (No. 6704-4). The Pre-Mix House (6702-4) and Final Mix House (6704-4) were originally included in this demonstration. However, a layer of ACM was discovered between the 1/8-inch-thick lead floor coating and the concrete slab. According to BAAP personnel, the ACM extended over the entire floor surface. To obtain access to potential sampling locations, the ACM would have to be removed. Managing ACM was beyond the scope of the field investigation. Therefore, Army elected to evaluate the Bag Loading House (No. 6739) and the Bag Turning House (No. 6736) instead of the Pre-Mix and Final Mix Houses.

3.2.3 Bag Loading House (No. 6739). RP that was produced in the Final Mix House was transported to the Bag Loading House via tram train. In the Bag Loading House, the RP was placed into canvas bags and then transferred to the Paste Breaker and Blender House for further processing. The Bag Loading House is located adjacent to a rail spur in the RP area (see Figure 3-2). This building also served as a temporary storage area for raw materials used in RP production.

3.2.4 Bag Turning House (No. 6736). Canvas bags were used for paste containment prior to the breaking and blending operation performed in the Paste Breaker and Blender House (Section 3.2.5). Once empty, these bags were transferred to the Bag Turning House for cleaning and reuse. The bags were cleaned by vacuuming or wet sweeping and returned to the Bag Loading House.

3.2.5 Paste Breaker and Blender House (No. 6731-2). Within the Paste Breaker and Blender House, air dried RP, representing approximately equal parts of 12 separate production batches, was blended to achieve chemical, physical, and moisture uniformity. The paste was dumped from the bags into and through the loading hopper and directed into a copper blending barrel by a canvas skirt attached to the loading hopper outlet. Burn rate modifiers and specified chemicals were added to the blend at this point.

The paste was blended in a rotating “Everdur” barrel of approximately 2,500-pound capacity. The interior of the barrel was lightly baffled to promote paste breaking and tumbling. Reportedly, this operation generated excessive dust and was managed by exhaust systems and water. An exhaust system directed paste away from the charging operation into a dust collection unit located on the lower floor. The air was ducted from the collection unit through an exhaust fan and into a scrubber. The scrubber was equipped with a filter to collect dust fines that passed through the collection unit. Water from the scrubber was drained back through the wall and flushed to an exterior catch tank. Air from the scrubber was ducted back into the blender bay. All floors throughout the building and the entire dock area were thoroughly wetted throughout all operations by a constant floor wet system, which was actuated when the building lights were turned on. An exterior settling box, trough, and catch tank were provided to collect any RP that was flushed from the hoppers and the floors with the wastewater.

After the breaking and blending of the paste was complete, the paste was dumped into a hopper and hoed into fiber tubs for transfer to the Roll Houses via tram train.

3.2.6 Pre and Final Roll House (No. 6807-13). The Pre and Final Roll House contains differential speed (DS) and even speed (ES) roll mills. The RP was weighed into a DS roll mill. The rolling cycle was automatically sequenced and timed. The RP changed in the rolling process from the damp, fluffy material into a strong, rubbery sheet. The sheets from the DS rolls are moved to cleaning and warming tables for assembly in ES roll mill charges. Normally, four sheets from the DS rolls, or a combination of DS sheets and reworked propellant sheets are brushed off, inspected, and folded together to make an ES roll mill charge of approximately 20 to 30 pounds. The ES rolling "married" the sheets together and produced a smooth uniform sheet. The finished ES sheets were rolled into a loose "blanket roll" and hauled to the next step, which was the slitting operation.

At designated times each shift, the rolling mills were stopped and the bays and equipment cleaned. DS rolls were cleaned with compressed air or water. A hand brush was used to remove propellant lodged in or around the machinery. The walls, pipes, floors, and the gutters were hosed down. Gutter screen traps were emptied and cleaned. The floors were swept and waste propellant was stored in proper containers and secured in outside storage cabinets to be picked up for disposal. The exterior sump pits were inspected and propellant removed for disposal on a regular basis.

If the RP did not adhere well to the DS rolls, the rolls were cleaned. The DS rolls were cleaned with an abrasive paste. ES rolls were wiped with rags soaked in DEP or acetone to clean them.

4.0 Demonstration Approach

4.1 Performance Objectives

Structures, facilities, and property that have been or may have been contaminated by propellants and explosives must be cleaned up with regard to the explosive material before they can be sold,

transferred, or otherwise disposed of in a manner that may result in public exposure. The Army considers soils containing concentrations of primary explosives, such as NG, in excess of 4 percent[1] to be an explosive safety hazard. Propellants, such as NC, with a moisture content below 30 percent can burn when exposed to an ignition source such as a spark.

The performance objective for this study was to quantify the levels of propellants and/or explosives that may be reliably detected using specific field test methods. If this quantitation level was sufficiently low and reliable, these field tests might then be used to support decisions relating to required remediation or to release buildings for unrestricted public use or access.

Performance objectives are summarized in Table 4-1.

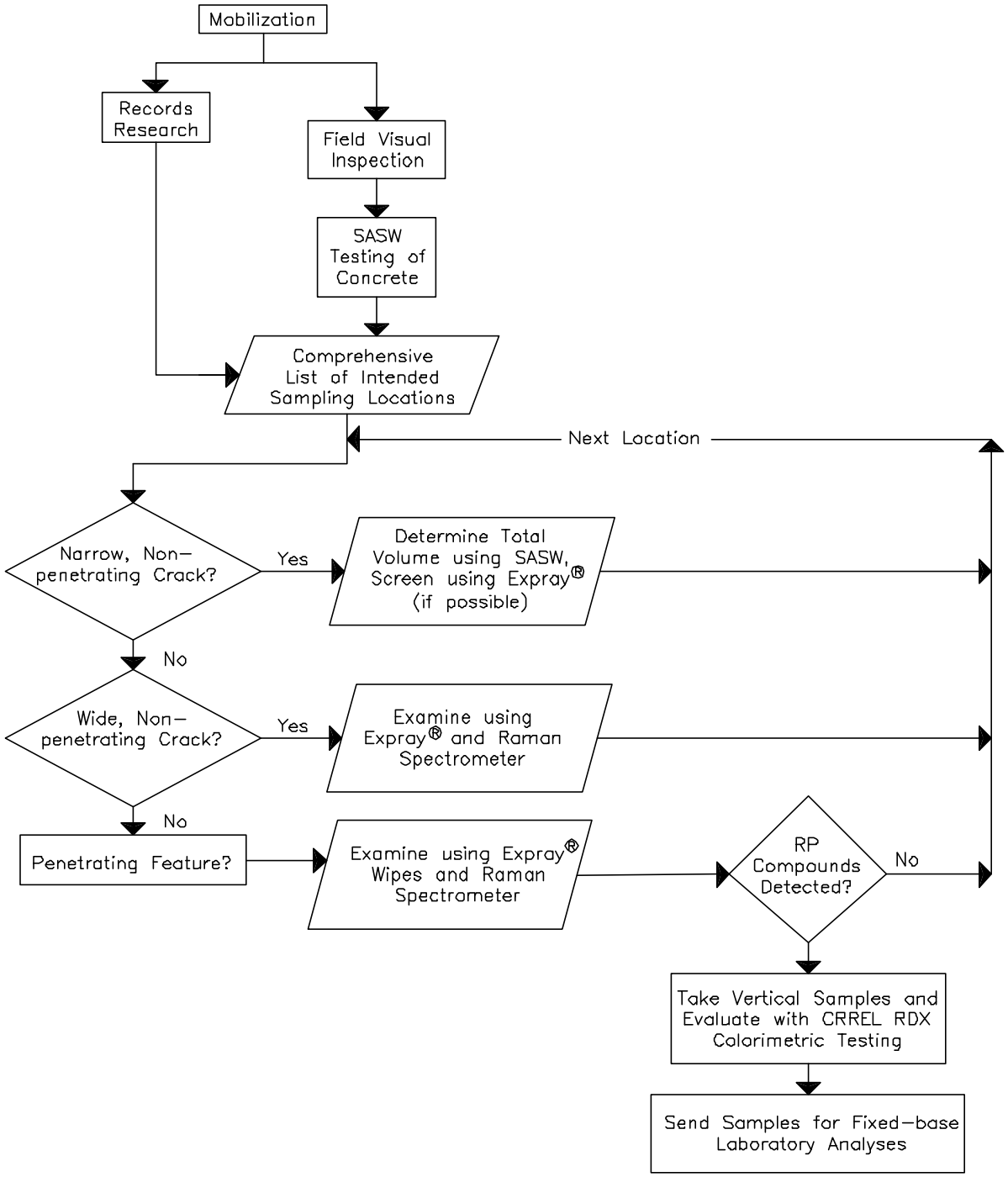
Table 4-1: Performance Objectives

Performance Objective	Primary Performance Criteria	Expected Performance
Qualitative	1. Identify areas that require decontamination	Detection confirmed by laboratory analysis
	2. Identify areas that do not require decontamination	Absence confirmed by laboratory analysis
	3. Determine frequency of false negatives/positives for Expray® and Raman spectroscopy	Not more than 5 percent based on laboratory analysis
	4. Ease of use	Operator acceptance
Quantitative	1. Areal concentration	1 µg/100 cm^2
	2. Mass concentration	1 µg/g
	3. Agreement with reference laboratory methods for CRREL RDX Method, using statistical correlation methods	+/- 50% and/or correlation coefficient >0.95
	4. Method detection limit	To be determined

4.2 Physical Setup and Operation

The dissimilarity of the buildings required that each building be characterized differently. However, the general process of the characterization was the same in each case. It consisted of five basic activities, including a records research, field visual inspection, the characterization of features in the concrete using Spectral Analysis of Surface Waves (SASW), classification of test locations, and sampling and analysis.

The process flow decision tree for project activities is summarized diagrammatically in Figure 4-1. It is described in detail in the *Demonstration Plan*[9] and summarized in the following sections. The timeline for the demonstration is provided in Table 4-2. Refer to Appendix B.5 for photographic documentation of all aspects of the field effort.



LEGEND

CRREL = Cold Reglons Research and Engineering Laboratory
RDX = Royal Demolition Explosive
RP = Rocket Paste
SASW = Spectral Analysis of Surface Waves

REVISION	DESCRIPTION	CHKD	APPR	DATE
B	ISSUED TO ARMY	KSH	DJR	01/31/03
A	ISSUED TO ARMY	KSH	DJR	11/14/02

	BY	DATE		BY	DATE		BY	DATE		BY	DATE
DSGN	DM	08/15/02	DRAWN	MEC	08/15/02	CHKD	KSH	11/14/02	APPR	DJR	11/14/02

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT

BADGER ARMY AMMUNITION PLANT

FIGURE NUMBER 4-1

CHARACTERIZATION OF RP BUILDINGS

STONE & WEBSTER, INC.

PROJECT NO.	REV.	FILE NAME
13341.0730	B	13341H08B

MON, JAN 27, 2003 10:15 A MEC K:\BADGER\13341\H-0730\REV-B\13341H08B.DWG

Table 4-2: ESTCP Demonstration Field Timeline

Activity	Start Date	End Date
Mobilization	4/28/02	4/29/02
Building Inspection / Grid Layout	4/29/02	5/2/02
SASW Testing	4/30/02	5/3/02
Expray® Wipe Sampling	5/3/02	5/3/02
Surface Raman Testing	5/6/02	5/7/02
Concrete Coring	5/8/02	5/11/02
Subsurface Raman Testing	5/9/02	5/11/02
Soil Sampling	5/9/02	5/11/02
CRREL Field Testing	5/9/02	5/13/02
Demobilization	5/13/02	5/13/02

4.2.1 Records Research. For a complete characterization of the process buildings, a review of the available records of each building was beneficial. The standard operating procedures (SOPs) for each building were used to identify locations in the building where manufacturing processes may have caused RP constituents to enter the foundation or surrounding soils. These SOPs included the daily/weekly cleaning procedures, spill response procedures, and explosive recovery methods. Supervisory, Production, and/or Incident Logs for each building were not available for this demonstration. Review of available records was noted in the field logs.

The Badger Historical Society was contacted prior to the start of field investigations to identify all potential historically significant features inside or around the buildings that must be protected during the work.

4.2.2 Field Visual Inspection. Each building's foundation, floor, and associated structures (drain troughs, external catch tanks) were inspected visually. Each building was divided into smaller inspection sectors. The subdividing of each building provided for a systematic, thorough inspection of each building's concrete floor. Each sector was carefully examined for cracks and joints in the concrete or other features in the foundation that may contain residues of RP constituents. All locations that present potential pathways for solids or liquids to get into or beneath the floor or foundation were noted on the field drawing.

4.2.3 Concrete Testing Using SASW. The SASW subcontractor, Olson Engineering, Inc. (Olson), mobilized to the site on April 29, 2002. The SASW testing equipment was portable and easily moved between sampling locations. The equipment was powered using a 24V marine-type battery. No other utilities were required for the operation of this equipment. Refer to Appendix B.1 for detailed information regarding the setup, operation, and components of the SASW testing equipment.

Each crack in the concrete floor that was identified on the inspection log was examined along its length at 2-foot intervals using the SASW equipment to determine the extent of the fissure. The SASW testing was used to determine if the fault extended completely through the slab, or if it

terminated within the thickness of the concrete. If the crack extended through to the underlying soil, it was considered a potential pathway for RP constituents to have reached the soil. In all cases, the type of crack was noted on the field drawing.

The SASW detection system was used to accurately measure the thickness of the concrete floor slab throughout the building for subsequent sub-floor soil sampling activities. It was also used to detect the presence of void spaces under the slab near cracks where RP constituents may have collected. All of these features were noted on the field drawings.

4.2.4 Classification of Test Locations. The result of the inspections described above was a comprehensive list of locations that required additional investigation. Each identified feature requiring additional characterization was classified as a narrow non-penetrating crack, a wide non-penetrating crack, or a penetrating crack. The type of feature determined which investigative method was applied to it (refer to Figure 4-1). These classifications were noted on the field drawings.

4.3 Sampling Procedures

Sampling procedures used during the field demonstration are described in the following paragraphs. For more detail about field sampling procedures, please refer to the *Demonstration Plan*[9].

4.3.1 Expray® Sample Collection. Expray® is designed to detect NC and NG on surfaces rather than in bulk material. Both penetrating and non-penetrating cracks and other penetrating features were tested using Expray® on May 3, 2002. Additionally, drains and drainage traps external to the buildings were tested for potential explosives using Expray®. Expray® samples were obtained by wiping the surface to be tested with a special filter. Any residual explosive was picked up on the filter, which was then exposed to a series of three aerosol sprays that develop specific colors on the filter if explosives are present. Expray® samples were taken at each crack location in the buildings and at areas that appeared to be clean to test the method's propensity to generate false negatives.

4.3.2 Raman Spectrometer Access and Sampling. The Raman spectroscopy contractor, Applied Research Associates, mobilized to the site on May 3, 2002. The Raman testing equipment was portable and easily moved between sampling locations. The equipment was powered using a 12V car battery and an appropriate converter. No other utilities were required for the operation of this equipment. Refer to Appendix B.2 for detailed information regarding the setup, operation, and components of the Raman testing equipment.

The Raman spectrometer was used to investigate features in the concrete that were large enough to admit the probe. Initially, it was used to determine if RP materials were present in cracks on the floor and foundation surfaces. After sampling locations for the underlying soils were chosen, materials that block the crack, joint, or penetrating feature were removed using non-sparking tools and/or high-pressure abrasive water jets.

Raman spectroscopy was used to evaluate the soil underlying the foundation once access had been provided. The Raman spectrometer was used to detect any particles of NC or NG that may have accumulated in or on the soil underlying the penetrating feature. The probe was worked along the entire length of the bottom of each joint or crack to look for the presence of NC, NG, or other residue. Suspected particles were analyzed by the spectrometer.

4.3.3 Concrete Coring - Soil Sampling Access. The concrete coring contractor, Morningstar Management Inc. (Morningstar), mobilized to the site on May 8, 2002. The equipment consisted of a dolly-mounted high-pressure water jet cutting tool (weighed ~100 pounds and required two people to lift it), a trailer-mounted diesel engine, a water tank, and power and control cables to a remotely operated control unit. Water for cutting operations was obtained from a nearby fire hydrant.

Access to the soils at the bottom of a penetrating feature was accomplished using this cutting system. The system was used to cut holes through the concrete at the sample location. The location of the hole was determined on a case-by-case basis, depending on the location of the penetration through the floor and the results of surface Raman spectroscopy. The size of the hole was made large enough to accommodate the Raman probe/sampling equipment.

There were several operational issues encountered with the water jet cutting tool. These issues included:

- Because of the variability in the strength and thickness of the concrete encountered in the buildings, it was not possible to standardize the time required to core through the concrete. Consequently, with no margin for error after concrete breakthrough, the high-pressure jet would bring 6 to 24 inches of fill material from under the slab to the surface (see Figure 4-2). To counter this problem, the field crew used a short quick cutting duration followed by frequent inspections of the concrete. Even with this approach, fill material was brought to the surface by the equipment in a matter of seconds after concrete breakthrough. In some instances, the coring was stopped short of breakthrough and the hole was finished manually using non-sparking tools. This approach was labor intensive and not recommended for full-scale investigations. The water used during the jet cutting disturbed the media being sampled. The most obvious effect was dispersion of the top layer of the sub-slab soil by the action of the water jet cutting. It is thought that this top layer of soil would be the most likely place to find NC and/or NG that would have collected from the crack. The action of the water jet blew away this top layer of soil and could have dispersed any potentially concentrated NC and/or NG over a wide area, resulting in the possibility of lower concentrations being sampled. Measurement of concentrations in samples could also have been affected to a lesser extent by dilution. NC fibers are insoluble in water, eliminating the potential for dilution. However, NG is slightly soluble in water, so a slight reduction of contaminant levels is possible.

Figure 4-2: Fill Material Brought to Surface by High-Pressure Water Jet Cutting System



- Use of the cutting tool was limited by access (i.e., required ~7-foot overhead clearance). Therefore, because of overhead features in several areas of the building, access to ideal sample locations was not possible. In several instances, the sampling location had to be moved several inches up to several feet to accommodate the clearance requirements of the coring equipment.

- In order to maintain the required seal between the corer and the concrete slab, a level, non-sloping surface was required. Several of the recommended coring locations had sloping features on the floor making it necessary to move the actual sampling location several inches to several feet away from the ideal location.

- Maintenance of the equipment resulted in an inordinate amount of downtime for repairs. In one instance, a hydraulic failure of the equipment resulted in a leak of hydraulic fluid. Morningstar immediately contained the spill and placed impacted materials into 55-gallon drums for disposal.

- In several holes, the coring equipment was not able to penetrate the concrete slab because of the presence of rebar and heavy aggregate embedded in the concrete.

4.3.4 Soil Sample Collection and Management. Soil samples were obtained from the top 1 foot of soil and placed in clean, wide-mouth glass bottles or jars. The sample size was approximately 300 grams. Because of the large amount of water introduced by the water jet cutting system, it was not necessary to add more water to minimize the explosive safety hazards associated with sampling. The samples were logged with the appropriate building and feature identifiers. The samples were handled as described in the *Comprehensive Field Sampling Plan*[10]. Field duplicate samples were obtained at the rate specified in the *Demonstration Plan*[9].

Equipment rinsate blanks were not obtained because all of the sampling equipment used in the demonstration was disposable.

Five soil samples for CRREL field analysis were spiked with NG to evaluate analyte recovery by the onsite laboratory. Spiked samples were prepared by adding a known quantity of NG standards to a weighed, uncontaminated, and representative soil sample. The spiked concentrations included 15, 10, 6, 3, and 1 mg/kg of NG. A blank sample was also prepared and analyzed. Each of the spiked samples was also submitted to the offsite laboratory for analysis of NG using SW-846 Method 8332.

Five soil samples for CRREL field analysis were spiked with NC to evaluate analyte recovery by the onsite laboratory. Spiked samples were prepared by adding a known quantity of NC standards to a weighed, uncontaminated, and representative soil sample. The spiked concentrations included 400, 375, 200, 100, and 50 mg/kg of NC. A blank sample was also prepared and analyzed. Each of the spiked samples was also submitted to the offsite laboratory for analysis of NC using the U.S. Army Automated Nitrocellulose Analysis.

4.4 Analytical Procedures

Both field and laboratory analytical procedures were followed during the demonstration. Table 4-3 provides a summary of the analyses performed during the demonstration. During the field effort, no field duplicate samples were taken. Upon review of the data, this discrepancy was realized, and collection of five duplicate samples was included in a second sampling effort at select locations. A total of four field duplicates were collected for NG/NC analysis using the CRREL Method during the second sampling effort. The fifth field duplicate was not taken due to lack of sample material at the locations specified. Following review of the number of sampling locations (35) and the total number of samples (50), it was determined that, while not optimal, four duplicate samples was a sufficient amount to fulfill the needs of the demonstration. The following sections summarize the procedures used. Refer to Appendix D of the *Demonstration Plan*[9] for detailed information.

Table 4-3: Summary of Sampling and Analyses Performed

Parameter	Matrix	Analytical Method	No. Field Locations	No. Field Samples	No. Field Duplicates	Total No. Samples
Crack Evaluation	Concrete	SASW	160	160	0	160
		Expray®	96	96	0	96
		Raman	88	88	0	88
NG/NC	Soil	Raman	35	35	0	35
		Expray®	31	31	0	31
		CRREL (SW-846 Method 8510)	35	50	4	54
		SW-846 Method 8332 (NG)	35	41	7	48
		Army Automated NC Analysis	35	50	9	59
		EPA Method 353.2 (Nitrogen, nitrate + nitrite)	15	15	4	19
SVOCs	Soil	SW-846 Method 8270C	35	35	4	39
Lead and Copper	Soil	SW-846 Method 6020	35	35	4	39
Aluminum	Soil	SW-846 Method 6010B	35	35	4	39

Notes:
SVOC = semivolatile organic compound

4.4.1 Field Procedures. The following field procedures were used during the demonstration:

- Expray® Colorimetric Indicator for Explosives in Soil: Wipe samples obtained in and around potentially contaminated floor and foundation cracks were evaluated for the presence of three different groups of explosives. Refer to Table 4-4 for a list of the explosive compounds that can be identified using this method.

- Raman Spectroscopy: *In situ* surface analyses of cracks and other penetrating features were performed using portable Raman equipment prior to coring the concrete. *In situ* Raman analysis was performed in the underlying soils after the concrete was cored.

- CRREL RDX Method: Soil samples obtained from under the concrete floors were analyzed for NG/NC using this method.

Table 4-4: Target Compound List, Expray® Colorimetric Indicator Method

EXPRAY - 1		EXPRAY - 2		EXPRAY - 3	
Polynitro-Aromatics		Nitrate-Esters Nitramines		Inorganic Nitrate Compounds	
Group A		Group B		Improvised	
Substance	**Color**	**Substance**	**Color**	**Substance**	**Color**
Ammonium Picrate	Yellow	BTN	Pink	Ammonium Nitrate	Pink
DDNP	Orange-Brown	DEGN	Pink	Barium Nitrate	Pink
DNT	Blue-Green	EDDN	Pink	Black Powder	Pink
Lead Styphnate	Yellow	EGDN	Pink	Potassium Nitrate	Pink
Nitroxylene	Brown	Haleite	Pink	Silver Nitrate	Pink
Picric Acid	Yellow	HMX	Pink	Sodium Nitrate	Pink
Tetryl	Orange	NC	Pink	Strontium Nitrate	Pink
TNB	Dark Brown	NG	Pink		
TNT	Dark Brown	Nitroguanidine	Pink		
Trinitro Naphthalene	Violet	PETN	Pink		
		RDX	Pink		
		Semtex	Pink		
		Smokeless Powder	Pink		
		Tetryl	Pink		

4.4.2 Offsite Laboratory Procedures. The offsite analytical laboratory was TriMatrix Laboratories, Inc. The following analytical laboratory procedures were used to evaluate soil samples collected during the demonstration:

- NG – SW-846 Method 8332.
- SVOCs – SW-846 Method 8270C.
- NC – U.S. Army Automated Nitrocellulose Analysis.
- Metals – Lead and copper using SW-846 Method 6020; aluminum using SW-846 Method 6010B.
- Nitrates and Nitrites – EPA Method 353.2.

4.4.3 Additional Offsite Laboratory Procedures and Analysis. Also included as part of the analyses was nitrogen (nitrate + nitrite) by EPA Method 353.2. Although not included in the original *Demonstration Plan*[9], analysis for nitrates and nitrites was added following analysis of the original sample set by CRREL RDX Method and Army Automated Nitrocellulose Analysis, taken in April 2002. While the CRREL RDX Method indicated low-level, qualified, positive results for NG/NC in half of the samples taken in the original sample set, the Army Automated Nitrocellulose Analysis indicated that NC was present in all samples.

Additional samples were taken, and analysis of nitrates and nitrites was undertaken to determine if a correlation was present between NC, nitrates, and nitrites in the samples. Ultimately, the

additional sampling was undertaken to try to determine if NC was in fact in every sample, or if false positives were being generated as a result of nitrate interference in the Army Automated Nitrocellulose Analysis. Unfortunately, results were inconclusive.

The CRRREL RDX Method and Army Automated Nitrocellulose Analysis were also evaluated to determine the possible reasons for the results. In particular, the Army Automated Nitrocellulose Analysis was evaluated to see if some portion of the procedures could possibly produce false positive results, as a result of field conditions or other variables.

Both methods convert nitro groups to nitrite ions and then quantify them colorimetrically. Section 2.0 of the CRREL RDX Method states "An undried soil/sediment sample is extracted with acetone by manually shaking it for 3 minutes. The extract is filtered and passed through an ion exchange resin to remove nitrate and nitrite, and then it is acidified and mixed with zinc dust to form nitrite." Nitrates and nitrites that were native to the sample are presumed to be removed by the filtration step of this procedure. NC and NG are identified as interferences in this method rather than analytes; however, in the absence of RDX, these components presumably can be measured and compared to the Army Automated Nitrocellulose Analysis for NC and to EPA Method 8332 for NG.

The Army Automated Nitrocellulose Analysis is a water method that was modified for solid matrices. The pretreatment step in the Army Automated Nitrocellulose Analysis differs from the CRREL Method in that it does not use acetone to remove nitrate and nitrite, since this would damage the plastic tubing contained within the laboratory equipment. The sample is washed with water to remove nitrate/nitrite. Following this washing, the sample enters a heated digestion unit, where sodium hydroxide converts the NC to nitrates. Following digestion, the sample mixture is mixed with ammonium chloride, which lowers the pH to about 8. The flow stream then enters a cadmium reactor, where nitrate is reduced to nitrite. Sulfanilic acid and *N*-(1-naphthyl)ethylenediamine (NED) are added at this step. The resulting red color is allowed to develop and measured in a flow-through cell at 520 nm.

In both cases, an attempt is made to remove free nitrate and nitrite prior to extraction of the NC sample and measurement of the nitrite. In the case of Army Automated Nitrocellulose Analysis, it is thought that this washout step does not completely remove free nitrate, and so nitrates remain in the sample that are ultimately measured as nitrites, which resulted in the low-level detections of NC that were seen during the demonstration.

5.0 Performance Assessment

5.1 Performance Data

The principal goal of the project was to compare the Raman spectroscopy, Expray® colorimetric, and CRREL RDX Method field testing results with the offsite fixed-base laboratory analytical results. Paired results between the field work and offsite laboratory were compared for the presence or absence of a particular compound and analytical value. As will be seen in the

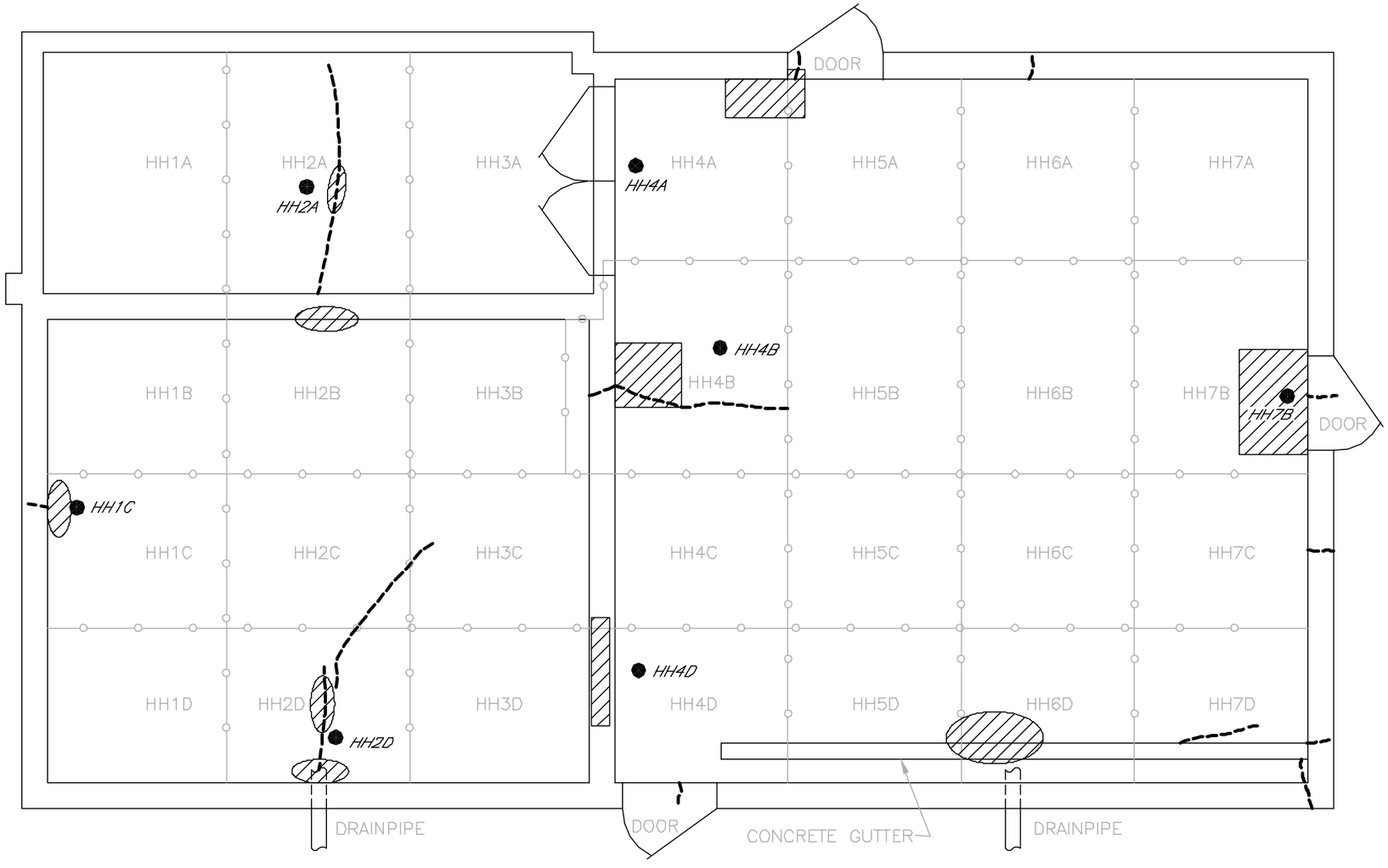
following sections, results of the demonstration did not provide data that could be compared with a rigorous statistical program because of questionable results and different method detection limits. As a result, calculations of relative percent difference (RPD) and absolute difference were not performed.

The following sections provide the demonstration results for each of the five buildings that were evaluated. Evaluation of demonstration results can be found in Section 5.2.

5.1.1 Homogenizer House Sampling Results. The Homogenizer House sampling locations are shown in Figure 5-1. The testing results for the Homogenizer House are included in Table 5-1. Each of the identified cracks in the building was evaluated using SASW testing at 2-foot intervals (10 locations total). The results provided in Table 5-1 show that in all cases, each of the cracks penetrated the concrete along at least a portion of the crack. Refer to Appendix B.1 for a detailed report of the SASW testing.

Expray® testing locations are shown in the crosshatch areas of Figure 5-1. As indicated in Table 5-1, explosive material was identified in several of the Expray® wipe samples including HH1C-1, HH2A-1, HH2D-1, HH2D-2, HH4B-2, and HH4D-1. Group A polynitro-aromatics were indicated in wipe samples obtained in grids HH1C, HH2A, HH4B, and HH4D. The yellow color present in all four Group A wipe samples indicates the possible presence of ammonium picrate, lead styphnate, or picric acid. The violet color present in sample HH1C indicates the possible presence of trinitronaphthalene. The brown color present in sample HH4D indicates the possible presence of trinitrobenzene or trinitrotoluene. The Expray® results showed two instances of Group B compounds (likely to be NC and/or NG) and a single detection of a Group C compound in grid HH2D. Based on discussions with the Army, none of the Group A or Group C compounds were used in the RP Production Area or anywhere else on BAAP and, therefore, the actual presence of these compounds is highly improbable. Expray® has a variety of interferences, particularly with Group C compounds, which include inorganic nitrates. Any fertilizer containing nitrates will react to Expray®. In addition, field experience has shown that adding too much of the sprays could cause a color change. In terms of Group A compounds, it is believed that an interference or interferences exist in the soil matrix, which may have caused a false positive detection. Product literature indicates that particles as small as 20 ng can be indicated by the Expray® test kit. Since the sample or sample location was wiped by the Expray® kit, detections of these very small particles can potentially be recorded across a large area of the sample matrix, depending on how large an area was wiped. This makes Expray® sampling capable of detecting explosive particles over areas up to a few square inches in size, since these areas can be tested by wiping and/or spraying.

Surface Raman testing was performed at multiple locations in the Homogenizer House. The results shown on Table 5-1 indicate that only two locations, HH1B and HH2A, had a possible detection of 2,4-dinitrotoluene (2,4-DNT). No other energetic materials were detected on the building surfaces tested using the Raman spectroscopy equipment. One area (HH6D) showed evidence of inorganic nitrate compounds. Refer to Appendix B.2 for a complete report of the Raman testing performed in the Homogenizer House. Like Expray®, Raman testing is also



LEGEND

- HH2A — CONCRETE CORE LOCATION AND SAMPLE ID
- EXPRAY® SAMPLE AREA
- VISIBLE CRACKS IN CONCRETE FLOOR/FOUNDATION
- INSPECTION GRID BOUNDARY
- HH2A — INSPECTION GRID ID

FOUNDATION PLAN

0 4'

SCALE: 1" = 4'

APPROXIMATE NORTH

REVISION	DESCRIPTION	CHECKED	APPROVED	DATE
B	ISSUED TO ARMY	KSH	DJR	01/31/03
A	ISSUED TO ARMY	KSH	DJR	11/14/02

U.S. ARMY CORPS OF ENGINEERS OMAHA DISTRICT

BADGER ARMY AMMUNITION PLANT

FIGURE NUMBER 5-1

HOMOGENIZER HOUSE 6712 SAMPLING LOCATIONS

STONE & WEBSTER, INC.

	BY	DATE		BY	DATE	PROJECT NO.	REV.	FILE NAME
DSND	MEC	07/23/02	CHKD	KSH	11/14/02	13341.0730	B	3341H01B
DRAWN	MEC	07/23/02	APPR	DJR	11/14/02			

MON, JAN 27, 2003 10:55 A MEC K:\BADGER\13341\H-0730\REV-B\3341H01B.DWG

Table 5-1: Homogenizer House 6712 Sampling Summary

Reference Grid	Sample Location	Crack Type	Expray Surface Wipes				Surface Raman Results	Concrete Coring		Subsurface Raman Results	CRREL		CRREL Expray Wipes Acetone Extract				Analytical Laboratory Results							
			Color	A	B	C		Depth (in.)	Subsurface Void (in.)		Abs (au)	Conc. (mg/kg)	Color	A	B	C	NC (mg/kg)	NG (mg/kg)	2,4-DNT (mg/kg)	2-Nitroaniline (mg/kg)	Aluminum (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nitrogen (nitrate + nitrite)(mg/kg)
HH1B	1	None					DNT?																	
HH1C	1		Yellow/Violet	X			ND	6	6	ND	0.021	0.023 J	Yellow	X			2.4 JS73 (6.1)	6.7 U	0.002 J (0.005)	0.003 U	5,300	11	6.3	
HH1C	Duplicate																3.4 JS73 (6.1)	6.7 U	0.004 J (0.005)	0.003 U	5,380	10	5.8	
HH1C	1 [3]										0.012	ND	None				1.8 JT8 (2.3)							8.3 JT8
HH2A	1	Surface	Yellow	X				4.5	5	ND	0.004	ND	Yellow	X			3.4 JS73 (6.2)	6.7 U	0.002 J (0.005)	0.002 J (0.003)	2,380	14	19	
HH2A	2	Penetrating	ND																					
HH2A	3	Penetrating					DNT?																	
HH2A	4	Penetrating																						
HH2B	1	None					ND																	
HH2D	1	Surface	Slight Pink		X		ND	4.5	28	ND	1.294	ND [1]	Purple	X			6.8 JS73	6.7 U	0.005 U	1.1	3,540	41	2140	
HH2D	2	Surface	Pink		X	X																		
HH2D	3	Penetrating																						
HH4A	1	None	ND					6	5	ND	0.000	ND	Yellow	X			4.6 JS73 (6.6)	6.7 U	0.005	0.003 U	2,210	6.5	3.5	
HH4B	1	Penetrating	ND				ND																	
HH4B	2	Penetrating	Yellow	X			ND	7	15	ND	0.038	0.8 J	Yellow	X			3.9 JS73 (6.1)	6.7 U	0.002 J (0.005)	0.003 U	1,780	6.8	5.1	
HH4B	3	Surface																						
HH4B	1 [3]	Penetrating									0.011	ND	None				1.7 JT8 (2.3)							23 JT8
HH4D	1	None	Yellow/Brown	X				8	15	ND	1.769	58.5	Yellow	X			2.5 JS73 (6.7)	6.7 U	0.005 U	0.004	2,210	6.6	3.4	
HH4D	Duplicate	None									0.396 [2]	63.7					2.9 JS73 (6.4)	6.7 U	NA	NA	NA	NA	NA	
HH4D	1 [3]	None									0.010	ND	None				1.6 J (2.3)							97 JT8
HH4D	Duplicate[3]	None									0.010	ND	None				1.6 JT8 (2.3)							112 JT8
HH5A	1	None	ND																					
HH6D	1	None	ND				ND																	
HH6D	2	None					ND																	
HH6D	3	None					ND																	
HH6D	4	None					ND																	
HH6D	5	None					Nitrate																	
HH7B	1	None	ND					8	4	ND	0.013	ND	Yellow	X			2.7 JS73 (6.7)	6.7 U	0.005 U	0.003 U	1,350	5.3	3.2	
HH7C	1						ND																	

Notes:

[1] Yellow color in extract with background absorbance of 1.315 au.

[2] Sample diluted 1:5.

[3] Additional sample taken on 8/28/02.

Blank cells were not sampled.

DNT = dinitrotoluene

ND = not detected

NA = not analyzed

NG = nitroglycerine

NC = nitrocellulose

Data Qualifiers:

J = Estimated value. Compound was positively identified above method detection limit, but below reporting limit. Reporting limit is shown in parentheses.

JS73 = Estimated value. Matrix spike recovery was outside control limits of 75 to 125 percent recovery at 73 percent recovery. Where reporting limits are shown in parentheses, compound was positively identified above method detection limit, but below reporting limit.

JT8 = Sample received at 8.5 °C. False undetected values or low bias could be associated with the data as a result of degradation.

U = Not detected at reporting limit indicated in cell.

capable of detecting sub-microgram particles. However, since the particles must be present in the very small area (typically 2-millimeter [mm] diameter) that is illuminated by the unit, Raman testing is severely limited in the area that can be analyzed, and so is much less sensitive for detection of particles spread over large areas. The concrete was cored in the seven locations identified on Figure 5-1 as HH1C, HH2A, HH2D, HH4A (background location), HH4B, HH4D, and HH7B. Subsurface Raman testing was performed in each of the holes; energetic material was not detected in any of the holes.

A soil sample was obtained from each coring location and analyzed using the CRREL RDX Method. The results shown on Table 5-1 indicate low-level detections of NC and/or NG below the reporting limit in the samples obtained from HH1C and HH4B. Results also indicated that the soil sample from the HH4D grid contained NC and/or NG at a concentration of 58.5 mg/kg (63.7 mg/kg in a duplicate sample). Section 5.1.6 discusses the spiked sample results of the demonstration, which indicate that the field method could only quantify NG, and could not quantify NC. NC and/or NG were not detected in any of the other samples analyzed using the field method.

Soil samples from each of the coring locations were sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-1. The results indicated that possible low levels of NC are present in all of the samples analyzed. The only sample with NC above the reporting limit is HH2D with a concentration of 6.8 mg/kg.

Following the initial sample collection and analysis, additional soil samples were collected from HH1C, HH4B, and HH4D to determine whether the low-level NC detections that were present in all samples were in fact detections of NC, or whether they were false positives as a result of interference with nitrates in the soil. The soil samples were analyzed using the CRREL RDX Method. NC and/or NG were not detected in any of these samples analyzed using the field method. Of particular note is the sample and duplicate sample result collected from location HH4D, which yielded a field result and field duplicate result of non-detect. As discussed above, samples from this location previously yielded results of 58.5 and 63.7 mg/kg. The inconsistency of results of the separate sampling events may be attributed to the heterogeneity of the soil samples caused by the disturbance of the soil during concrete cutting operations.

The additional soil samples were also sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-1. The results show that low levels of NC continued to be reported in all of the samples analyzed. Soil samples were also analyzed using EPA Method 353.2 for nitrogen (nitrate + nitrite). Results ranged from 8.3 to 112 mg/kg. No correlation was noted between NC results and nitrogen (nitrate + nitrite) results.

NG was not detected above the reporting limit of 6.7 mg/kg in any of the samples. Low concentrations of 2,4-DNT were detected in five of the eight samples analyzed including HH1C (and a duplicate), HH2A, HH4A, and HH4B.

The results of the metals analyses performed by TriMatrix indicate that background concentrations of metals (aluminum, copper, and lead) are present in all of the soil samples with

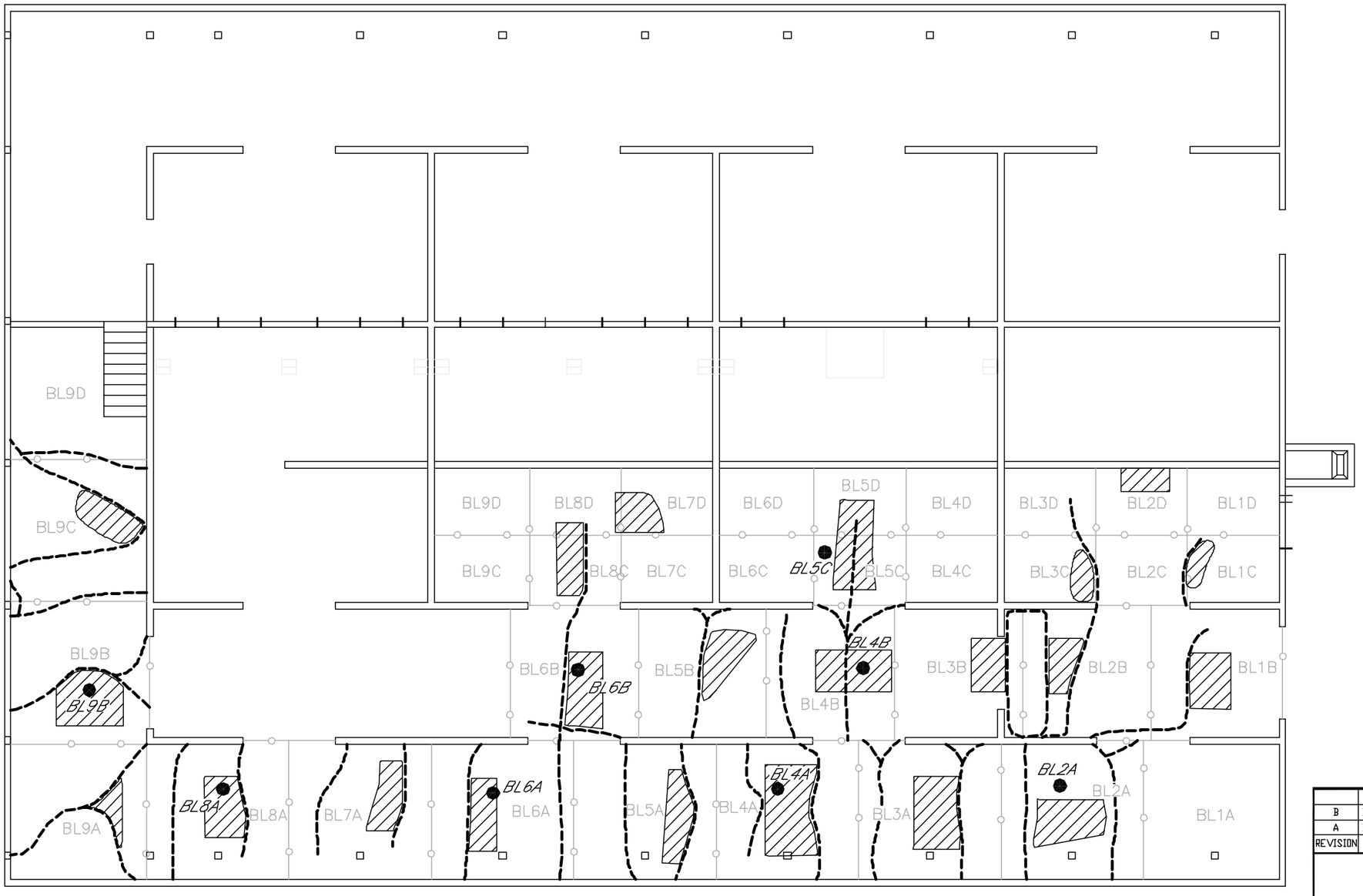
the exception of sample HH2D, which had a lead concentration of 2,140 mg/kg. The proximity of this sample to the floor drain that exits to the exterior of the building warrants additional investigation of this area by the Army.

5.1.2 Bag Loading House Sampling Results. The Bag Loading House sampling locations are shown in Figure 5-2. The testing results for the Bag Loading House are included in Table 5-2. The concrete flooring in the Bag Loading House was severely degraded with multiple cracking and scabbling. Each of the identified cracks in the building was evaluated using SASW testing at 2-foot intervals (86 locations total). The results provided in Table 5-2 show that in most cases the cracks penetrated the concrete along at least a portion of the crack. Refer to Appendix B.1 for a detailed report of the SASW testing.

Expray® testing locations are shown in the crosshatch areas of Figure 5-2. As indicated in Table 5-2, explosive material was identified in several of the Expray® wipe samples including BL1B, BL2A, BL2D, BL3A, BL3C, BL4A, BL4B, BL5A, BL5B, BL5D, BL6A, BL6B, BL7D, BL8A, and BL9C. Group A polynitro-aromatics were indicated in wipe samples obtained in grids BL2D and BL3A. The yellow color present in the two Group A wipe samples indicates the possible presence of ammonium picrate, lead styphnate, or picric acid. All positive wipe samples contained Group B compounds (likely to be NC and/or NG). Based on discussions with the Army, none of the Group A compounds were used in the RP Production Area or anywhere else on BAAP and, therefore, the actual presence of these compounds is highly improbable. Product literature indicates that particles as small as 20 ng can be indicated by the Expray® test kit. Since the sample or sample location was wiped by the Expray® kit, detections of these very small particles can potentially be recorded across a large area of the sample matrix, depending on how large an area was wiped. This makes Expray® sampling capable of detecting explosive particles over areas up to a few square inches in size, since these areas can be tested by wiping and/or spraying.

Surface Raman testing was performed at multiple locations in the Bag Loading House. The results shown on Table 5-2 indicate that only three locations, BL5B, BL5C, and BL9B, contained NC. The difference in the spectra of NC and NG are difficult to discern at low concentrations. However, fibrous materials, characteristic of NC were found at each location where a detection was made. Therefore, the detection can likely be attributed to NC. No other energetic materials were detected on the building surfaces tested using the Raman spectroscopy equipment. Three areas (BL6A, BL9B, and BL9C) showed evidence of inorganic nitrate compounds. Refer to Appendix B.2 for a complete report of the Raman testing performed in the Bag Loading House. Like Expray®, Raman testing is also capable of detecting sub-microgram particles. However, since the particles must be present in the very small area (typically 2-mm diameter) that is illuminated by the unit, Raman testing is severely limited in the area that can be analyzed, and so is much less sensitive for detection of particles spread over large areas.

The concrete was cored in the eight locations identified on Figure 5-2 as BL2A, BL4A, BL4B, BL5C, BL6A, BL6B, BL8A, and BL9B. Subsurface Raman testing was performed in each of the holes; energetic material was not detected in any of the holes.



LEGEND

- BL2A — CONCRETE CORE LOCATION AND SAMPLE ID
- EXPRAY® SAMPLE AREA
- VISIBLE CRACKS IN CONCRETE FLOOR/FOUNDATION
- INSPECTION GRID BOUNDARY
- BL2A — INSPECTION GRID ID

FOUNDATION PLAN

0 8'

SCALE: 1" = 8'

APPROXIMATE NORTH

REVISION	DESCRIPTION	CHECKED	APPROVED	DATE
B	ISSUED TO ARMY	KSH	DJR	01/31/03
A	ISSUED TO ARMY	KSH	DJR	11/14/02

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT

BADGER army AMMUNITION PLANT

FIGURE NUMBER 5-2

BAG LOADING HOUSE 6739
SAMPLING LOCATIONS

STONE & WEBSTER, INC.

	BY	DATE		BY	DATE	PROJECT NO.	REV.	FILE NAME
DSND	MEC	07/25/02	CHKD	KSH	11/14/02	13341.0730	B	13341H04B
DRAWN	MEC	07/25/02	APPR	DJR	11/14/02			

MON, JAN 27, 2003 11:04 A MEC K:\BADGER\13341\H-0730\REV-B\13341H04B.DWG

Table 5-2: Bag Loading House 6739 Sampling Summary

Reference Grid	Sample Location	Crack Type	Expray Surface Wipes				Surface Raman Results	Concrete Coring		Subsurface Raman Results	CRREL		CRREL Expray Wipes Acetone Extract				Analytical Laboratory Results							
			Color	A	B	C		Depth (in.)	Subsurface Void (in.)		Abs (au)	Conc. (mg/kg)	Color	A	B	C	NC (mg/kg)	NG (mg/kg)	2,4-DNT (mg/kg)	2-Nitroaniline (mg/kg)	Aluminum (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nitrogen (nitrate + nitrite)(mg/kg)
BL1B	1	Surface					ND																	
BL1B	2	Surface																						
BL1B	3	Penetrating	Slight Pink		X																			
BL1C	1	Surface	ND				ND																	
BL2A	1	Penetrating					ND	7.5	7	ND	0.066	1.7	ND [1]				2.5 JS73 (6.2)	6.7 U	0.005 U	0.003 U	2,570	8.6	3.7	
BL2A	1 [2]	Penetrating									0.012	ND	None				1.7 JT8 (2.3)							49 JT8
BL2A	2	Penetrating																						
BL2A	3	Penetrating	Slight Pink		X																			
BL2A	4	Surface																						
BL2B	1	Penetrating					ND																	
BL2B	2	Penetrating																						
BL2B	3	Penetrating																						
BL2B	4	Penetrating	ND																					
BL2B	5	Surface																						
BL2B	6	Penetrating																						
BL2B	7	Surface																						
BL2C	1	Penetrating																						
BL2D	1	None	Yellow/Pink	X	X																			
BL3A	1	Penetrating					ND																	
BL3A	2	Surface																						
BL3A	3	Penetrating	Yellow/Pink	X	X																			
BL3A	4	Surface																						
BL3B	1	Penetrating					ND																	
BL3B	2	Penetrating	ND																					
BL3C	1	Surface	Slight Pink		X		ND																	
BL3C	2	Penetrating																						
BL4A	1	Surface	Slight Pink		X		ND	3	18	ND	0.009	ND	ND [1]				4.9 JS73 (6.4)	6.7 U	0.010	0.003 U	2,780	8.0	4.5	
BL4A	2	Surface																						
BL4A	3	Penetrating	Pink		X																			
BL4A	4	Surface	Slight Pink		X																			
BL4A	5	2.4" deep																						
BL4A	6	Surface																						
BL4B	1	Penetrating	Slight Pink		X		ND	5	14	ND	0.009	ND	ND [1]				4.7 JS73 (6.1)	6.7 U	0.010	0.003 U	2,960	8.4	6.7	
BL4B	2	Penetrating	ND																					
BL4B	3	Penetrating																						
BL4B	4	Penetrating																						
BL4B	5	Penetrating																						
BL4B	6	Penetrating																						
BL4B	7	Penetrating																						
BL5A	1	Surface	Pink		X																			
BL5A	2	2.3" deep																						
BL5A	3	Surface																						
BL5A	4	Penetrating																						
BL5B	1	Penetrating	Pink		X		Nitrocellulose																	
BL5B	2	Penetrating																						
BL5C	1	Surface					Nitrocellulose	4.5	2	ND	0.013	ND	ND [1]				3.1 JS73 (6.1)	6.7 U	0.027	0.003 U	1,140	6.3	2.1	
BL5C	Duplicate																5.1 JS73(6.1)	6.7 U	0.005	0.003 U	2,160	8.4	3.7	
BL5C	2	Penetrating	ND																					
BL5C	3	Penetrating																						
BL5C	4	Surface																						
BL5D	1	2.5" deep	Pink		X																			
BL6A	1	Penetrating					Nitrate	5.5	16	ND	0.012	ND	ND [1]				2.1 JS73 (6.1)	6.7 U	0.005 U	0.003 U	1,940	6.1	3.6	
BL6A	2	Penetrating					Roofing																	
BL6A	3	Penetrating	Slight Pink		X																			
BL6A	4	Surface																						
BL6B	1	Penetrating	Slight Pink		X		ND	5.5	15	ND	0.011	ND	ND [1]				9.8 JS73	6.7 U	0.005 U	0.003 U	5,120	8.9	6.1	
BL6B	1 [2]	Penetrating									0.013	ND	None				1.8 JT8 (2.3)							4.2 JT8
BL6B	2	Surface	ND				ND																	
BL6B	3	Penetrating																						
BL6B	4	Penetrating																						
BL7A	1	Surface	ND				ND																	
BL7A	2	Surface																						
BL7A	3	Penetrating																						
BL7A	4	2.6" deep																						
BL7A	5	Surface																						
BL7A	6	Penetrating																						
BL7A	7	Surface																						

Table 5-2: Bag Loading House 6739 Sampling Summary

Reference Grid	Sample Location	Crack Type	Expray Surface Wipes				Surface Raman Results	Concrete Coring		Subsurface Raman Results	CRREL		CRREL Expray Wipes Acetone Extract				Analytical Laboratory Results							
			Color	A	B	C		Depth (in.)	Subsurface Void (in.)		Abs (au)	Conc. (mg/kg)	Color	A	B	C	NC (mg/kg)	NG (mg/kg)	2,4-DNT (mg/kg)	2-Nitroaniline (mg/kg)	Aluminum (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nitrogen (nitrate + nitrite)(mg/kg)
BL7D	1	None	Slight Pink		X																			
BL8A	1	Penetrating	Slight Pink		X		ND	3.5	14	ND	0.011	ND	ND [1]				2.8 JS73 (7.0)	6.7 U	0.005 U	0.003 U	4,200	10	6.4	
BL8A	2	Penetrating																						
BL8A	3	Surface																						
BL8A	4	Surface																						
BL8C	1	Surface	ND				ND																	
BL8C	2	Surface																						
BL8C	3	2.8" deep																						
BL8C	4	Penetrating																						
BL8D	1	Surface																						
BL9A	1	Surface	ND				ND																	
BL9A	2	Surface																						
BL9A	3	Surface																						
BL9B	1	Surface					Nitrocellulose Nitrate	4.5	15	ND	0.011	ND	ND [1]				3.7 JS73 (6.1)	6.7 U	0.012	0.003 U	2,200	8.9	3.9	
BL9B	2	Surface	ND																					
BL9B	3	Penetrating																						
BL9B	4	Surface																						
BL9C	1	Surface	Slight Pink		X		Nitrate																	
BL9C	2	Surface																						
BL9C	3	Penetrating	ND				ND																	
BL9C	4	Surface																						
BL9C	5	Surface																						
BL9C	6	Penetrating	Slight Pink		X																			
BL9C	7	Surface																						

Notes:

[1] CRREL Expray extracts all had an initial yellow-brown color.

[2] Additional sample taken on 8/28/02.

Blank cells were not sampled.

DNT = dinitrotoluene

NC = nitrocellulose

ND = not detected

NG = nitroglycerine

Data Qualifiers:

J = Estimated value. Compound was positively identified above method detection limit, but below reporting limit. Reporting limit is shown in parentheses.

JS73 = Estimated value. Matrix spike recovery was outside control limits of 75 to 125 percent recovery at 73 percent recovery. Where reporting limits are shown in parentheses, compound was positively identified above method detection limit, but below reporting limit.

JT8 = Sample received at 8.5 °C. False undetected values or low bias could be associated with the data because of degradation.

U = Not detected at reporting limit indicated in cell.

A soil sample was obtained from each coring location and analyzed using the CRREL RDX Method. The results shown on Table 5-2 indicate a low-level detection (1.7 mg/kg) of NC and/or NG in the sample obtained from BL2A. Section 5.1.6 discusses the spiked sample results of the demonstration, which indicate that the field method could only quantify NG, and could not quantify NC. In any case, NC and/or NG were not detected in any of the other samples analyzed using the field method.

Soil samples from each of the coring locations were sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-2. The results indicate possible low levels of NC present in all of the samples analyzed. The only sample with NC above the reporting limit is BL6B with a concentration of 9.8 mg/kg. NG was not detected above the reporting limit of 6.7 mg/kg in any of the samples. Low concentrations of 2,4-DNT were detected in five of the eight samples analyzed including BL4A, BL4B, BL5C (and a duplicate), and BL9B.

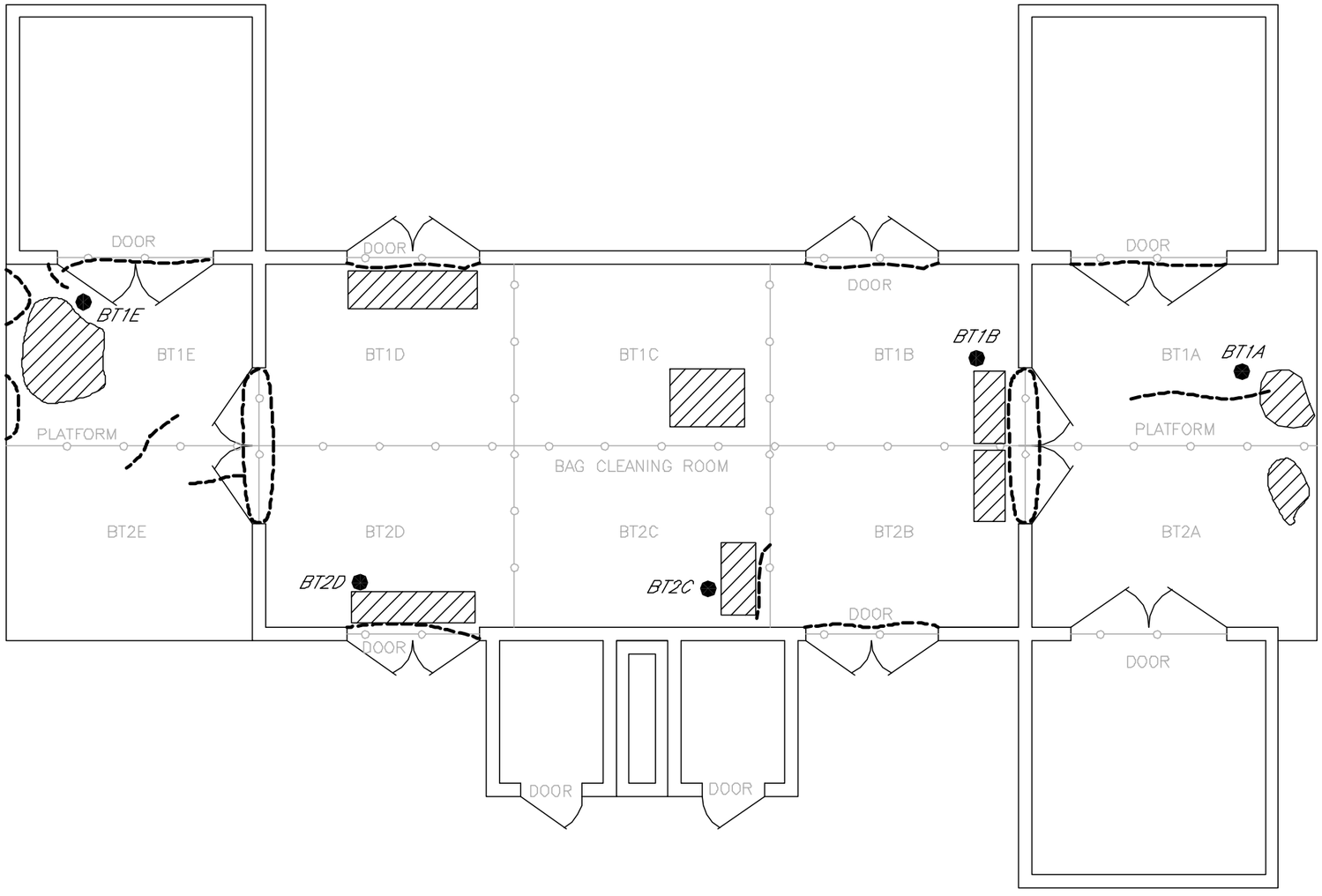
Following the initial sample collection and analysis, additional soil samples were collected from BL2A and BL6B to determine if the low-level NC detections that were present in all samples were false positives. The soil samples were analyzed using the CRREL RDX Method. NC and/or NG were not detected in any of these samples analyzed using the field method.

The additional soil samples were also sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-2. The results indicate possible low levels of NC continued to be reported in all of the samples analyzed. Soil samples were also analyzed using EPA Method 353.2 for nitrogen (nitrate + nitrite). Results ranged from 4.2 to 49 mg/kg. Again, no correlation was noted between NC results and nitrogen (nitrate + nitrite) results.

The results of the metals analyses performed by TriMatrix indicate that background concentrations of metals are present in all of the soil samples analyzed.

5.1.3 Bag Turning House Sampling Results. The Bag Turning House sampling locations are shown in Figure 5-3. The testing results for the Bag Turning House are included in Table 5-3. Each of the identified cracks in the building was evaluated using SASW testing at 2-foot intervals (19 locations total). The results provided in Table 5-3 show that in most cases the cracks penetrated the concrete along at least a portion of the crack. Refer to Appendix B.1 for a detailed report of the SASW testing.

Expray® testing locations are shown in the crosshatch areas of Figure 5-3. As indicated in Table 5-3, explosive material was identified in several of the Expray® wipe samples including BT1A, BT1B, BT1C, BT1D, BT1E, BT2A, BT2B, and BT2C. Group A polynitro-aromatics were indicated in wipe samples obtained in grids BT1D, BT1E, and BT2C. The yellow color present in the two Group A wipe samples indicates the possible presence of ammonium picrate, lead styphnate, or picric acid. All positive wipe samples contained Group B compounds (likely to be NC and/or NG) with the exception of sample BT1D. Based on discussions with the Army, none of the Group A compounds were used in the RP Production Area or anywhere else on BAAP



FOUNDATION PLAN

0 5'

SCALE: 1" = 5'

APPROXIMATE NORTH

LEGEND

- BT1A — CONCRETE CORE LOCATION AND SAMPLE ID
- EXPRAY® SAMPLE AREA
- VISIBLE CRACKS IN CONCRETE FLOOR/FOUNDATION
- INSPECTION GRID BOUNDARY
- BT1A — INSPECTION GRID ID

REVISION	DESCRIPTION	CHECKED	APPROVED	DATE
B	ISSUED TO ARMY	KSH	DJR	01/31/03
A	ISSUED TO ARMY	KSH	DJR	11/14/02

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT

BADGER ARMY AMMUNITION PLANT

FIGURE NUMBER 5-3

BAG TURNING HOUSE 6736
SAMPLING LOCATIONS

STONE & WEBSTER, INC.

	BY	DATE		BY	DATE	PROJECT NO.	REV.	FILE NAME
DSND	MEC	07/23/02	CHKD	KSH	11/14/02	13341.0730	B	3341H05B
DRAWN	MEC	07/23/02	APPR	DJR	11/14/02			

MON, JAN 27, 2003 11:08 A MEC K:\BADGER\13341\H-0730\REV-B\3341H05B.DWG

Table 5-3: Bag Turning House 6736 Sampling Summary

Reference Grid	Sample Location	Crack Type	Expray Surface Wipes				Surface Raman Results	Concrete Coring		Subsurface Raman Results	CRREL		CRREL Expray Wipes Acetone Extract				Analytical Laboratory Results							
			Color	A	B	C		Depth (in.)	Subsurface Void (in.)		Abs (au)	Conc. (mg/kg)	Color	A	B	C	NC (mg/kg)	NG (mg/kg)	2,4-DNT (mg/kg)	2-Nitroaniline (mg/kg)	Aluminum (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nitrogen (nitrate + nitrite)(mg/kg)
BT1A	1	Penetrating																						
BT1A	2	Penetrating					ND																	
BT1A	3	Penetrating																						
BT1A	4	Penetrating																						
BT1A	5	Penetrating	Slight Pink		X			6	7	ND	0.010	ND	ND [1]				2.3 JS73 (6.1)	6.7 U	0.005 U	0.003 U	2,620	10	7.7	
BT1B	1	Penetrating					ND	5.5	5	ND	Sample Unrecoverable													
BT1B	2	Penetrating	Pink		X																			
BT1C	1	None	Pink		X		ND																	
BT1D	1	Penetrating	Slight Yellow	X																				
BT1E	1	Penetrating	Yellow/Pink	X	X		ND	6	0	ND	0.013	ND	ND [1]				4.9 JS73 (6.2)	6.7 U	0.005 U	0.003 U	5,200	16	7.1	
BT1E	2	Penetrating																						
BT1E	3	Surface																						
BT1E	4	Penetrating																						
BT2A	1	Penetrating	Slight Pink		X		ND																	
BT2B	1	Penetrating	Pink		X		ND																	
BT2C	1	Penetrating	Yellow/Pink	X	X		ND	6	4	ND	0.000	ND	ND [1]				2.4 JS73 (6.4)	6.7 U	0.005 U	0.003 U	4,590	15	8.6	
BT2C	Duplicate																4.9 JS73 (6.9)	6.7 U	0.003 J (0.005)	0.003 U	3,480	14	6.1	
BT2D	1	Penetrating	ND				ND	4.5	12	ND	0.013	ND	ND [1]				11 JS73	6.7 U	0.011	0.001 J (0.003)	7,940	13	10	
BT2D	1 [2]	Penetrating									0.010	ND	None				1.8 JT8 (2.3)							14 JT8
BT2D	Duplicate [2]	Penetrating									0.011	ND	None				1.9 JT8 (2.3)							19 JT8
BT2E	1	Surface																						
BT2E	2	Penetrating																						
BT2E	3	Penetrating																						

Notes:

[1] CRREL Expray extract all had an initial yellow-brown color.

[2] Additional sample taken on 8/28/02

Blank cells were not sampled.

DNT = dinitrotoluene

ND = not detected

NC = nitrocellulose

NG = nitroglycerine

Data Qualifiers:

J = Estimated value. Compound was positively identified above method detection limit, but below reporting limit. Reporting limit is shown in parentheses.

JS73 = Estimated value. Matrix spike recovery was outside control limits of 75 to 125 percent recovery at 73 percent recovery. Where reporting limits are shown in parentheses, compound was positively identified above method detection limit, but below reporting limit.

JT8 = Sample received at 8.5 °C. False undetected values or low bias could be associated with the data because of degradation.

U = Not detected at reporting limit indicated in cell.

and, therefore, the actual presence of these compounds is highly improbable. Product literature indicates that particles as small as 20 ng can be indicated by the Expray® test kit. Since the sample or sample location was wiped by the Expray® kit, detections of these very small particles can potentially be recorded across a large area of the sample matrix, depending on how large an area was wiped. This makes Expray® sampling capable of detecting explosive particles over areas up to a few square inches in size, since these areas can be tested by wiping and/or spraying.

Surface Raman testing was performed at multiple locations in the Bag Turning House. The results shown on Table 5-3 indicate that no energetic materials were detected on the building surfaces tested using the Raman spectroscopy equipment. Refer to Appendix B.2 for a complete report of the Raman testing performed in the Bag Turning House. Like Expray®, Raman testing is also capable of detecting sub-microgram particles. However, since the particles must be present in the very small area (typically 2-mm diameter) that is illuminated by the unit, Raman testing is severely limited in the area that can be analyzed, and so is much less sensitive for detection of particles spread over large areas.

The concrete was cored in the five locations identified on Figure 5-3 as BT1A, BT1B, BT2C, BT2D, and BT1E. Subsurface Raman testing was performed in each of the holes. The Raman spectroscopy equipment did not detect energetic material in any of the holes.

A soil sample was obtained from each coring location except BT1B. A large rock present under the foundation precluded obtaining soil from this location. The samples were analyzed using the CRREL RDX Method. The results shown on Table 5-3 indicate that NC and/or NG were not detected in any of the samples analyzed using the field method.

Soil samples from each of the coring locations (except BT1B) were sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-3. The results indicate possible low levels of NC present in all of the samples analyzed. The only sample with NC above the reporting limit is BT2D with a concentration of 11 mg/kg. NG was not detected above the reporting limit in any of the samples. Low concentrations of 2,4-DNT were detected in two of the four samples analyzed including BT2C (duplicate) and BT2D.

Following the initial sample collection and analysis, additional soil samples were collected from BT2D to determine whether the NC detection that was present in the original sample was a false positive. The soil samples (sample and duplicate sample) were analyzed using the CRREL RDX Method. Section 5.1.6 discusses the spiked sample results of the demonstration, which indicate that the field method could only quantify NG and could not quantify NC. In any case, NC and/or NG were not detected in any of the initial or additional samples analyzed using the field method.

The additional soil samples were also sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-3. The results indicate possible low levels of NC were reported in both samples. Soil samples were also analyzed using

EPA Method 353.2 for nitrogen (nitrate + nitrite). Results were 14 to 19 mg/kg. Again, no correlation was noted between NC results and nitrogen (nitrate + nitrite) results.

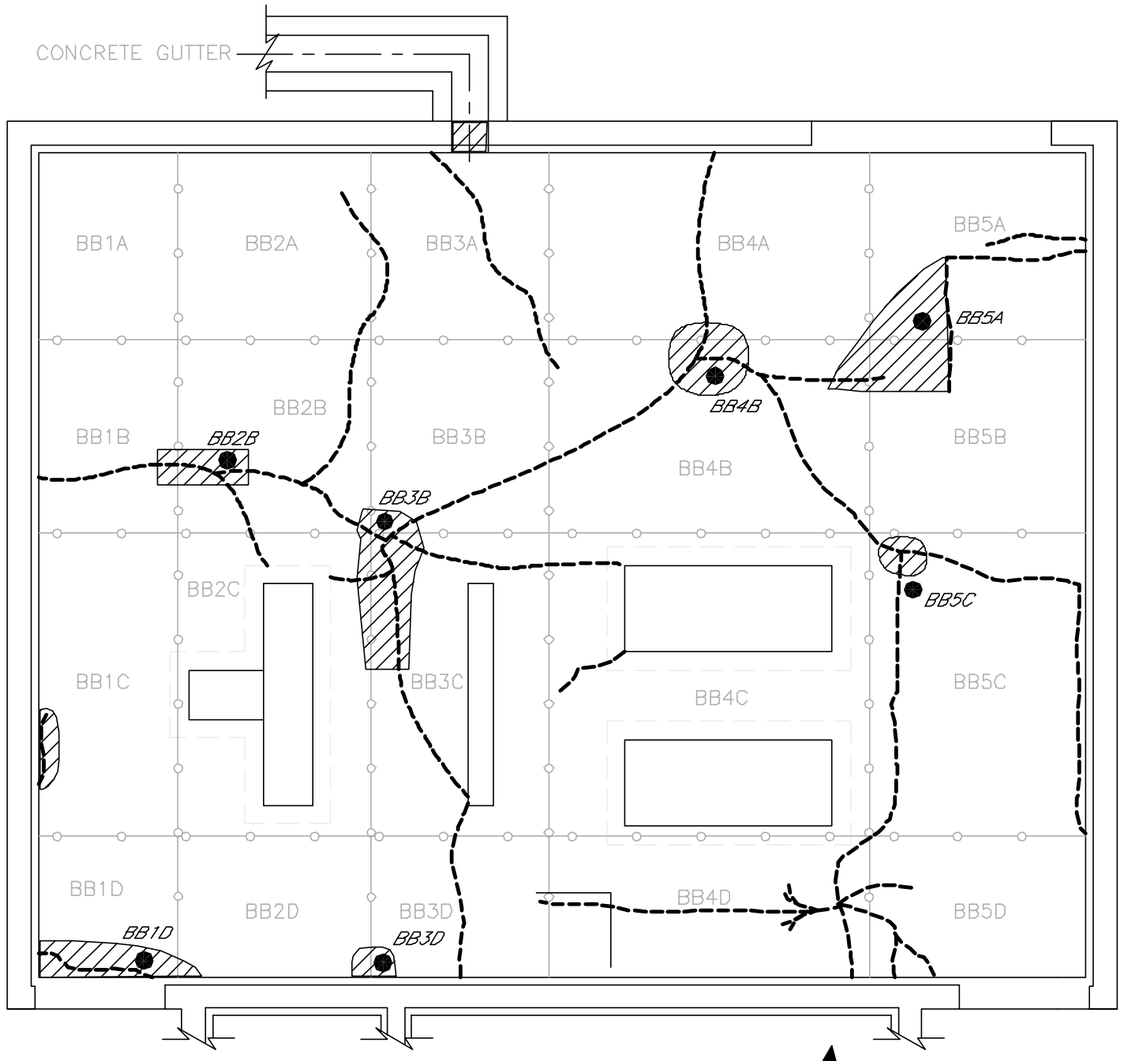
The results of the metals analyses performed by TriMatrix indicate that background concentrations of metals are present in all of the soil samples analyzed.

5.1.4 Paste Breaker and Blender House Sampling Results. The Paste Breaker and Blender House sampling locations are shown in Figure 5-4. The testing results for the Paste Breaker and Blender House are included in Table 5-4. The floor of this building was covered with a 1/2-inch-thick conductive flooring material that precluded obtaining a good reading from the SASW equipment. Sections of the flooring material were manually removed in several locations in order to perform the SASW testing. Severe cracking was encountered in each area exposed. Each of the exposed cracks in the building was evaluated using SASW testing (five locations total). The results provided in Table 5-4 show that in all cases the cracks penetrated the concrete. Refer to Appendix B.1 for a detailed report of the SASW testing.

Expray® testing locations are shown in the crosshatch areas of Figure 5-4. As indicated in Table 5-4, explosive material was identified in all but two of the Expray®wipe samples including BB1C, BB1D, BB2B, BB3A, BB3C, BB3D, BB4B, and BB5A. All positive wipe samples contained Group B compounds (likely to be NC and/or NG). The wipe sample obtained from grid BB3D tested positive for Group C compounds using the Expray®test. Based on discussions with the Army, none of the Group C compounds were used in the RP Production Area or anywhere else on BAAP and, therefore, the actual presence of these compounds is highly improbable. Product literature indicates that particles as small as 20 ng can be indicated by the Expray® test kit. Since the sample or sample location was wiped by the Expray® kit, detections of these very small particles can potentially be recorded across a large area of the sample matrix, depending on how large an area was wiped. This makes Expray® sampling capable of detecting explosive particles over areas up to a few square inches in size, since these areas can be tested by wiping and/or spraying.

Surface Raman testing was performed at nine locations in the Paste Breaker and Blender House. The results shown on Table 5-4 indicate that energetic material, specifically NC, was detected in four of the nine samples (BB3C, BB3B, BB3D, and BB4B) on the building surfaces tested. Refer to Appendix B.2 for a complete report of the Raman testing performed in the Paste Breaker and Blender House. Like Expray®, Raman testing is also capable of detecting sub-microgram particles. However, since the particles must be present in the very small area (typically 2-mm diameter) that is illuminated by the unit, Raman testing is severely limited in the area that can be analyzed, and so is much less sensitive for detection of particles spread over large areas.

The concrete was cored in the seven locations identified on Figure 5-4 as BB1D, BB2B, BB3B, BB3D, BB4B, BB5A, and BB5C. Subsurface Raman testing was performed in each of the holes. The Raman equipment detected NC in the subsurface soils in coring BB2B. The Raman spectroscopy equipment did not detect energetic material in any of the other holes. A



LEGEND

- BB2B — CONCRETE CORE LOCATION AND SAMPLE ID
- EXPRAY® SAMPLE AREA
- VISIBLE CRACKS IN CONCRETE FLOOR/FOUNDATION
- INSPECTION GRID BOUNDARY
- BB2B — INSPECTION GRID ID

FOUNDATION PLAN

0 4'

SCALE: 1" = 4'

APPROXIMATE NORTH

REVISION	DESCRIPTION	CHECKED	APPROVED	DATE
B	ISSUED TO ARMY	KSH	DJR	01/31/03
A	ISSUED TO ARMY	KSH	DJR	11/14/02

U.S. ARMY CORPS OF ENGINEERS OMAHA DISTRICT

BADGER ARMY AMMUNITION PLANT

FIGURE NUMBER 5-4

PASTE BREAKER AND BLENDER HOUSE 6731-2 SAMPLING LOCATIONS

STONE & WEBSTER, INC.

	BY	DATE		BY	DATE	PROJECT NO.	REV.	FILE NAME
DSND	MEC	07/23/02	CHKD	KSH	11/14/02	13341.0730	B	3341H02B
DRAWN	MEC	07/23/02	APPR	DJR	11/14/02			

MON, JAN 27, 2003 10:58 A MEC K:\BADGER\13341\H-0730\REV-B\3341H02B.DWG

Table 5-4: Paste Breaker and Blender House 6731-2 Sampling Summary

Reference Grid	Sample Location	Crack Type	Expray Surface Wipes				Surface Raman Results	Concrete Coring		Subsurface Raman Results	CRREL		CRREL Expray Wipes Acetone Extract				Analytical Laboratory Results							
			Color	A	B	C		Depth (in.)	Subsurface Void (in.)		Abs (au)	Conc. (mg/kg)	Color	A	B	C	NC (mg/kg)	NG (mg/kg)	2,4-DNT (mg/kg)	2-Nitroaniline (mg/kg)	Aluminum (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nitrogen (nitrate + nitrite)(mg/kg)
BB1C	1		Pink		X		ND																	
BB1D	1		Pink		X		ND	4	8	ND	0.021	0.23 J	ND [1]				21 JS73	6.7 U	0.005 U	0.003 U	13,300	16	30	
BB1D	1 [2]										0.018	0.13 J	None				2.0 JT8 (2.3)	6.7 UJT8						1.7 JT8
BB2B	1	Penetrating	Pink		X		ND	4.5	0	Nitrocellulose	0.007	ND	ND [1]				8.5 JS73	6.7 U	0.005 U	0.003 U	12,400	14	12	
BB2B	1 [2]	Penetrating									0.012	ND	None				1.9 JT8 (2.3)							9.6 JT8
BB3A	1		Slight Pink		X																			
BB3C	1	Penetrating	Pink		X		Nitrocellulose																	
BB3B/3C	2						Nitrocellulose	4.5	8	ND	0.007	ND	ND [1]				12 JS73	6.7 U	0.005 U	0.003 U	7,440	6.8	6	
BB3B/3C	Duplicate																9.5 JS73	6.7 U	0.005 U	0.003 U	10,600	7.5	9.2	
BB3B/C	2 [2]										0.018	0.13 J	None				2.9 JT8	6.7 UJT8						8.0 JT8
BB3B/C	Duplicate [2]										0.013	ND	None				2.7 JT8							10 JT8
BB3D	1	Penetrating	Pink		X	X	Nitrocellulose Nitrate	5	7	ND	0.01	ND	ND [1]				12 JS73	6.7 U	0.005 U	0.003 U	10,700	15	12	
BB3D	1 [2]	Penetrating									0.015	0.03 J	None				1.5 JT8	6.7 UJT8						5.1 JT8
BB4B	1	Penetrating	Slight Pink		X		Nitrate	5	4	ND	0.012	ND	ND [1]				16 JS73	6.7 U	0.002 J (0.005)	0.003 U	13,500	9.4	12	
BB4B	2						Nitrocellulose																	
BB5A	1	Penetrating	Pink		X		ND	4	4	ND	0.016	0.07 J	ND [1]				3.1 JS73 (6.3)	6.7 U	0.007	0.003 U	9,770	14	9.8	
BB5A	1 [2]	Penetrating									0.013	ND	None				2.2 JT8 (2.3)							3.4 JT8
BB5C	1		ND					4	12	ND	0.28	8.9	ND [1]				8.3 JS73	6.7 U	0.005 U	0.003 U	17,300	22	24	
BB5C	1 [2]										0.014	ND	None				4.1 JT8	6.7 UJT8						12 JT8

Notes:

[1] CRREL Expray extract all had an initial yellow-brown color.

[2] Additional sample taken on 8/27/02.

Blank cells were not sampled.

DNT = dinitrotoluene

NC = nitrocellulose

ND = not detected

NG = nitroglycerine

Data Qualifiers:

J = Estimated value. Compound was positively identified above method detection limit, but below reporting limit. Reporting limit is shown in parentheses.

JS73 = Estimated value. Matrix spike recovery was outside control limits of 75 to 125 percent recovery at 73 percent recovery. Where reporting limits are shown in parentheses, compound was positively identified above method detection limit, but below reporting limit.

JT8 = Sample received at 8.5 °C. False undetected values or low bias could be associated with the data because of degradation.

U = Not detected at reporting limit indicated in cell.

soil sample was obtained from each coring location. The samples were analyzed using the CRREL RDX Method. The results shown on Table 5-4 indicate that NC and/or NG were detected at low levels (below the reporting level) in two of the seven samples analyzed using the field method. The sample from BB5C contained NC and/or NG at a concentration of 8.9 mg/kg. Section 5.1.6 discusses the spiked sample results of the demonstration, which indicate that the field method could only quantify NG and could not quantify NC. Soil samples from each of the coring locations were sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-4. The results indicate the possibility that NC is present in all of the samples analyzed. Most samples contained concentrations of NC above the reporting limit. NG was not detected above the reporting limit in any of the samples. Low concentrations of 2,4-DNT were detected in two of the samples analyzed including BB4B and BB5A.

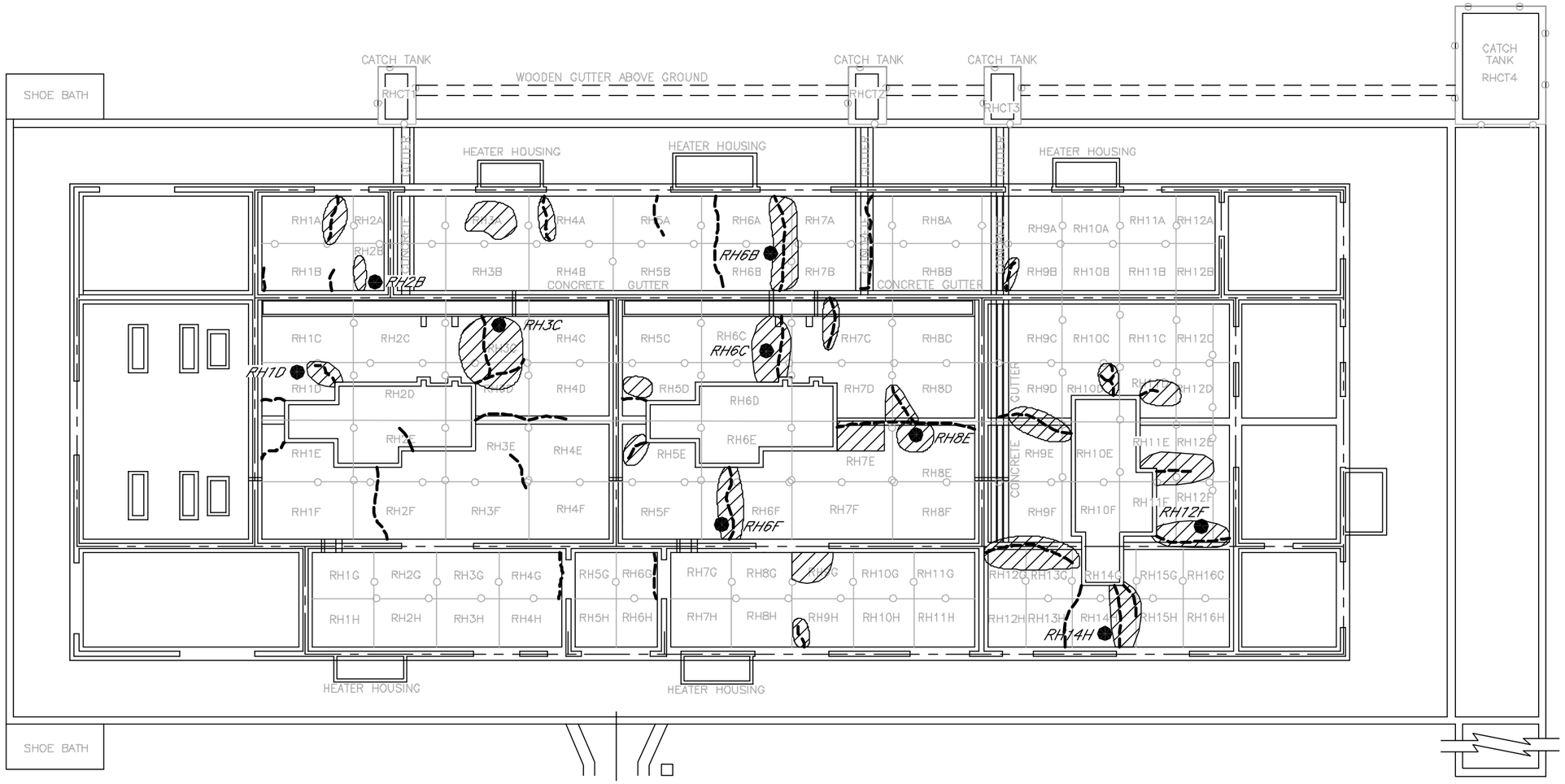
Following the initial sample collection and analysis, additional soil samples were collected from BB1D, BB2B, BB3B/C (with duplicate), BB3D, BB5A, and BB5C to determine whether the low-level NC detections that were present in all samples were false positives. The soil samples were analyzed using the CRREL RDX Method. NC and/or NG were detected in samples from BB1D, BB3B/C, and BB3D using the field method.

The additional soil samples were also sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-4. The results indicate possible low levels of NC continued to be reported in all of the samples analyzed. Soil samples were also analyzed using EPA Method 353.2 for nitrogen (nitrate + nitrite). Results ranged from 1.7 to 12 mg/kg. Again, no correlation was noted between NC results and nitrogen (nitrate + nitrite) results.

The results of the metals analyses performed by TriMatrix indicate that background concentrations of metals are present in all of the soil samples analyzed.

5.1.5 Pre and Final Roll House Sampling Results. The Pre and Final Roll House sampling locations are shown in Figure 5-5. The testing results for the Pre and Final Roll House are included in Table 5-5. Each of the identified cracks in the building was evaluated using SASW testing at 2-foot intervals (40 locations total). The results provided in Table 5-5 show that many of the cracks penetrated the concrete along at least a portion of the crack. Refer to Appendix B.1 for a detailed report of the SASW testing.

Expray® testing locations are shown in the crosshatch areas of Figure 5-5. As indicated in Table 5-5, explosive material was identified in several of the Expray® wipe samples including RH1D, RH2B, RH3D, RH5D, RH5E, RH6A, RH6B, RH6C, RH6F, RH7A, RH7B, RH7C, and RH11E. All positive wipe samples contained Group B compounds (likely to be NC and/or NG). Product literature indicates that particles as small as 20 ng can be indicated by the Expray® test kit. Since the sample or sample location was wiped by the Expray® kit, detections of these very small particles can potentially be recorded across a large area of the sample matrix, depending on how large an area was wiped. This makes Expray® sampling capable of detecting explosive particles



LEGEND

- RH2F — CONCRETE CORE LOCATION AND SAMPLE ID
- EXPRAY® SAMPLE AREA
- VISIBLE CRACKS IN CONCRETE FLOOR/FOUNDATION
- INSPECTION GRID BOUNDARY
- RH2F — INSPECTION GRID ID

FOUNDATION PLAN

0 11'

APPROXIMATE SCALE 1" = 11'

APPROXIMATE NORTH

REVISION	DESCRIPTION	CHECKED	APPROVED	DATE
B	ISSUED TO ARMY	KSH	DJR	01/31/03
A	ISSUED TO ARMY	KSH	DJR	11/14/02

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT

BADGER ARMY AMMUNITION PLANT

FIGURE NUMBER 5-5

PRE AND FINAL ROLL
HOUSE 6807-13
SAMPLING LOCATIONS

STONE & WEBSTER, INC.

	BY	DATE		BY	DATE	PROJECT NO.	REV.	FILE NAME
DSND	CMB	07/25/02	CHKD	KSH	11/14/02	13341.0730	B	3341H03B
DRAWN	MEC	07/25/02	APPR	DJR	11/14/02			

MON, JAN 27, 2003 11:01 A MEC K:\BADGER\13341\H-0730\REV-B\3341H03B.DWG

Table 5-5: Pre and Final Roll House 6807-13 Sampling Summary

Reference Grid	Sample Location	Crack Type	Expray Surface Wipes				Surface Raman Results	Concrete Coring		Subsurface Raman Results	CRREL		CRREL Expray Wipes Acetone Extract				Analytical Laboratory Results							
			Color	A	B	C		Depth (in.)	Subsurface Void (in.)		Abs (au)	Conc. (mg/kg)	Color	A	B	C	NC (mg/kg)	NG (mg/kg)	2,4-DNT (mg/kg)	2-Nitroaniline (mg/kg)	Aluminum (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nitrogen (nitrate + nitrite)(mg/kg)
RH1A	1	Penetrating	ND																					
RH1A	2	Penetrating	ND																					
RH1D	1	Surface	Slight Pink		X		ND	7	4	ND	0.009	ND	ND				5.8 JS73 (6.1)	6.7 U	0.005 U	0.003 U	1,280	3.5 JD133	2.2	
RH2B	1	None	Pink		X		ND																	
RH2B	2	None	Slight Pink		X			6	7	ND	0.011	ND	ND				5.2 JS73 (6.1)	6.7 U	0.005 U	0.003 U	1,860	5.1 JD133	3.4	
RH2C	1	None					ND																	
RH2E	1	Surface																						
RH2F	1	Penetrating					Nitrate																	
RH3A	1	None	ND																					
RH3C	1	Surface	ND				ND	6	6	ND	0.019	0.2J	ND				5.4 JS73 (6.1)	6.7 U	0.005 U	0.003 U	1,190	3.9 JD133	31	
RH3C	1 [1]	Surface									0.012	ND	None				1.8 JT8 (2.3)							0.97 JT8
RH3D	1	Surface	Slight Pink		X		ND																	
RH3E	1	Surface																						
RH4A	1	Surface																						
RH4E	1	Surface					ND																	
RH5A	1	Surface																						
RH5D	1	Surface	Pink		X		ND																	
RH5E	1		Slight Pink		X		ND																	
RH6A	1	Surface	ND				ND																	
RH6A	2		Slight Pink		X		ND																	
RH6B	1	Surface	Slight Pink		X		Nitrocellulose	5	5	Nitrate	0.007	ND	ND				2.6 JS73 (6.1)	6.7 U	0.005 U	0.003 U	1,920	5.7 JD133	3.5	
RH6B	2						ND																	
RH6C	1	Surface	Slight Pink		X		Nitrocellulose	5	8	ND	0.007	ND	ND				6.0 JS73 (7.0)	6.7 U	0.005 U	0.003 U	1,480	4.0 JD133	2.8	
RH6C	2		Pink		X		ND																	
RH6D	1	Penetrating																						
RH6F	1	Penetrating	Slight Pink		X		ND																	
RH6F	2	Penetrating					ND	6	5	ND	0.017	0.1J					6.9 JS73 (7.1)	6.7 U	0.005 U	0.003 U	1,200	4.0 JD133	2.3	
RH6F	2 [1]	Penetrating									0.022	0.27J					2.4 JT8	6.7 UJT8						1.5 JT8
RH6F	Duplicate [1]	Penetrating									0.018	0.13J	None				2.3 JT8	6.7 UJT8						1.6 JT8
RH7A	1	Penetrating	Pink		X																			
RH7A	2																							
RH7B	1	None	Pink		X																			
RH7C	1	Surface	Slight Pink		X		ND																	
RH7C	2																							
RH7D	1	Surface	ND																					
RH7D	2	Surface					ND																	
RH7E	1	None	ND																					
RH8E	1	Surface	ND				ND	5	6	ND	0.017	0.1J	ND				3.3 JS73 (6.2)	6.7 U	0.005 U	0.003 U	893	2.5 JD133	1.8	
RH8E	Duplicate																3.3 JS73 (6.8)	6.7 U	0.005 U	0.003 U	967	2.4 JD133	1.6	
RH8E	1 [1]	Surface									0.016	0.07 J	None				1.4 JT8 (2.3)	6.7 UJT8						0.54 JT8
RH9B	1	Surface																						
RH9D	1																							
RH9D	2		ND																					
RH9E	1	Surface	ND				ND																	
RH9E	2	Surface					Nitrocellulose																	
RH9G	1	None	ND				ND																	
RH9H	1		ND																					
RH10D	1	Surface	ND				ND																	
RH11D	1	Penetrating	ND				ND																	
RH11E	1	Penetrating	Slight Pink		X		Nitrocellulose																	
RH11F	1		ND																					
RH12E	1	Surface	ND																					
RH12F	1	Penetrating	ND				ND																	
RH12F	2	Penetrating					ND	6	16	Nitrate	0.012	ND	ND				3.2 JS73 (6.3)	6.7 U	0.005 U	0.003 U	1,820	4.8 JD133	7.9	
RH12F	3						ND																	
RH12G	1	Surface	ND				ND																	
RH12G	2		ND				ND																	
RH13G	1	Surface	ND				ND																	
RH13H	1	Surface					Nitrate																	
RH14G	1	Penetrating					Nitrate																	
RH14G	2	Penetrating	ND																					
RH14H	1	Penetrating	ND				ND																	
RH14H	2	Penetrating					Nitrocellulose	6	4	ND	0.009	ND	ND				5.9 JS73 (6.5)	6.7 U	0.005 U	0.003 U	927	3.4JD133	1.9	
RH14H	3	Surface																						

Notes:

[1] Additional sample taken on 8/28/02.

Blank cells were not sampled.

DNT = dinitrotoluene

NC = nitrocellulose

ND = not detected

NG = nitroglycerine

Data Qualifiers:

J = Estimated value. Compound was positively identified above method detection limit, but below reporting limit. Reporting limit is shown in parentheses

JD133 = Estimated value. Duplicate precision was greater than maximum control limi of 20 relative percent difference.

JS73 = Estimated value. Matrix spike recovery was outside control limits of 75 to 12! percent recovery at 73 percent recovery. Where reporting limits are shown in parentheses compound was positively identified above method detection limit, but below reporting limit.

JT8 = Sample received at 8.5°C. False undetected values or low bias could be associated with the data bnecause of degradation.

U = Not detected at reporting limit indicated in cell.

over areas up to a few square inches in size, since these areas can be tested by wiping and/or spraying.

Surface Raman testing was performed at multiple locations in the Pre and Final Roll House. The results shown on Table 5-5 indicate that energetic material (specifically NC) was detected on the building surfaces tested in grids RH6B, RH6C, RH9E, RH11E, and RH14H using the Raman spectroscopy equipment. Inorganic nitrates were encountered on the floor surface in grids RH2F, RH13H, and RH14G. Refer to Appendix B.2 for a complete report of the Raman testing performed during this demonstration. Like Expray®, Raman testing is also capable of detecting sub-microgram particles. However, since the particles must be present in the very small area (typically 2-mm diameter) that is illuminated by the unit, Raman testing is severely limited in the area that can be analyzed, and so is much less sensitive for detection of particles spread over large areas.

The concrete was cored in the nine locations identified on Figure 5-5 as RH1D, RH2B, RH3C, RH6B, RH6C, RH6F, RH8E, RH12F, and RH14H. Subsurface Raman testing was performed in each of the holes. The Raman spectroscopy equipment did not detect energetic material in any of the holes. Nitrate was detected in two of the holes (RH6B and RH12F) using the Raman equipment.

A soil sample was obtained from each coring location. The samples were analyzed using the CRREL RDX Method. The results shown on Table 5-5 indicate that NC and/or NG were present at low levels in three of the nine samples analyzed using the field method. Section 5.1.6 discusses the spiked sample results of the demonstration, which indicate that the field method could only quantify NG and could not quantify NC.

Soil samples from each of the coring locations were sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-5. The results indicate possible low levels of NC present in all of the samples analyzed. NG and 2,4-DNT were not detected above their respective reporting limit in any of the samples.

Following the initial sample collection and analysis, additional soil samples were collected from RH3C, RH6F (with duplicate), and RH8E to determine whether the low-level NC detections that were present in all samples were false positives. The soil samples were analyzed using the CRREL RDX Method. NC and/or NG were detected in samples from RH6F and RH8E using the field method.

The additional soil samples were also sent to TriMatrix Laboratories for confirmatory analysis. The results of the offsite laboratory analyses are provided in Table 5-5. The results show that low levels of NC continued to be reported in all of the samples analyzed. Soil samples were also analyzed using EPA Method 353.2 for nitrogen (nitrate + nitrite). Results ranged from 0.54 to 1.6 mg/kg. Again, no correlation was noted between NC results and nitrogen (nitrate + nitrite) results.

The results of the metals analyses performed by TriMatrix indicate that background concentrations of metals are present in all of the soil samples analyzed.

5.1.6 Spiked Samples Results. The field and laboratory analytical results for the five spiked NG and NC samples are provided in Table 5-6 and Table 5-7. Preparation of the calibration curve for NC yielded absorbances that were comparable in all of the standards, but did not correlate with the standard concentrations. Because of this, a calibration curve could not be produced, and soil concentrations of NC could not be quantified by the CRREL RDX Method. Additionally, measurements of absorbances of the spiked samples yielded results that did not correlate with spiked concentrations. Evaluation of these results is provided in Section 5.2.

Table 5-6: NG Concentrations in Spiked Samples, Comparison of Field and Laboratory Methods

Sample ID	NG Spiked Concentration (mg/kg)	CRREL RDX Method (mg/kg)	SW-846 Method 8332 (mg/kg)
A	15	16.0	30 JT22
B	10	10.1	12 JT22
C	6	5.6	7.7 JT22
D	3	3.1	3.3 JT22 (6.8)
E	1	1.4	6.8 UJT22
Blank	0	0.0	6.8 UJT22

Notes:
U = Compound not detected at reporting limit indicated in cell.
JT22 = Estimated value. Reporting limit is shown in parentheses. Samples were received at 22.1°C. Sample results have been qualified as T22 for a possible low bias as a result of degradation.

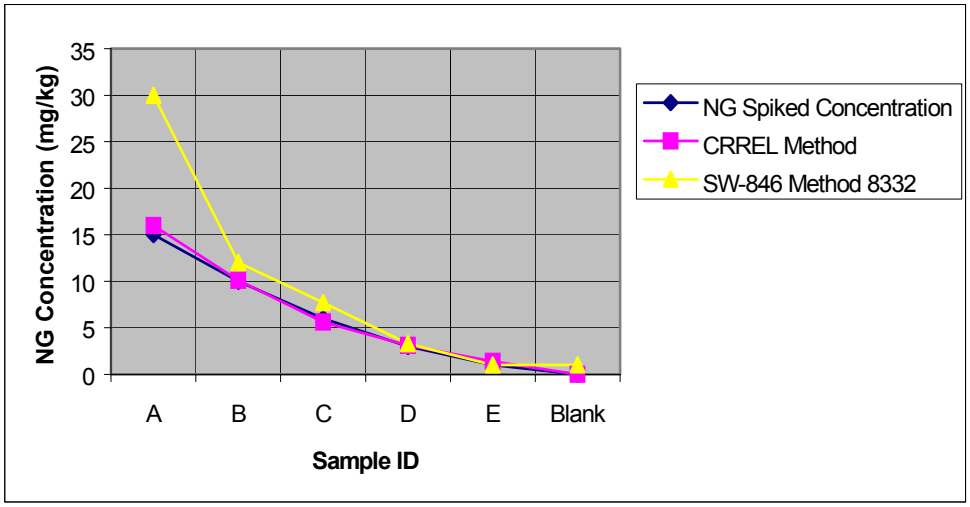
Table 5-7: NC Concentrations in Spiked Samples, Comparison of Field and Laboratory Methods

Sample ID	NC Spiked Concentration (mg/kg)	CRREL NC Standard Absorbance	CRREL NC Spiked Sample Absorbance	CRREL RDX Method Absorbance	Army Automated Nitrocellulose Analysis (mg/kg)
A	400	0.154	NT	NM	2.3 UJT21
B	375	NT	0.125	NM	2.3 UJT21
C	200	0.153	0.154	NM	2.3 UJT21
D	100	0.120	0.036	NM	0.81 JT21 (2.3)
E	50	0.142	0.033	NM	3.0 JT21
Blank	0	0.022	0.032	NM	1.3 JT21 (2.0)

Notes:
NM = Not measured because of calibration curve failure.
NT = Not Taken
U = Compound not detected at reporting limit indicated in cell.
JT21 = Estimated value. Reporting limit is shown in parentheses. Samples were received at 21°C. Sample results have been qualified as T21 for a possible low bias as a result of degradation.

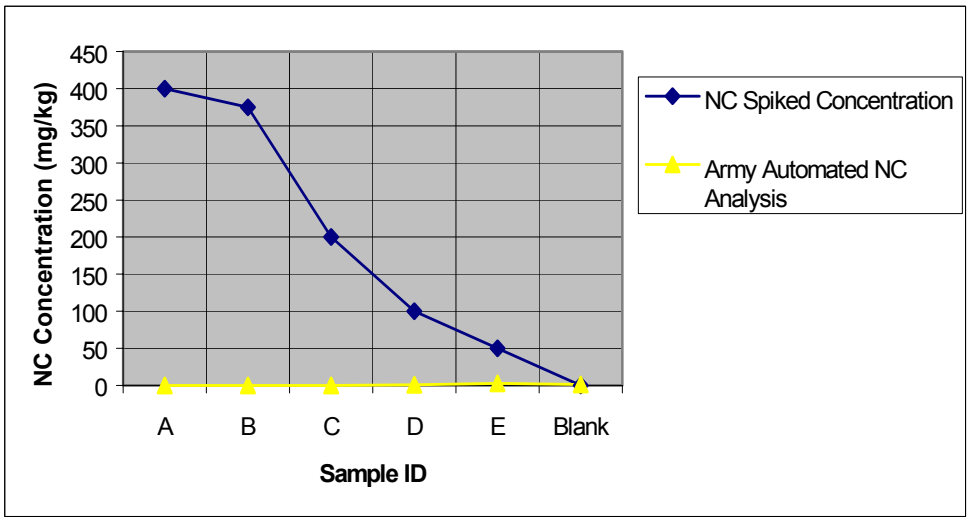
For the NG spiked sample results, a plot of CRREL RDX Method and analytical laboratory results as well as the spiked concentrations is shown on Figure 5-6.

Figure 5-6: NG Concentrations in Spiked Soil Samples



For the NC spiked sample results, a plot of the analytical laboratory results and the spiked concentrations is shown on Figure 5-7.

Figure 5-7: NC Concentrations in Spiked Soil Samples



5.1.7 Data Validation. All offsite laboratory analytical data were submitted to a third party service contractor for validation. The data validation criteria used are those found in the USEPA's *National Functional Guidelines for Organic and Inorganic Data Review*[11]. Data for NC, SVOCs, NG, lead, aluminum, copper, nitrates, and nitrites were subjected to these review criteria. The data validation reports are provided in Appendix B.4.

Laboratory analysis for NC is not specific for soils. The laboratory method involves hydrolysis of NC to decompose the molecule to separate the nitrate ion. The nitrate ion is then chemically

reduced to the nitrite ion. Chemical analysis is then performed to quantify the nitrite, which is then used to calculate an equivalent NC content using an average composition NC. For purposes of this *Demonstration Plan*[9], NC at the site was considered to contain 12.6 percent nitrogen based on the specification for NC used in the predominant production process. Certain modifications of the analytical procedure were implemented to determine NC in soils and other solid matrices to eliminate interference from other possible sources of nitrite or nitrate ions. Soluble nitrites and nitrates were removed by aqueous extraction. Data validation was applied to the nitrite analysis rather than the calculated NC concentration.

Nitrocellulose. The NC matrix spike for parent sample 305342 is reported at 73 percent recovery. The limit is 75 percent. The sample has been qualified JS73 for a possible low bias toward the sample results. The results for this analyte in most of the samples analyzed could be biased slightly low proportional to the amount of spike recovered.

Samples for data packages 35988-3 and 35988-4 were received at 8.5 degrees Celsius (°C) and 21°C, respectively. While NC is fairly stable, the samples have been qualified as JT8 and JT21 for a possible low bias as a result of degradation.

Semivolatile Organic Compounds. The parent sample 67395CWP01004 analysis has been qualified RS3 for low recovery of 2,4-dinitrophenol. The recovery of this compound is within limits in the laboratory control sample but is recovered unacceptably in the matrix spike/spike duplicate indicating matrix interference. The results of this compound in the parent sample have been rejected.

Method Blank contamination for di-n-butyl phthalate has been qualified for in all associated samples where the concentration is less than five times the reported value. The qualification UB0.008 has been applied where applicable. The original reported value was for chrysene, but the reviewer found this to be an error in identification. The laboratory has re-submitted the corrected form.

Nitroglycerine. Samples for data packages 35988-2, 35988-3, and 35988-4 were received at 22.1°C, 8.5°C, and 21°C, respectively. While NG is fairly stable, the samples have been qualified as JT22, JT8, and JT21 for a possible low bias as a result of degradation.

Metals. The data as qualified are considered fully useable for project purposes. The sample matrix duplicate for sample 305052 was 133 percent for copper. Therefore, copper was qualified JD133 for all of the samples obtained from the Pre and Final Roll House.

Nitrates/Nitrites. Samples for data packages 35988-3 and 35988-4 were received at 8.5°C and 21°C, respectively. Nitrate and nitrite samples have been qualified as JT8 and JT21 for a possible low bias as a result of degradation.

5.2 Data Assessment

While the lack of energetic materials encountered on the floors and under the RP buildings is good news for the Army, validation of the proposed methods could not be performed. Based on

the results of the demonstration, the technologies evaluated cannot be recommended for full-scale implementation at DoD sites. In addition, it appears that one of the laboratory reference methods, Army Automated Nitrocellulose Analysis, is unable to accurately quantify NC in soils.

In terms of the effectiveness of the technologies, some potential agreement between methods may have been observed in the demonstration; however, further validation of technologies is required to prove this. Since the reference method for NC does not appear to measure NC accurately, any comparison must be qualified by the lack of bona fide data for NC. Tempered by this fact, comparison between Raman spectroscopy, CRREL RDX Method, and EPA Method 8332 generally indicate similar, low-level, qualified or non-detect results with the exception of two detections by the CRREL RDX Method. Also, observations made in the field did not note the presence of NC fibers in nearly all cases. Assuming that NC was not present in significant quantities, the methods do appear to agree that explosives were not present in significant quantities in the buildings investigated. Significant quantities in this case are defined as quantities that would typically require evaluation from a safety perspective, which is the driver of this investigation. In any case, further validation should be done for all methods to insure that the methods completely perform within performance metrics with valid reference method confirmation.

The goals of the demonstration were not achieved to the degree envisioned. Because of the small number of actual positive results and the problems associated with the NC analyses, rigorous statistical comparison between the analytical methods is not possible. However, the following sections discuss the data that were obtained and the conclusions that can be drawn from the data.

For convenience, Table 5-8 provides a side by side comparison of all of the Raman, Expray®, CRREL Method, and offsite laboratory analysis for NC and NG. The samples with positive results are shaded.

Table 5-8: Data Comparison for NC and NG Analyses

Sample Location	Subsurface Raman	Expray® (2)	CRREL Method for NC/NG (mg/kg)	Army Automated NC Analysis (mg/kg)	Method 8332 for NG (mg/kg)
HH1C-1	ND	A	0.023 J	2.4 JS73	6.7 U
HH1C-1 (1)	NT	NT	ND	1.8 JT8	NT
HH2A-1	ND	A	ND	3.4 JS73	6.7 U
HH2D-1	ND	A, B	ND	6.8 JS73	6.7 U
HH4A-1	ND	ND	ND	4.6 JS73	6.7 U
HH4B-2	ND	A	0.8 J	3.9 JS73	6.7 U
HH4B-2 (1)	NT	NT	ND	1.7 JT8	NT
HH4D-1	ND	A	58.5	2.5 JS73	6.7 U
HH4D-1 (1)	NT	NT	ND	1.6 JT8	NT
HH7B-1	ND	ND	ND	2.7 JS73	6.7 U
BB1D-1	ND	B	0.23 J	21 JS73	6.7 U
BB1D-1 (1)	NT	NT	0.13 J	2.0 JT8	6.7 U
BB2B-1	Nitrocellulose	B	ND	8.5 JS73	6.7 U
BB2B-1 (1)	NT	NT	ND	1.9 JT8	NT

Table 5-8 (Cont.)

Sample Location	Subsurface Raman	Expray® (2)	CRREL Method for NC/NG (mg/kg)	Army Automated NC Analysis (mg/kg)	Method 8332 for NG (mg/kg)
BB3B/3C-2	ND	B	ND	12 JS73	6.7 U
BB3B/3C-2 (1)	NT	NT	0.13 J	2.9 JT8	6.7 UJT8
BB3D-1	ND	B, C	ND	12 JS73	6.7 U
BB3D-1 (1)	NT	NT	0.03 J	1.5 JT8	6.7 UJT8
BB4B-1	ND	B	ND	16 JS73	6.7 U
BB5A-1	ND	B	0.07 J	3.1 JS73	6.7 U
BB5A-1 (1)	NT	NT	ND	2.2 JT8	NT
BB5C-1	ND	ND	8.9	8.3 JS73	6.7 U
BB5C-1 (1)	NT	NT	ND	4.1 JT8	6.7 UJT8
BT1A-5	ND	B	ND	2.3 JS73	6.7 U
BT1E-1	ND	A, B	ND	4.9 JS73	6.7 U
BT2C-1	ND	A, B	ND	2.4 JS73	6.7 U
BT2D-1	ND	ND	ND	11 JS73	6.7 U
BT2D-1 (1)	NT	NT	ND	1.9 JT8	NT
BL2A-1	ND	B	1.7	2.5 JS73	6.7 U
BL2A-1 (1)	NT	NT	ND	1.7 JT8	NT
BL4A-1	ND	B	ND	4.9 JS73	6.7 U
BL4B-1	ND	B	ND	4.7 JS73	6.7 U
BL5C-1	ND	NT	ND	3.1 JS73	6.7 U
BL6A-1	ND	B	ND	2.1 JS73	6.7 U
BL6B-1	ND	B	ND	9.8 JS73	6.7 U
BL6B-1 (1)	NT	NT	ND	1.8 JT8	NT
BL8A-1	ND	B	ND	2.8 JS73	6.7 U
BL9B-1	ND	NT	ND	3.7 JS73	6.7 U
RH1D-1	ND	B	ND	5.8 JS73	6.7 U
RH2B-2	ND	B	ND	5.2 JS73	6.7 U
RH3C-1	ND	ND	0.2 J	5.4 JS73	6.7 U
RH3C-1 (1)	NT	NT	ND	1.8 JT8	NT
RH6B-1	Nitrate	B	ND	2.6 JS73	6.7 U
RH6C-1	ND	B	ND	6.0 JS73	6.7 U
RH6F-2	ND	B	0.1 J	6.9 JS73	6.7 U
RH6F-2 (1)	NT	NT	0.27 J	2.4 JT8	6.7 UJT8
RH8E-1	ND	ND	0.1 J	3.3 JS73	6.7 U
RH8E-1 (1)	NT	NT	0.07 J	1.4 JT8	6.7 UJT8
RH12F-2	Nitrate	NT	ND	3.2 JS73	6.7 U
RH14H-2	ND	NT	ND	5.9 JS73	6.7 U

Notes:

(1) Additional sample taken on 8/27/02 – 8/28/02.

(2) Refer to Table 4-4 for compounds in each Expray® group.

NT = Not Taken ND = Non-Detect

J = Estimated value. Compound was positively identified above method detection limit, but below reporting limit.

JS73 = Estimated value. Matrix spike recovery was outside control limits of 75 to 125 percent recovery at 73 percent recovery.

JT8 = Sample received at 8.5°C. False undetected values or low bias could be associated with the data as a result of degradation.

U = Compound not detected above the method detection limit of 6.7 mg/kg.

Figure 5-8 shows the relationship between the data obtained using each method, including verification of detect/non-detect results, average absolute difference, and average RPD between results.

5.2.1 *In Situ* Raman Spectroscopy Assessment. As shown in Table 5-8, out of 35 subsurface Raman sampling locations, only one location indicated the presence of NC (BB2B in the Paste Breaker and Blender House). Since the laboratory reference method for NC is suspect, an assessment of Raman for measurement of NC is difficult to provide. In addition, soils must contain 1 percent energetic material to be seen by the Raman equipment. For this demonstration, it did not appear that quantities of NC in soils were present in quantities near this percentage.

The offsite analytical laboratory did not detect NG above the method detection limit of 6.7 mg/kg in any of the samples analyzed.

5.2.2 Expray® Assessment. Table 5-8 shows the Expray® results for the 31 soil samples that were compared to the offsite lab. These results indicate that 21 subsurface soil samples had NC and/or NG present.

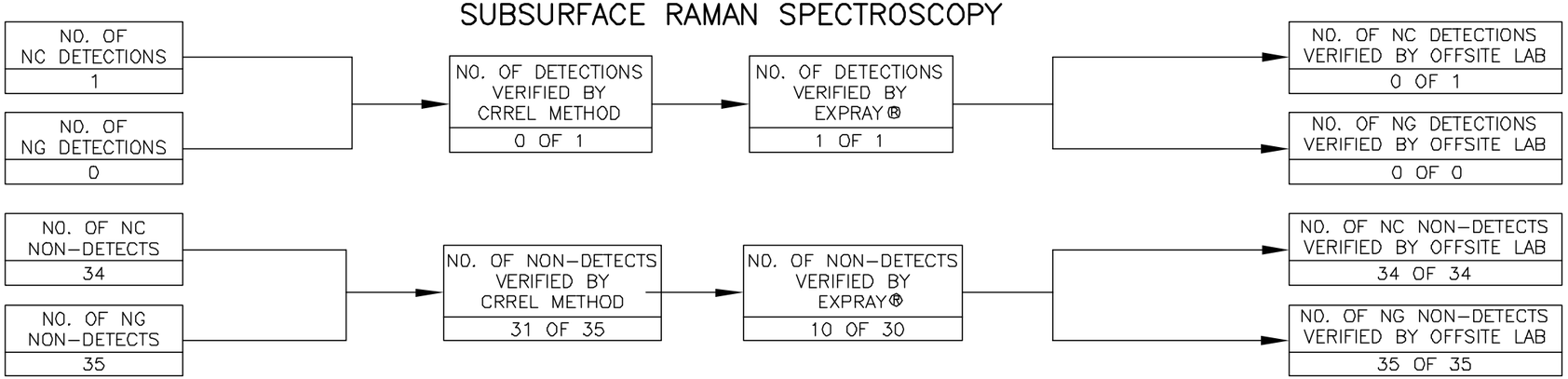
Expray® analysis did detect the presence of Group A, B, and C compounds in various areas at BAAP. When compared to all of the other methods, it appears that there are potentially many more false positive results with Expray® than with other methods. Expray® has a variety of interferences, particularly with Group C compounds, which include inorganic nitrates. Any fertilizer containing nitrates will react to Expray®. In addition, field experience has shown that adding too much of the sprays could cause a color change. In terms of Group A compounds, it is believed that an interference or interferences exist in the soil matrix, which may have caused a false positive detection.

The false negative rate for the Expray® analysis was 0 percent when compared with the laboratory reference methods (assuming that low-level, qualified results show lack of significant quantities of explosives). Overall, when looking at false positive rates, it appears that Expray® does not pass the performance metrics. However, when looking at false negative rates, Expray® does pass the performance metrics. In certain situations, Expray® might still be used to indicate lack of explosive compounds, given its low rate of false negatives. Further validation should be done in all cases to insure that methods completely perform within performance metrics with valid reference method confirmation.

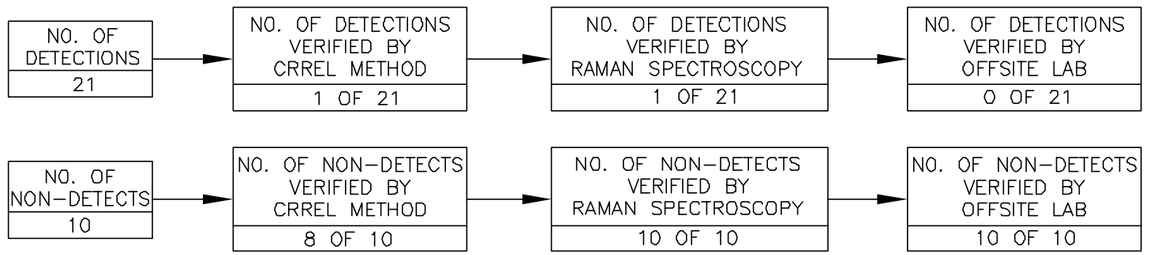
5.2.3 CRREL RDX Method Assessment. Both spiked sample results and soil sample results are discussed for the CRREL RDX Method.

Spiked Sample Results. For the spiked NG samples, the NG results for the CRREL RDX Method are plotted against the results obtained by the offsite laboratory in Figure 5-9. A perfect correlation between the two sets of data would yield the straight line drawn on Figure 5-9. It can be readily seen that in most instances, the field method yielded lower NG concentrations than the offsite laboratory method. However, the field method results were actually closer to the known

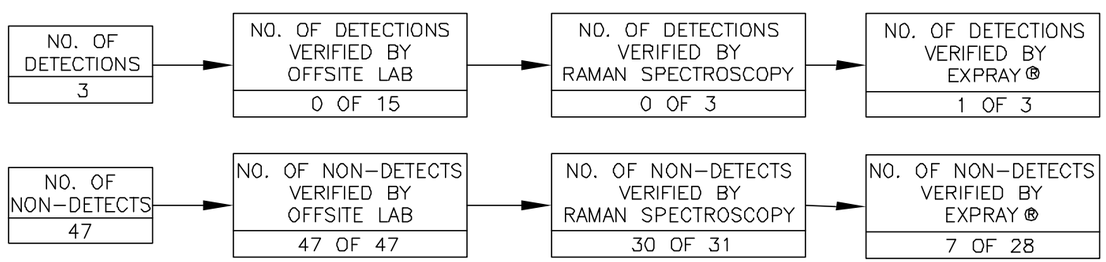
SUBSURFACE RAMAN SPECTROSCOPY



EXPRAY ®



CRREL SW-846 DRAFT METHOD 8510



REVISION	DESCRIPTION	CHECKED	APPROVED	DATE
B	ISSUED TO ARMY	KSH	DJR	01/31/03
A	ISSUED TO ARMY	KSH	DJR	11/14/02

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT

BADGER ARMY AMMUNITION PLANT

FIGURE NUMBER 5-8

FIELD AND LABORATORY DATA COMPARATIVE ANALYSIS

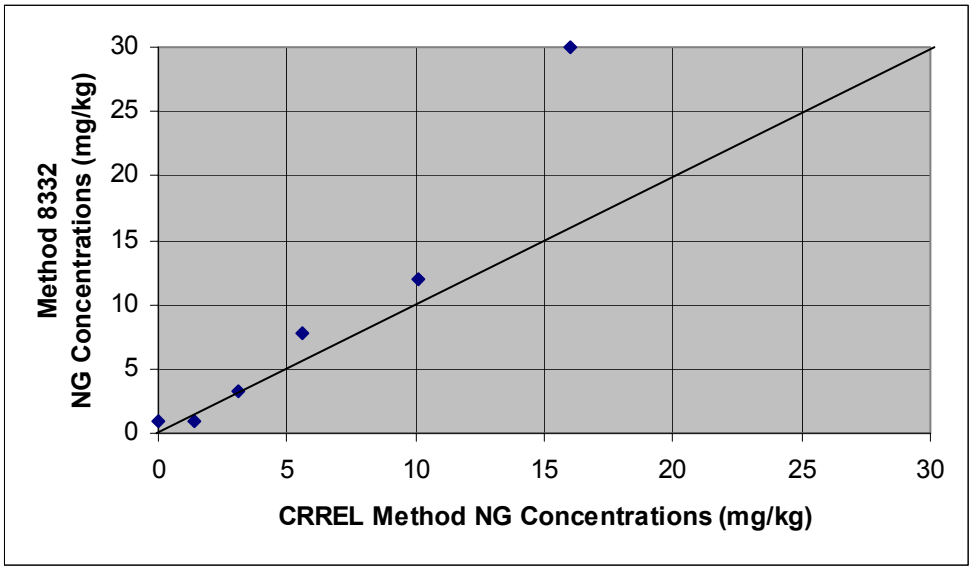
STONE & WEBSTER, INC.

	BY	DATE		BY	DATE	PROJECT NO.	REV.	FILE NAME
DSND	DJR	10/10/02	CHKD	KSH	11/14/02	13341.0730	B	3341H10B
DRAWN	MEC	10/10/02	APPR	DJR	11/14/02			

MON, JAN 27, 2003 10:31 A MEC K:\BADGER\13341\H-0730\REV-B\3341H10B.DWG

spiked concentrations than the laboratory results. It appears that the CRREL RDX Method may more accurately predict the NG concentrations in soils than the offsite laboratory SW-846 Method 8332. Another advantage of the CRREL Method is that it can detect NG at concentrations of 1 mg/kg in soils, whereas Method 8332 offers a reporting limit of greater than 6 mg/kg.

Figure 5-9: NG Concentrations in Spiked Samples, CRREL RDX Method versus SW-846 Method 8332



The calibration curve for NC-spiked samples yielded absorbances that did not correlate with standard concentrations. This compromises the validity of NC measurement by the CRREL RDX Method for the demonstration. Analysis of the spiked sample results for NC indicates that while the CRREL RDX Method can indicate the presence of NC, it is unable to reliably quantify NC. The CRREL RDX Method is designed for quantification of RDX and contains a mix of reagents that are designed to react with the components of RDX. NC is not a primary analyte for this test, but it has been shown to provide a response when tested. It would appear that the presence of enough NC to give a positive response also exhausts one of the critical reagents for the color development, resulting in essentially identical analytical responses for any detectable NC. It appears that the method could be modified to include a different mixture of reagents that could possibly quantify NC. This is outside of the scope of this demonstration.

The Army Automated Nitrocellulose Analysis was also tested during the spike sample study. As shown in Figure 5-7, the Army Automated Nitrocellulose Analysis failed to accurately measure spiked concentrations of NC in soil samples. The Army Automated Nitrocellulose Analysis was not designated for validation in this demonstration. It was assumed that this method would produce valid results for the entire range of concentrations that would be encountered. Originally, this method was used to measure NC in water and was intended for use in measurement of water pollution by NC fines. This method was modified for use with soils by

adding additional steps that were supposed to remove the NC from the soil matrix. Unfortunately, the method does not appear to be able to measure NC in soil. No other method is known at this time that measures NC in soils. A number of different possibilities were evaluated for the inconsistency of spiked soil NC results by the reference method, including incorrect reference standard, incorrect preparation of spiked samples, and inability of the laboratory reference method to accurately measure NC. During the spike sample study, an NC standard, Collodion U.S.P., was used to spike the soil samples with NC. Collodion is a liquid solution of NC that was added to each spike soil sample to achieve the concentrations shown in Table 5-7. The possibility exists that during the initial washing step of the Army Automated Nitrocellulose Analysis, the liquid NC was washed away along with the nitrates and nitrites. This is one possible explanation for the results shown in the study. Since the laboratory reference method could not measure NC, it is not possible at this time to validate the technologies in the demonstration.

For the spiked samples, a plot of the laboratory data versus the field method data is not very useful, as the laboratory data did not correlate with the spiked NC concentrations in the samples.

Soil Sample Results. The CRREL RDX Method results for the 50 soil samples indicate that two subsurface soil samples had NC and/or NG present above the reporting limit. The values were 8.9 and 58.5 mg/kg (63.7 mg/kg in a duplicate sample). There were also 12 occurrences of NG and/or NC below the reporting limit of 1 mg/kg for the field method, although at these levels, noting that these are colorimetric tests, it is certainly plausible that NC was not present, and that these occurrences be considered as non-detects. Additional samples taken on 8/28/02 at the locations that reported the concentration of 8.9 and 58.5 mg/kg subsequently reported non-detect values using CRREL RDX Method and very low qualified results using Army Automated Nitrocellulose Analysis. The previous non-detect values for NG were not measured again. Inconsistencies between field and laboratory methods could also be attributed to a number of factors, including sample heterogeneity, operator error, and laboratory error. For the highest two detections, the disparity between the high values reported in the initial samples using the CRREL RDX Method and the other methods most likely could be attributed to sample heterogeneity. This is reinforced by the fact that the samples taken from the same locations on 8/28/02 reported non-detect values using the CRREL Method. In particular, the possibility exists that NC fibers could be distributed unevenly through a soil sample, which could cause the phenomenon potentially reflected in those particular sample results.

In general, samples analyzed using the CRREL RDX Method, Army Automated Nitrocellulose Analysis, and EPA Method 8332 report low, qualified, or non-detect results. These results appear to agree with each other. As noted previously, the Army Automated Nitrocellulose Analysis failed to accurately measure NC in the spiked soil sample portion of the demonstration. Since the ability of the reference method is questioned for NC analysis, validation of the methods as they relate to the presence of NC cannot be performed from the data produced by this demonstration. Based on the results of the demonstration, the CRREL RDX Method, as it currently stands, cannot be used as a field-screening tool for surveying explosive residues (particularly NC) in DoD buildings.

5.2.4 Overall Performance Evaluation. The effectiveness of the demonstration was evaluated by confirming the performance of each of the technologies against the primary and secondary criteria set forth in the *Demonstration Plan*[9]. The results of the performance evaluation are summarized in Table 5-9.

The lack of energetic compounds detected during the demonstration made it difficult to assess whether these technologies could be implemented at other DoD sites. Any conclusions drawn from this study should be tempered by the fact that many locations were unable to be sampled because of access issues with the concrete cutting equipment. In addition, concrete cutting equipment potentially blew away the explosives present below the slab.

The Raman equipment requires concentrations of energetic material of at least 1 percent (10,000 mg/kg) in soils for detection. Since none of the soils encountered during the study contained concentrations close to that range, the study was unable to quantify levels of explosives that might be reliably detected using Raman spectroscopy.

In the study, Expray® was used as a screening tool to find sampling locations that might contain explosives. As a screening tool, Expray® did not prove to be an effective way of finding large amounts of explosives, since it was fairly sensitive and appeared to have numerous interferences. However, in certain situations, Expray® might still be useful to indicate lack of explosive compounds, given its low rate of false negatives. Combined with SASW technology, Expray® may still be useful in identifying areas with explosive contamination in buildings.

Based on the limited data generated in the spiked sample study, it appears that the CRREL field method can reliably detect and quantify NG in soils. It also appears that the method can detect NC in soils, however, the method cannot adequately measure NC concentrations.

Overall, based on the results of the demonstration, the technologies evaluated require additional validation and cannot be recommended for full-scale implementation at DoD sites.

5.3 Technology Comparison

Inadequate information was obtained to make a technical comparison between *in situ* Raman spectroscopy testing, Expray®, and other technologies.

Based on limited data, the CRREL RDX Method appears to be able to detect NG more accurately and at lower levels than SW-846 Method 8332.

Table 5-9: Performance Evaluation Against Primary and Secondary Criteria

Performance Criteria	Expected Performance Metric (pre-Demo)	Performance Confirmation Method	Actual Performance (post-Demo)
Primary Criteria			
Compound Identification	• NMT 5% False Negative • NMT 10% False Positive	Confirm by laboratory analysis. Data are evaluated on agreement of detection.	• Raman Field Method False Negatives = 100% • Expray® Field Method False Negatives = 100% • CRREL Field Method False Negatives = 100% • Raman Field Method False Positives = 0% • Expray® Field Method False Positives = 0% • CRREL Field Method False Positives = 0% *Rate of false positives and false negatives may be incorrect because of possible interference/ miscalculation in reference laboratory method (Army Automated Nitrocellulose Analysis).
Compound Concentration	• RPD NMT 20% • Correlation Coefficient $\geq$0.95	Confirm by laboratory analysis. Data are evaluated on agreement of detection and concentration.	• CRREL Method RPD = Not calculated • Correlation coefficient = Not calculated
Reliability	• Achieve identification and quantitation requirements in multiple locations/conditions.	Confirm by laboratory analysis.	• Not confirmed because of absence of energetic material encountered.
Ease of Use	• Reduced crew size. • Level of technical training. • Need for special assistance or training during project. • Operating crew can perform calibration and maintenance.	Experience from demonstration.	• CRREL field method is easy to use with little specialized training and equipment. • Expray® field method is easy to use with little specialized training and equipment. • SASW operators require specialized training. Two operators needed for efficient operation. • Raman operators require specialized training. • Trained SASW and Raman operators can perform calibration and maintenance on site.

Table 5-9 (Cont.)

Performance Criteria	Expected Performance Metric (pre-Demo)	Performance Confirmation Method	Actual Performance (post-Demo)
Maintenance	• Percent downtime when operations are scheduled. • Routine maintenance required. • Specialized personnel or equipment for maintenance activities.	Experience from demonstration.	• CRREL field method did not use equipment that is subject to maintenance and repair. • Expray® field method did not use equipment that is subject to maintenance and repair. • SASW equipment % downtime = 5 to 10% • Raman equipment % downtime = 5 to 10% • High-pressure water jet cutting system required constant maintenance and repair: % downtime = 20 to 25%.
Secondary Criteria			
Versatility	• Use conditions and ease of use under a variety of site conditions.	Experience from demonstration.	• Because of portability and size of equipment, SASW testing made it easy to transport. Interference at locations with multiple cracks and near sidewalls impacted the usability of the SASW data at these locations. • CRREL field method can be used under a wide variety of site conditions. • Expray® field method can be used under a wide variety of site conditions. • Raman equipment light and easy to transport. • Raman probe must be held very still for measurement – requires tripod that impacts the locations that can be sampled. • Raman probe size (1-inch) limits locations where Raman readings can be obtained. • High-pressure water jet cutting system needed a stable, flat base to operate – unable to cut concrete in ideal locations for sampling because of limitations of the cutting equipment.

Table 5-9 (Cont.)

Performance Criteria	Expected Performance Metric (pre-Demo)	Performance Confirmation Method	Actual Performance (post-Demo)
Hazardous Materials	• Volume of hazardous materials generated by project operations. • Number of waste streams requiring characterization and disposal.	Experience from demonstration.	• Minimal hazardous materials generated during project. • Four ounces of spent acetone used in CRREL field method was containerized and disposed as hazardous waste.
Process Waste	• Amount of investigation-derived waste generated by the project.	Experience from demonstration.	• Minimal investigation-derived waste was generated during the project.

Notes:
NMT = not more than
RPD = Relative Percent Difference

6.0 Cost Assessment

6.1 Cost Performance

Project costs were tracked and are summarized in Table 6-1. The actual costs of Raman spectroscopy testing, CRREL RDX Method testing, SASW testing, and high-pressure water jet concrete cutting are provided on Tables 6-2 through 6-5. Expray® costs are included in Table 6-6. Stone & Webster's planning and oversight costs are apportioned evenly between the four tasks on Tables 6-2 through 6-5. The unit cost per sample is provided for each activity.

6.1.1 Expected Operational Costs. The operational costs for each of the technologies are expected to be similar to those presented in Tables 6-2 through 6-5. For larger projects, the planning costs could be apportioned across a larger number of samples resulting in a slightly lower unit cost, but all other costs are expected to be similar.

6.2 Cost Comparisons to Conventional and Other Technologies

Table 6-6 provides the offsite analytical laboratory costs for the demonstration and includes the cost of obtaining the samples in the field. By comparing these costs with the costs of collecting and analyzing soil samples using the CRREL field method in Table 6-3, it is evident that considerable costs (38 percent reduction) can be avoided using the field method as a substitute for and/or in addition to the offsite laboratory method.

7.0 Regulatory Issues

7.1 Approach to Regulatory Compliance and Acceptance

All work at BAAP involves close interaction with WDNR regulatory personnel. Meetings are held on a monthly basis with regulatory personnel to discuss the status of all ongoing environmental projects at BAAP. Public meetings are also held on a monthly basis to keep the general public informed of the progress of environmental projects at the site.

The WDNR approved the *Demonstration Plan*[9] and has expressed considerable interest in characterizing the buildings at BAAP so that they may be safely transferred out of DoD control. The lack of energetic material found during the demonstration made acceptance of the technologies by the WDNR unlikely because of lack of information. Further testing would be necessary to gain regulatory acceptance of the approaches used.

Table 6-1: Overall Demonstration Costs

Cost Category	Sub Category	Details	Subcontractor Costs					Total Actual Demonstration Costs
			Concrete Cutting	SASW Testing	Analytical Laboratory	CRREL Testing	Raman Testing	
Start-Up Costs	Site Characterization	N/A	$ -	$ -	$ -	$ -	$ -	$ -
	Mobilization	Project planning costs	$ -	$ 2,692.88	$ -	$ 384.79	$ 1,878.67	$ 19,956.34
		Coordination with client, regulatory agencies, and subcontractors	$ -	$ 2,657.91	$ -	$ -	$ -	$ 10,657.91
		Personnel travel to site	$ 1,272.96	$ 678.11	$ -	$ 238.00	$ 1,162.00	$ 4,551.07
		Equipment travel to site	$ 3,000.00	$ 500.00	$ -	$ -	$ -	$ 3,500.00
		Shipping costs	$ -		$ -	$ 31.88	$ 155.63	$ 529.25
Capital Costs	Capital Equipment Purchase	N/A	$ -	$ -	$ -	$ -	$ -	$ -
	Ancillary Equipment Purchase	N/A	$ -	$ -	$ -	$ -	$ -	$ -
	Modifications	N/A	$ -	$ -	$ -	$ -	$ -	$ -
	Structures Installation	N/A	$ -	$ -	$ -	$ -	$ -	$ -
	Engineering	N/A	$ -	$ -	$ -	$ -	$ -	$ -
Operating Costs	Capital Equipment Rental	SASW System	$ -	$ 3,000.00	$ -	$ -	$ -	$ 3,000.00
		Raman Spectroscopy System	$ -	$ -	$ -	$ -	$ 5,000.00	$ 5,000.00
		High-pressure water jet cutting system	$ 20,115.68	$ -	$ -	$ -	$ -	$ 20,115.68
	Ancillary Equipment Rental	Pumps	$ 500.00	$ -	$ -	$ -	$ -	$ 500.00
		Vehicle(s)	$ 650.00	$ -	$ -	$ 85.00	$ 415.00	$ 2,200.00
	Supervision	Salary	$ 8,413.40	$ -	$ -	$ -	$ -	$ 18,686.07
		Travel	$ -	$ -	$ -	$ -	$ -	$ 2,128.00
		Per diem	$ 850.00	$ -	$ -	$ -	$ -	$ 2,868.68
	Operator Labor	Salary	$ 7,500.00	$ 13,149.01	$ -	$ 1,565.96	$ 7,645.58	$ 29,860.55
		Travel - On Site	$ -	$ 336.86	$ -	$ -	$ -	$ 336.86
		Per diem	$ 1,275.00	$ 545.80	$ -	$ 144.50	$ 705.50	$ 2,670.80
	Training	OSHA	$ -	$ -	$ -	$ -	$ -	$ -
		Procedures	$ -	$ -	$ -	$ -	$ -	$ -
	Maintenance	High-pressure hydraulic cutter	$ -	$ -	$ -	$ -	$ -	$ -
		Other equipment (specified)	$ -	$ -	$ -	$ -	$ -	$ -
	Consumables	Expray□ Kit(s)	$ -	$ -	$ -	$ -	$ -	$ 487.80
		Personal protective equipment	$ 500.00	$ -	$ -	$ -	$ -	$ 500.00
		Laboratory supplies - CRREL Method	$ -	$ -	$ -	$ -	$ -	$ 2,279.67
		Fuel	$ 400.00	$ 32.59	$ -	$ -	$ -	$ 510.65
		Tools	$ -	$ -	$ -	$ -	$ -	$ 294.60
		Other (Specified): TNT Standard	$ -	$ -	$ -	$ -	$ -	$ 74.75
	Residual Waste Handling	N/A	$ -	$ -	$ -	$ -	$ -	$ -
	Offsite Disposal	Hazardous waste (if any)	$ -	$ -	$ -	$ -	$ -	$ -
	Analytical Laboratory Costs	NG	$ -	$ -	$ 5,336.00	$ -	$ -	$ 5,336.00
		NC	$ -	$ -	$ 4,366.00	$ -	$ -	$ 4,366.00
		Shipping costs	$ -	$ -	$ 142.56	$ -	$ -	$ 142.56
		Data validation	$ -	$ -	$ -	$ -	$ -	$ -
	Long-Term Monitoring	N/A	$ -	$ -	$ -	$ -	$ -	$ -
Indirect Costs	Equipment Repair	Other (specified)	$ -	$ -	$ -	$ -	$ -	$ -
Demobilization	Housekeeping	Site cleanup/maintenance	$ -	$ -	$ -	$ -	$ -	$ -
		Personnel travel from site	$ 1,272.96	$ 678.11	$ -	$ 238.00	$ 1,162.00	$ 4,551.07
		Equipment travel from site	$ 3,000.00	$ 500.00	$ -	$ -	$ -	$ 3,500.00
		Shipping costs	$ -	$ -	$ -	$ 31.88	$ 155.63	$ 318.77
		TOTAL	$ 48,750.00	$ 24,771.27	$ 9,844.56	$ 2,720.00	$ 18,280.00	$ 148,923.08

Table 6-2: Demonstration Costs, Raman Spectroscopy Testing

Cost Category	Sub Category	Details	Apportioned Stone & Webster Costs	Raman Testing Subcontractor	Total Actual Demonstration Costs
Start-Up Costs	Site Characterization	N/A	$ -	$ -	$ -
	Mobilization	Project planning costs	$ 3,750.00	$ 1,878.67	$ 5,628.67
		Coordination with client, regulators, and subcontractors	$ 2,000.00	$ -	$ 2,000.00
		Personnel travel to site	$ 300.00	$ 1,162.00	$ 1,462.00
		Equipment travel to site	$ -	$ -	$ -
		Shipping costs	$ 85.44	$ 155.63	$ 241.06
Capital Costs	Capital Equipment Purchase	N/A	$ -	$ -	$ -
	Ancillary Equipment Purchase	N/A	$ -	$ -	$ -
	Modifications	N/A	$ -	$ -	$ -
	Structures Installation	N/A	$ -	$ -	$ -
	Engineering	N/A	$ -	$ -	$ -
Operating Costs	Capital Equipment Rental	SASW System	$ -	$ -	$ -
		Raman Spectroscopy System	$ -	$ 5,000.00	$ 5,000.00
		High-pressure water jet cutting system	$ -	$ -	$ -
	Ancillary Equipment Rental	Pumps	$ -	$ -	$ -
		Vehicle(s)	$ 262.50	$ 415.00	$ 677.50
	Supervision	Salary	$ 2,568.17	$ -	$ 2,568.17
		Travel	$ 532.00	$ -	$ 532.00
		Per diem	$ 504.67	$ -	$ 504.67
	Operator Labor	Salary	$ -	$ 7,645.58	$ 7,645.58
		Travel - On Site	$ -	$ -	$ -
		Per diem	$ -	$ 705.50	$ 705.50
	Training	OSHA	$ -	$ -	$ -
		Procedures	$ -	$ -	$ -
	Maintenance	High-pressure water jet cutting system	$ -	$ -	$ -
		Other equipment (specified)	$ -	$ -	$ -
	Consumables	Expray Kit(s)	$ -	$ -	$ -
		Personal protective equipment	$ -	$ -	$ -
		Laboratory supplies - CRREL Method	$ -	$ -	$ -
		Fuel	$ 19.52	$ -	$ 19.52
		Tools	$ 73.65	$ -	$ 73.65
		Other (Specified): TNT Standard	$ -	$ -	$ -
	Residual Waste Handling	N/A	$ -	$ -	$ -
	Offsite Disposal	Hazardous waste (if any)	$ -	$ -	$ -
	Analytical Laboratory Costs	NG	$ -	$ -	$ -
		NC	$ -	$ -	$ -
		Shipping costs	$ -	$ -	$ -
		Data validation	$ -	$ -	$ -
	Long-Term Monitoring	N/A	$ -	$ -	$ -
Indirect Costs	Equipment Repair	Other (specified)	$ -	$ -	$ -
Demobilization	Housekeeping	Site cleanup/maintenance	$ -	$ -	$ -
		Personnel travel from site	$ 300.00	$ 1,162.00	$ 1,462.00
		Equipment travel from site	$ -	$ -	$ -
		Shipping costs	$ 32.82	$ 155.63	$ 188.44
		TOTAL	$ 10,428.76	$ 18,280.00	$ 28,708.76
				NUMBER OF SAMPLE LOCATIONS	123
				UNIT COST PER SAMPLE	$ 233.40

Table 6-3: Demonstration Costs, CRREL Field Method

Cost Category	Sub Category	Details	Apportioned Stone & Webster Costs	CRREL Testing Subcontractor	Actual Demonstration Costs
Start-Up Costs	Site Characterization	N/A	$ -	$ -	$ -
	Mobilization	Project planning costs	$ 3,750.00	$ 384.79	$ 4,134.79
		Coordination with client, regulators, and subcontractors	$ 2,000.00	$ -	$ 2,000.00
		Personnel travel to site	$ 300.00	$ 238.00	$ 538.00
		Equipment travel to site	$ -	$ -	$ -
		Shipping costs	$ 85.44	$ 31.88	$ 117.31
Capital Costs	Capital Equipment Purchase	N/A	$ -	$ -	$ -
	Ancillary Equipment Purchase	N/A	$ -	$ -	$ -
	Modifications	N/A	$ -	$ -	$ -
	Structures Installation	N/A	$ -	$ -	$ -
	Engineering	N/A	$ -	$ -	$ -
Operating Costs	Capital Equipment Rental	SASW System	$ -	$ -	$ -
		Raman Spectroscopy System	$ -	$ -	$ -
		High-pressure water jet cutting system	$ -	$ -	$ -
	Ancillary Equipment Rental	Pumps	$ -	$ -	$ -
		Vehicle(s)	$ 262.50	$ 85.00	$ 347.50
	Supervision	Salary	$ 2,568.17	$ -	$ 2,568.17
		Travel	$ 532.00	$ -	$ 532.00
		Per diem	$ 504.67	$ -	$ 504.67
	Operator Labor	Salary	$ -	$ 1,565.96	$ 1,565.96
		Travel - On Site	$ -	$ -	$ -
		Per diem	$ -	$ 144.50	$ 144.50
	Training	OSHA	$ -	$ -	$ -
		Procedures	$ -	$ -	$ -
	Maintenance	High-pressure water jet cutting system	$ -	$ -	$ -
		Other equipment (specified)	$ -	$ -	$ -
	Consumables	Expray□ Kit(s)	$ -	$ -	$ -
		Personal protective equipment	$ -	$ -	$ -
		Laboratory supplies - CRREL Method	$ 2,279.67	$ -	$ 2,279.67
		Fuel	$ 19.52	$ -	$ 19.52
		Tools	$ 73.65	$ -	$ 73.65
		Other (Specified): TNT Standard	$ 74.75	$ -	$ 74.75
	Residual Waste Handling	N/A	$ -	$ -	$ -
	Offsite Disposal	Hazardous waste (if any)	$ -	$ -	$ -
	Analytical Laboratory Costs	NG	$ -	$ -	$ -
		NC	$ -	$ -	$ -
		Shipping costs	$ -	$ -	$ -
		Data validation	$ -	$ -	$ -
	Long-Term Monitoring	N/A	$ -	$ -	$ -
Indirect Costs	Equipment Repair	Other (specified)	$ -	$ -	$ -
Demobilization	Housekeeping	Site cleanup/maintenance	$ -	$ -	$ -
		Personnel travel from site	$ 300.00	$ 238.00	$ 538.00
		Equipment travel from site	$ -	$ -	$ -
		Shipping costs	$ 32.82	$ 31.88	$ 64.69
		TOTAL	$ 12,783.18	$ 2,720.00	$ 15,503.18
				NUMBER OF SAMPLE LOCATIONS	35
				UNIT COST PER SAMPLE	$ 442.95

Table 6-4: Demonstration Costs, Spectral Analysis of Surface Waves (SASW) Testing

Cost Category	Sub Category	Details	Apportioned Stone & Webster Costs	SASW Testing Subcontractor	Total Actual Demonstration Costs
Start-Up Costs	Site Characterization	N/A	$ -	$ -	$ -
	Mobilization	Project planning costs	$ 3,750.00	$ 2,692.88	$ 6,442.88
		Coordination with client, regulators, and subcontractors	$ 2,000.00	$ 2,657.91	$ 4,657.91
		Personnel travel to site	$ 300.00	$ 678.11	$ 978.11
		Equipment travel to site	$ -	$ 500.00	$ 500.00
		Shipping costs	$ 85.44		$ 85.44
Capital Costs	Capital Equipment Purchase	N/A	$ -	$ -	$ -
	Ancillary Equipment Purchase	N/A	$ -	$ -	$ -
	Modifications	N/A	$ -	$ -	$ -
	Structures Installation	N/A	$ -	$ -	$ -
	Engineering	N/A	$ -	$ -	$ -
Operating Costs	Capital Equipment Rental	SASW System	$ -	$ 3,000.00	$ 3,000.00
		Raman Spectroscopy System	$ -	$ -	$ -
		High-pressure water jet cutting system	$ -	$ -	$ -
	Ancillary Equipment Rental	Pumps	$ -	$ -	$ -
		Vehicle(s)	$ 262.50	$ -	$ 262.50
	Supervision	Salary	$ 2,568.17	$ -	$ 2,568.17
		Travel	$ 532.00	$ -	$ 532.00
		Per diem	$ 504.67	$ -	$ 504.67
	Operator Labor	Salary	$ -	$ 13,149.01	$ 13,149.01
		Travel - On Site	$ -	$ 336.86	$ 336.86
		Per diem	$ -	$ 545.80	$ 545.80
	Training	OSHA	$ -	$ -	$ -
		Procedures	$ -	$ -	$ -
	Maintenance	High-pressure water jet cutting system	$ -	$ -	$ -
		Other equipment (specified)	$ -	$ -	$ -
	Consumables	Expray□ Kit(s)	$ -	$ -	$ -
		Personal protective equipment	$ -	$ -	$ -
		Laboratory supplies - CRREL Method	$ -	$ -	$ -
		Fuel	$ 19.52	$ 32.59	$ 52.11
		Tools	$ 73.65	$ -	$ 73.65
		Other (Specified): TNT Standard	$ -	$ -	$ -
	Residual Waste Handling	N/A	$ -	$ -	$ -
	Offsite Disposal	Hazardous waste (if any)	$ -	$ -	$ -
	Analytical Laboratory Costs	NG	$ -	$ -	$ -
		NC	$ -	$ -	$ -
		Shipping costs	$ -	$ -	$ -
		Data validation	$ -	$ -	$ -
	Long-Term Monitoring	N/A	$ -	$ -	$ -
Indirect Costs	Equipment Repair	Other (specified)	$ -	$ -	$ -
Demobilization	Housekeeping	Site cleanup/maintenance	$ -	$ -	$ -
		Personnel travel from site	$ 300.00	$ 678.11	$ 978.11
		Equipment travel from site	$ -	$ 500.00	$ 500.00
		Shipping costs	$ 32.82	$ -	$ 32.82
		TOTAL	$ 10,428.76	$ 24,771.27	$ 35,200.03
				NUMBER OF SAMPLE LOCATIONS	160
				UNIT COST PER SAMPLE	$ 220.00

Table 6-5: Demonstration Costs, High-Pressure Water Jet Cutting System

Cost Category	Sub Category	Details	Apportioned Stone & Webster Costs	Concrete Cutting Subcontractor	Actual Demonstration Costs
Start-Up Costs	Site Characterization	N/A	$ -	$ -	$ -
	Mobilization	Project planning costs	$ 3,750.00	$ -	$ 3,750.00
		Coordination with client, regulators, and subcontractors	$ 2,000.00	$ -	$ 2,000.00
		Personnel travel to site	$ 300.00	$ 1,272.96	$ 1,572.96
		Equipment travel to site	$ -	$ 3,000.00	$ 3,000.00
		Shipping costs	$ 85.44	$ -	$ 85.44
Capital Costs	Capital Equipment Purchase	N/A	$ -	$ -	$ -
	Ancillary Equipment Purchase	N/A	$ -	$ -	$ -
	Modifications	N/A	$ -	$ -	$ -
	Structures Installation	N/A	$ -	$ -	$ -
	Engineering	N/A	$ -	$ -	$ -
Operating Costs Direct Costs	Capital Equipment Rental	SASW System	$ -	$ -	$ -
		Raman Spectroscopy System	$ -	$ -	$ -
		High-pressure water jet cutting system	$ -	$ 20,115.68	$ 20,115.68
	Ancillary Equipment Rental	Pumps	$ -	$ 500.00	$ 500.00
		Vehicle(s)	$ 262.50	$ 650.00	$ 912.50
	Supervision	Salary	$ 2,568.17	$ 8,413.40	$ 10,981.57
		Travel	$ 532.00	$ -	$ 532.00
		Per diem	$ 504.67	$ 850.00	$ 1,354.67
	Operator Labor	Salary	$ -	$ 7,500.00	$ 7,500.00
		Travel - On Site	$ -	$ -	$ -
		Per diem	$ -	$ 1,275.00	$ 1,275.00
	Training	OSHA	$ -	$ -	$ -
		Procedures	$ -	$ -	$ -
	Maintenance	High-pressure water jet cutting system	$ -	$ -	$ -
		Other equipment (specified)	$ -	$ -	$ -
	Consumables	Expray□ Kit(s)	$ -	$ -	$ -
		Personal protective equipment	$ -	$ 500.00	$ 500.00
		Laboratory supplies - CRREL Method	$ -	$ -	$ -
		Fuel	$ 19.52	$ 400.00	$ 419.52
		Tools	$ 73.65	$ -	$ 73.65
		Other (Specified): TNT Standard	$ -	$ -	$ -
	Residual Waste Handling	N/A	$ -	$ -	$ -
	Offsite Disposal	Hazardous waste (if any)	$ -	$ -	$ -
	Analytical Laboratory Costs	NG	$ -	$ -	$ -
		NC	$ -	$ -	$ -
		SVOCs	$ -	$ -	$ -
		Shipping costs	$ -	$ -	$ -
		Data validation	$ -	$ -	$ -
	Long-Term Monitoring	N/A	$ -	$ -	$ -
Indirect Costs	Equipment Repair	Other (specified)	$ -	$ -	$ -
Demobilization	Housekeeping	Site cleanup/maintenance	$ -	$ -	$ -
		Personnel travel from site	$ 300.00	$ 1,272.96	$ 1,572.96
		Equipment travel from site	$ -	$ 3,000.00	$ 3,000.00
		Shipping costs	$ 32.82	$ -	$ 32.82
		TOTAL	$ 10,428.76	$ 48,750.00	$ 59,178.76
				NUMBER OF SAMPLE LOCATIONS	35
				UNIT COST PER SAMPLE	$ 1,690.82

Table 6-6: Conventional Offsite Analytical Laboratory Costs, NC/NG Analyses

Cost Category	Sub Category	Details	Apportioned Stone & Webster Costs	Offsite Analytical Laboratory	Total Actual Demonstration Costs
Start-Up Costs	Site Characterization	N/A	$ -	$ -	$ -
	Mobilization	Project planning costs	$ 3,750.00	$ -	$ 3,750.00
		Coordination with client, regulators, and subcontractors	$ 2,000.00	$ -	$ 2,000.00
		Personnel travel to site	$ 300.00	$ -	$ 300.00
		Equipment travel to site	$ -	$ -	$ -
		Shipping costs	$ 85.44	$ -	$ 85.44
Capital Costs	Capital Equipment Purchase	N/A	$ -	$ -	$ -
	Ancillary Equipment Purchase	N/A	$ -	$ -	$ -
	Modifications	N/A	$ -	$ -	$ -
	Structures Installation	N/A	$ -	$ -	$ -
	Engineering	N/A	$ -	$ -	$ -
Operating Costs Direct Costs	Capital Equipment Rental	SASW System	$ -	$ -	$ -
		Raman Spectroscopy System	$ -	$ -	$ -
		High-pressure water jet cutting system	$ -	$ -	$ -
	Ancillary Equipment Rental	Pumps	$ -	$ -	$ -
		Vehicle(s)	$ 262.50	$ -	$ 262.50
	Supervision	Salary	$ 2,568.17	$ -	$ 2,568.17
		Travel	$ 532.00	$ -	$ 532.00
		Per diem	$ 504.67	$ -	$ 504.67
	Operator Labor	Salary	$ -	$ -	$ -
		Travel - On Site	$ -	$ -	$ -
		Per diem	$ -	$ -	$ -
	Training	OSHA	$ -	$ -	$ -
		Procedures	$ -	$ -	$ -
	Maintenance	High-pressure hydraulic cutter	$ -	$ -	$ -
		Other equipment (specified)	$ -	$ -	$ -
	Consumables	Expray□ Kit(s)	$ 487.80	$ -	$ 487.80
		Personal protective equipment	$ -	$ -	$ -
		Laboratory supplies - CRREL Method	$ 569.92	$ -	$ 569.92
		Fuel	$ 19.52	$ -	$ 19.52
		Tools	$ 73.65	$ -	$ 73.65
		Other (Specified): TNT Standard	$ 18.69	$ -	$ 18.69
	Residual Waste Handling	N/A	$ -	$ -	$ -
	Offsite Disposal	Hazardous waste (if any)	$ -	$ -	$ -
	Analytical Laboratory Costs	NG	$ -	$ 5,336.00	$ 5,336.00
		NC	$ -	$ 4,366.00	$ 4,366.00
		Shipping costs	$ -	$ 142.56	$ 142.56
		Data validation	$ -	$ -	$ -
	Long-Term Monitoring	N/A	$ -	$ -	$ -
Indirect Costs	Equipment Repair	Other (specified)	$ -	$ -	$ -
Demobilization	Housekeeping	Site cleanup/maintenance	$ -	$ -	$ -
		Personnel travel from site	$ 300.00	$ -	$ 300.00
		Equipment travel from site	$ -	$ -	$ -
		Shipping costs	$ 32.82	$ -	$ 32.82
		TOTAL	$ 11,505.16	$ 9,844.56	$ 21,349.72
				NUMBER OF SAMPLE LOCATIONS	35
				UNIT COST PER SAMPLE	$ 609.99

8.0 Technology Implementation

8.1 DoD Need

BAAP alone has nearly 1,400 buildings that will require some level of explosive characterization in order to transfer the buildings out of DoD control. Other DoD installations that produced similar propellants as BAAP include Radford Army Ammunition Plant, Indiana Army Ammunition Plant, Sunflower Army Ammunition Plant, and Alabama Army Ammunition Plant. There are another nine Army installations where propellants were handled, including load and pack facilities such as the Twin Cities Army Ammunition Plant. All of these plants have been declared excess to the Army's needs. The Army is actively seeking to clean up these installations and transfer them out of DoD control as quickly as possible. Cost-effective characterization technologies will be a key factor in obtaining funding to fully evaluate these sites so that the property transfers can occur.

It is difficult to comment on whether these technologies do or do not represent reliable field screening, based on the results of the demonstrations, and in particular, the failure of the Army Automated Nitrocellulose Analysis. Also, as discussed in Section 5.2, some potential agreement between methods may have been observed in the demonstration. In any case, further validation should be done for all methods to show that the methods completely perform within performance metrics with valid reference method confirmation.

8.2 Transition

Because of a lack of sufficient amount of explosive materials at the sampling locations, Raman technology was not proven as a method for determining the presence of explosives. However, Raman technology in general has been proven for detecting a variety of different compounds. Assuming that explosives are present in detectable (>1% explosives) quantities, Raman technology may be ready for implementation. Further characterization with buildings containing higher levels of explosives is needed to characterize performance. For wider application of the technology, such as investigating inside pipes, new specialized probes will need to be developed and demonstrated that will include the ability to view the sample remotely at long distances.

The CRREL RDX Method appears to be a good method for detection of and quantification of NG in soils. Because of the lack of measurable quantities at the sampling locations, further characterization with buildings containing higher levels of explosives should be performed to adequately characterize performance. The CRREL RDX Method also appears to be able to detect NC in soils. The method was not able to quantify NC in soils, possibly because of the mix of reagents that provide the color that was measured as part of the testing process. Further investigation into the proper mix of reagents may be needed to determine if the CRREL RDX Method can be used to measure NC in soils.

Expray® did not appear to be an effective way of finding large amounts of explosives since it is fairly sensitive and appears to have a number of possible interferences that cause false positives. However, combined with SASW technology, in certain situations Expray® might still be useful for identifying areas that do not contain explosive contamination in buildings.

9.0 Lessons Learned

Numerous lessons were learned during the course of the demonstration as described below. Overall, based on the results of the demonstration, the technologies evaluated require additional validation, and cannot be recommended for full-scale implementation at DoD sites.

9.1 Concrete Coring Methods

The most important lesson learned was the poor performance of the concrete cutting method that was used in this demonstration. Refer to Section 4.3.3 for a complete discussion of the problems encountered. For future efforts that require coring through concrete foundations to obtain samples in potentially explosive settings, it would be worthwhile to consider remotely operated wet concrete sawing techniques rather than the high-pressure cutting system. In addition, an effort should be made to find equipment that can fit in tight or restricted spaces, as well as immediately next to walls, so that equipment access is not an issue.

9.2 Lack of Energetic Materials

It would be prudent to design technology demonstrations for sites with known levels of contamination that are sufficiently high to be detected by the demonstration technologies employed. A significant effort was expended searching for buildings at BAAP that possibly contained NC and NG. However, it appears that additional time should have been spent on finding candidate buildings that contained a good range of energetic materials.

9.3 NC Analyses

Results of the spike sample study for NC indicate that the laboratory reference method, Army Automated Nitrocellulose Analysis, failed to accurately measure NC in all cases. This reference method was used throughout the study as a measurement of NC, and its results were compared to the field method results. The failure of this reference method to accurately measure NC prevents validation of the field methods at this time. For future work, another method of measurement of NC in soils should be determined and proven effective. In particular, the method should ensure that NC alone can be isolated from other interferences that might exist in soil matrices. Currently, no other method of measurement of NC in soils is known.

Analysis of the spiked sample results for NC indicates that the CRREL RDX Method can indicate the presence of NC. The CRREL RDX Method is designed for quantification of RDX and contains a mix of reagents that are designed to react with the components of RDX. NC is not a primary analyte for this test, but it has been shown to provide a response when tested. It would appear that the presence of enough NC to give a positive response also exhausts one of the critical reagents for the color development, resulting in essentially identical analytical responses for any detectable NC. It appears that the method could be modified to include a different mixture of reagents that could possibly quantify NC. This modification should be done for validation of this technology. Based on the results of the demonstration, the CRREL RDX method, as it currently stands, cannot be used as a field-screening tool for surveying explosive residues (particularly NC) in DoD buildings.

9.4 Revised Sampling and Analysis Plan

To successfully validate these technologies in the near future, a revised sampling and analysis plan may be developed. The revised sampling and analysis plan should include information about each of the methods, as well as information to allow field personnel to isolate any interference that might be encountered.

The revised sampling and analysis plan should include a different laboratory reference method for measurement of NC in soils. Also, access to soil samples should be specified so that a minimum of disturbance to sub-slab soils occurs, to ensure that potential explosives contamination that might be encountered on the surface of the soil is not moved or disturbed. Coring methods to allow for access to soil should also be specified to allow for as much access as possible. Where available, coring devices should be specified that can work in very confined spaces, in drainways, and immediately next to walls. The coring device should also use as little water as possible to minimize disturbance to soil samples. For soil samples that are analyzed using the three field methods, extraction of the soil sample using acetone can be done, and the extract analyzed using the field methods, rather than the soil sample. In certain cases, this has proved successful in isolating NC and/or NG from interferences in the soil matrix. Unfortunately, this technique was learned following the field work. For the spiked soil tests, materials used in standards should be matched where possible with the types of materials found at the site. In particular, the NC standard used for spiking the soil samples was a liquid standard. NC found at the site is in a fiber form, and the possibility exists that the liquid standard was washed away during the analysis procedure for the reference method.

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Appendix A

Points of Contact

POINTS OF CONTACT

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Doug Rubingh	Stone & Webster, Inc. 7677 E. Berry Ave. Greenwood Village, CO 80111	303.741.7665 303.741.7322 (f) douglas.rubingh@shawgrp.com	Stone & Webster Project Manager
Joan Kenney	U.S. Army Badger Army Ammunition Plant 2 Badger Road Baraboo, WI 53913	608.643.0073 608.643.3364 (f) kennej@ioc.army.mil	Installation Director
Dennis Thurow	Olin Corporation Badger Army Ammunition Plant 1 Badger Road Baraboo, WI 53913	608.643.3361 608.643.2674 (f) dthurow@midplains.com	Plant Manager
John W. Haas	Applied Research Associates, Inc. 415 Waterman Road South Royalton, VT 05068	802.763.8348 802.763.8283 (f) jhaas@ara.com	Principal Scientist for Conducting Raman Spectroscopy
Larry D. Olson	Olson Engineering, Inc. 5191 Ward, Ste #1 Wheat Ridge, CO 80033	303.423.1212 303.423.6071 (f) ldolson@olsonengineering.com	Principal Engineer for Conducting Nondestructive Testing by SASW
Lisa Harvey	TriMatrix Laboratories, Inc. 5560 Corporate Exchange Court, SE P.O. Box 888692 Grand Rapids, MI 49512	616.975.4532 616.942.7463 (f) harveyl@trimatrixlabs.com	Laboratory Project Chemist
Steve Ales	Wisconsin Department of Natural Resources 3911 Fish Hatchery Rd. Fitchburg, WI 53711	608.275.3310 608.275.3338 (f) aless@dnr.state.wi.us	District Hydrogeologist

Appendix B

Data Archiving and Demonstration Plan

Information and raw data from the demonstration activities are included within this Appendix as follows:

B.1 Olson Engineering, Inc. – Nondestructive Testing and Evaluation Investigation, Badger Army Ammunition Plant, Baraboo, Wisconsin
B.2 Applied Research Associates, Inc. – Raman Spectroscopy and Technical Support at Badger Army Ammunition Plant, Final Report
B.3 Laboratory Data (from TriMatrix Laboratories, Inc.)
B.4 Data Validation Reports (from Diane Short & Associates, Inc.)
B.5 Photograph Log

The approved *Demonstration Plan, Rocket Paste Production Buildings Investigation, Badger Army Ammunition Plant, Baraboo, Wisconsin*, Revision 3 (Stone & Webster, Inc., 2002) can be obtained from the following address:

ESTCP Support Office
Attn: Susan Walsh
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

Appendix B.1

Olson Engineering, Inc. – Nondestructive Testing and Evaluation Investigation, Badger Army Ammunition Plant, Baraboo, Wisconsin

OLSON ENGINEERING, INC.

Nondestructive Engineering and
Condition Evaluation of Civil Structures

NONDESTRUCTIVE TESTING AND EVALUATION INVESTIGATION
BADGER ARMY AMMUNITION PLANT
BARABOO, WISCONSIN

Prepared for:

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May 17, 2002

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1.0 EXECUTIVE SUMMARY

Olson Engineering was contracted by Stone & Webster, Inc. to perform a Nondestructive Testing and Evaluation (NDT&E) investigation on the concrete floor slabs at five houses of the Badger Army Ammunition Plant located along State Highway 12 in Baraboo, Wisconsin. This investigation was performed to measure the floor slab thicknesses and to characterize the floor cracks to aid Stone & Webster in locating potential pathways for Nitroglycerine (NG) and Nitrocellulose (NC) materials to travel to the underlying soils. Mr. David Hollema, Project Engineer, performed the field work of the investigation from April 29 - May 3, 2002 with field assistance from Mr. Douglas Close of Stone & Webster, and Mr. Jim Hubbell of Bay West. The field work was coordinated by Mr. Close, Remediation Manager, of Stone & Webster.

The NDT&E investigation included the Impact Echo (IE) and Spectral Analysis of Surface Waves (SASW) test methods, as well as crack width gauging. Tests were performed directly on the concrete as well as through conductive flooring material where present. Concrete floor slab thicknesses ranged from approximately 4 - 7 inches with some thinner and some thicker slab areas at various test locations. Cracks appeared to be mostly structural cracks caused by accidental loading. Diagonal cracks stemming from the corners of machinery pads were also typical. Wide openings at the concrete surface were a good indication of through-penetrating cracks although exceptions to this generalization became apparent in the results. The results of the tests showed category A (open, through-penetrating), B (surface), and C (mid-depth or partially filled through-penetrating) cracks for the slabs of the 5 houses tested. The majority of the cracks were category A, through-penetrating cracks. It was apparent in many locations, especially in the Pre and Final Roll House, that attempts had been made at filling the cracks. These cracks were in many cases surface cracks, category B, and penetrated less than 2 inches into the slab. A tabular summary of the NDT&E crack findings is presented in Section 5.0 at the back of this report.

2.0 INVESTIGATION SCOPE

The purpose of this project was to perform a nondestructive testing and evaluation (NDT&E) investigation on the concrete floor slabs of five houses at the Badger Army Ammunition Plant in Baraboo, Wisconsin. The five houses included the Homogenizer House #6712 (see Fig. 1), Pre and Final Roll House # 6807-13, Paste Breaker and Blender House #6731-2, Bag Loading House #6739, and Bag Turning House #6736. The Bag Loading House and Bag Turning House were selected as replacements for the Final Mix House #6704-4/Catch Tank House #6705-4 and Pre-mix House #6702. It was discovered in the field that the replaced houses, the concrete floor slab coverings (thin 1/8 inch roll or thicker ½ inch conductive mat) prohibited the use of the NDT&E technologies which



Figure 1 - Homogenizer House



Figure 2 - Floor slab and foundation wall crack

in most cases require direct concrete contact.

We understand that the 7600 acre plant was used to manufacture and package rocket paste for operations during World War II and Vietnam and is no longer in operation. Our efforts were to characterize the floor slab cracks (see Fig. 2) in order to locate open pathways between the floors surfaces and underlying soils for the subsurface transport of Nitrocellulose (NC) and nitroglycerine (NG) substances, significant components of the rocket paste.

The NDT&E methods utilized included the Impact Echo (IE) test method with an Olson's Instruments Concrete Thickness Gauge (Model CTG-1TF) to estimate slab thickness and characterize crack conditions, Spectral Analysis of Surface Waves (SASW) test method to characterize crack conditions and estimate crack depths, and crack width gauging to measure surface crack widths. Testing along cracks was performed at 2-3 foot intervals with the SASW test method and IE testing to estimate slab thickness was performed at our engineer's discretion to properly characterize the slab. A floor slab crack leading to a foundation wall crack at the Homogenizer House (Fig. 1) is outlined in chalk in Fig. 2.

We understand that past operations of moving of heavy machinery on and across the floor slabs of the houses caused both vibration induced and load induced stress cracking. We evaluated these cracks with NDT&E methods and categorized them into three categories: through-penetrating, surface (less than 2 inches deep), or mid-depth/through-penetrating-partial contact cracks. The associated categories are labeled 'A', 'B', and 'C', respectively. Slab thickness measurements were performed using the IE test method. The data underwent preliminary evaluation in the field and the initial verbal field results were given to Mr. Douglas Close at the end of each day of field testing. The initial written field results were also given to Mr. Douglas Close at the completion of the field testing on Friday, May 3, 2002. The initial written field results included slab thickness estimates and crack location candidates that were most likely to be through-penetrating cracks. These results were used by Mr. Close to decide where subsequent destructive coring would take place.

The field work was performed April 29th through May 3rd, 2002 by Mr. David Hollema of our firm. This report presents an overview of the investigation, a discussion of the various NDT&E methods employed, and investigation results.

3.0 NDT&E FIELD INVESTIGATION OVERVIEW AND SUMMARY

The project overview is broken down below according to the five houses tested and is presented in the order that the houses were tested. The required work tasks were typical for each house as reflected in the scope of work. For complete crack location details and house overviews, refer to the U.S. Army Corps of Engineers Omaha District inspection drawings as provided by Stone & Webster.

For naming convenience, a grid was drawn in each of the houses by Mr. Jim Hubbell of Bay West. Each test location was assigned a name that included the house abbreviation, the grid cell name, and the crack location number. The first test location in a particular cell was, in most cases, the northern or western-most of all test locations for that cell. For example, test location "HH2D2" refers to the second test location proceeding from north to south or west to east in grid cell 2D of the Homogenizer House.

3.1 Homogenizer House (HH) #6712

The Homogenizer House consisted of 2 rooms and an outside loading dock area. The floor slab in all three areas appeared to be floating and was approximately 4 ft above outside grade. This observation was made by removing the mastic material that filled the space between the slab and wall on the northern end of HH4A and looking down the gap. A direct slab thickness measurement at this location gave 6 inches. It was also discovered that in this same location there was an area of void approximately 10 inches thick between the slab bottom and underlying clayey soils. A total of 12 SASW locations were tested in the Homogenizer House on the 3 main cracks– 1 in cell HH4B, 1 in HH2C, 2D, and 3D, and one outside in HH2A. The crack in cells HH2C, 2D, and 3D was of particular concern because of its proximity to an outside floor drain. The crack in the loading dock appeared to be most severe of all the cracks at the Homogenizer House.

The concrete was characterized by a highly sandy matrix with 0.25 - 0.5 inch aggregate. A picture of a piece that had spalled off is shown in Fig. 3. The large size of the aggregate created a rough, jagged bottom side.



Figure 3 - Floor slab concrete showing large aggregate

One SASW test was performed on a foundation wall crack in HH4B. Preliminary data interpretation as well as follow-up visual observation on the outside of the outside foundation walls confirmed that these cracks were penetrating to ground level (Fig. 4). IE tests across various foundation wall cracks confirmed this observation. Therefore, after consulting with Mr. Close of Stone & Webster, no further SASW testing was performed on the foundation wall cracks in the Homogenizer House or any of the other 4 houses because the cracks appeared to be through-

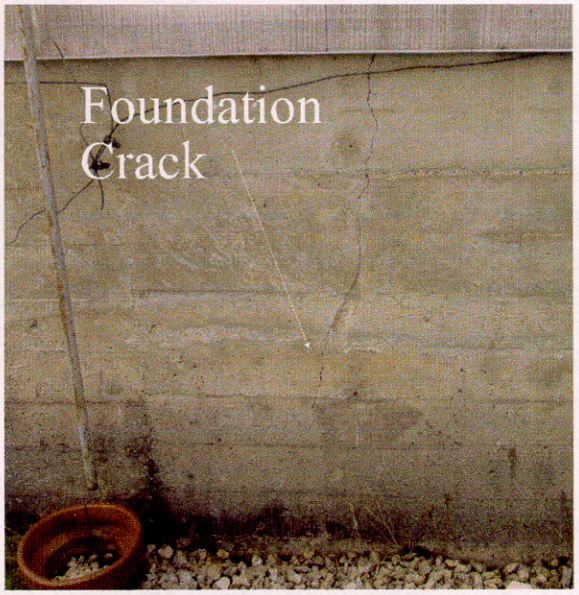

Figure 4 - Homogenizer House foundation wall crack (outside view)

penetrating cracks and most of the NC and NG substances were concentrated on the slab, not the foundation walls.

3.2 Pre and Final Roll House (RH) #6807-13

The Pre and Final Roll House included the largest indoor NDT&E testing area of all 5 houses. The floor slab in the Roll House (RH) was a slab-on-grade. The RH consisted of 5 testing rooms of which 3 housed large machinery. Two of the rooms, from cells RH1C to RH8F, were identical in size and layout and had similar crack patterns. Stress cracks were typically found at the corners of the pads supporting the large machinery (Fig. 5). We often saw evidence that the cracks had been attempted to be filled with a grout-like filler material. A total of 43 SASW tests were performed at the Pre and Final Roll House complemented by numerous IE tests.

Some of the floor was covered with what we understand to be a lead-based paint. In areas where the paint was not well bonded to the slab, thereby making it impossible to test, it was removed with a sparkless scraper to allow direct contact with the concrete slab. In cell RH1A, the mastic material between the floor slab and the southern foundation wall was removed and the slab was measured to be 5.5 inches thick. The associated crack was observed to penetrate through the slab at the southern edge. Test location RH7B2 was located in a concrete gutter that led to a catch tank.

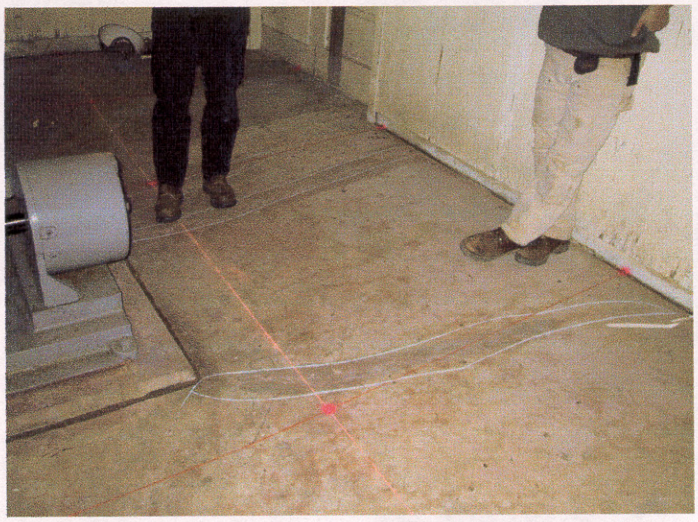

Figure 5 - Stress crack at corner of machine pad

3.3 Paste Breaker and Blender House (BB) #6731-2

The Paste Breaker and Blender House was a single room house and the slab tested was elevated approximately 2 ft above grade. The concrete slab was covered with a 0.5 inch thick conductive flooring material. In areas where the conductive floor was bonded well with the concrete, the testing was successful. In areas where the conductive floor was bonded poorly to the concrete, a few trial tests resulted in no data or poor quality data. Sections of the conductive flooring were removed in a few locations to allow direct concrete contact (Fig. 6). 5 SASW tests and complementing IE tests were performed at the Paste Breaker and Blender House.

The BB house was characterized by severe cracking and had the widest cracks of all the 5 houses (Fig. 6). Apparent cracks visible in the conductive flooring material continued into the concrete. Poor data quality from the IE thickness tests proved to be due to rough, jagged slab bottom conditions.



Figure 6 - SASW testing on section of slab where conductive flooring had been removed

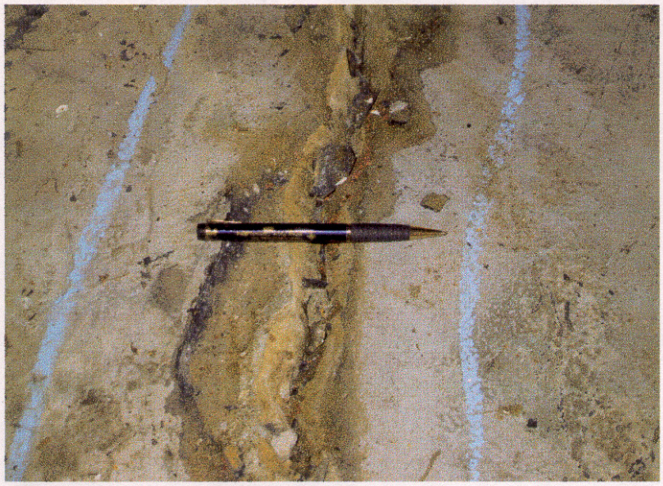

Figure 7 - Wide crack through the conductive flooring and concrete slab at the Paste Breaker and Blender House (pen for scale)

3.4 Bag Loading House (BL) #6739

The Bag Loading House testing areas consisted of 3 indoor rooms, a large main indoor hallway, and a long outdoor loading dock along the south and west sides of the building (Fig. 8). The BL house had the greatest number of crack of all the 5 houses. The cracking patterns in the 2 western indoor rooms were similar to each other. Cracks that ran east-west along the threshold of the doorways and north through the hallway and inner rooms to the concrete gutter were typical of the inner rooms. 86 SASW tests were performed at the BL house complemented by numerous IE tests.



Figure 8 - Numerous cracks on the outdoor loading dock of the Bag Loading House

3.5 Bag Turning House (BT) #6736

The Bag Turning House consisted of two outdoor loading docks on the north and south sides of the building and one main indoor room. The slab was covered with conductive flooring material like that of the Paste Breaker and Blender House. Hammer soundings were initially performed at each of the crack locations to detect debonded conditions. Because none of the conductive flooring was removed, only areas where hammer sounding proved good bonding between the flooring and the concrete were tested using the NDT&E technologies. A total of 18 SASW and complementing IE tests were performed at the BT house. The slab was elevated approximately 3.5 ft above grade. The slab was measured to be 6.5 inches thick above the foundation wall at the northern loading dock (Fig. 9).



Figure 9 - 6.5 inch thick slab at the northern loading dock of the Bag Turning House

4.0 NDT&E METHODS AND INTRODUCTORY THEORY

The following sections discuss basic elastic stress wave relationships and explain the Spectral Analysis of Surface Waves (SASW) and the Impact Echo (IE) test methods.

4.1 Elastic Stress Wave Relationships

The following equations from elastic theory illustrate the relationships between shear moduli (G), mass density (ρ, total unit weight divided by gravitational acceleration), shear wave velocity (Vs), Young's modulus of elasticity (E), Poisson's ratio (ν), compressional wave velocity (Vp), and constrained modulus (M):

Direct P- or S-Wave Velocity: $Vp = D / tp$ or $Vs = D/ts$ (1)

Shear Modulus: $G = \rho\ Vs^{**}2$ (2)

Young's Modulus: $E = 2\ (1+\nu)\ \rho\ Vs^{**}2 = \rho\ Vp^{**}2\ [(1+\nu)(1-2\nu)/(1-\nu)]$ (3)

Constrained Modulus (no lateral expansion possible): $M = \rho\ Vp^{**}2$ (4)

Poisson's Ratio: $\nu = [0.5\ (Vp/Vs)^{**}2 - 1]/[(Vp/Vs)^{**}2 - 1]$ (5)

P- and S-wave Velocities: $Vp = Vs\ [2(1-\nu)/(1-2\nu)]^{**}0.5$ (6)

where D = Distance, tp = P-wave travel time and ts = S-wave travel time.

Values of these parameters determined from stress wave measurements (SASW, UPV/SPV measurements) represent the material behavior at small shearing strains, i.e. strains less than 0.001 percent. Thus, moduli calculated from compressional, shear or surface wave velocities represent the typical estimated maximum moduli of materials because of their low strain levels. It should be noted that the actual measurement of the SASW test is a surface wave velocity measurement, also called Rayleigh wave velocity. Surface wave velocity (V_R) in a homogeneous half-space is related to shear wave velocity by:

$$V_R \sim 0.9\ Vs \quad (7)$$

(The exact equation is given in numerous geophysical textbooks)

4.2 Spectral Analysis of Surface Waves (SASW) Method

The SASW method is based upon measuring surface waves propagating in layered elastic media and is illustrated in Fig. 10. The ratio of surface wave velocity to shear wave velocity varies with Poisson's ratio. However, reasonable estimates of Poisson's ratio and mass density for concrete and other materials can normally be made with only a small effect on the accuracy of the shear wave velocity profile. Knowledge of the shear wave velocity combined with reasonable estimates of mass density of the material layers allows calculation of shear moduli for low-strain amplitudes.

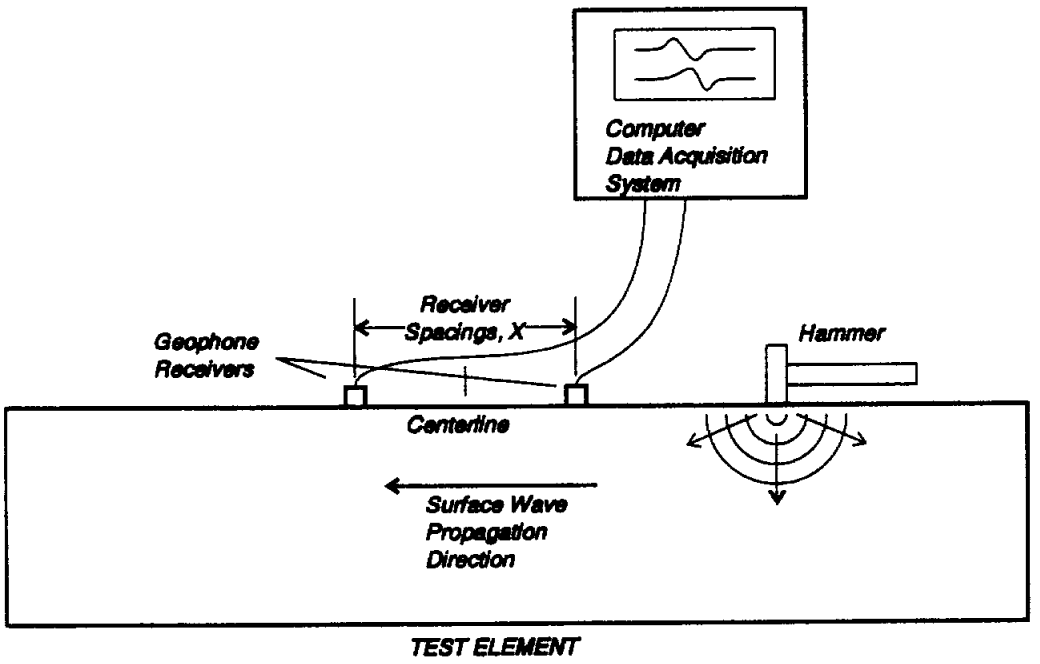

Figure 10 - SASW field setup schematic

Surface wave (also termed Rayleigh; R-wave) velocity varies with frequency in a layered system with differing velocities. This variation in velocity with frequency is termed dispersion. A plot of surface wave velocity versus wavelength is called a dispersion curve.

The SASW tests and analyses are generally performed in three phases: (1) collection of data in situ; (2) construction of an experimental dispersion curve from the field data; and (3) forward modeling of the theoretical dispersion curve, if desired, to match theoretical and experimental curves

so that a shear wave velocity versus depth profile can be constructed. Wavelength (λ), frequency (f), and wave velocity (Vr), are related as follows:

$$Vr = f^*\lambda \qquad (8)$$

Surface wave dispersion can be expressed in terms of a plot of surface wave velocity versus wavelength.

4.2.1 Collection of SASW Field Data

The SASW field tests for this investigation were conducted directly on the concrete floor slabs or through the conductive flooring material, when bonded. Olson Instrument's SASW-S system with two displacement transducers on the SASW spacing bar were used as the receivers and receiver spacings (X on Fig. 10) varied from 0.1 - 0.3 m, typically 0.1 m. Impacts were made with a small solenoid impactor activated with either the Freedom NDT PC solenoid impactor module or the Concrete Thickness Gauge (CTG) to generate mostly high frequency energy for the relatively thin slabs. The SASW instrumentation is shown in Fig. 11.

Control tests were done parallel to the crack to obtain a dispersion curve for sound quality concrete. These test locations were chosen at our engineer's discretion to give ample control test coverage to all areas. Next, cross-crack or spanning tests were done in which the crack lay roughly at the center of R1 and R2. These tests were performed at 2-3 foot intervals along a single crack. In areas of tightly spaced multi-directional cracks, locations were chosen to give least data interference from boundaries such as other cracks or walls.

An Olson Instruments Freedom NDT PC computer with a data acquisition card was used to digitize the analog receiver outputs and record the signals for spectral (frequency) analyses. The phase information of the transfer function (cross power spectrum) between the two receivers for each frequency was the key spectral measurement. All field data were recorded on the computer hard drive for later analysis.



Figure 11 - Olson's SASW-S system used for crack characterization

4.2.2 SASW Experimental Dispersion Curve Processing

The experimental dispersion curve is developed from the phase data from a given site by knowing the phase (ϕ) at a given frequency (f) and then calculating the travel time (t) between receivers of that frequency/wavelength by:

$$t = \phi / 360*f \quad (9)$$

Surface wave velocity (Vr) is obtained by dividing the receiver spacing (X) by the travel time at a frequency:

$$Vr = X / t \quad (10)$$

The wavelength (λ) is related to the surface wave velocity and frequency as shown in equation 8.

By repeating the above procedure for any given frequency, the surface wave velocity corresponding to a given wavelength is evaluated, and the dispersion curve is determined. The phase data were viewed on the PC data acquisition system in the field to ensure that acceptable data were being collected. The phase data were then returned to our office for further processing. The phase of the cross power spectrum (transfer function) between the two receivers and the coherence function are used in creating the dispersion curves.

After masking of all forward and reverse phase record pairs from each receiver spacing, an experimental field dispersion curve is developed that is the plot of surface wave velocity versus wavelength. For the SASW data collected, we used our TFS-SASW program to mask the data and generate the experimental field dispersion curves.

4.2.3 SASW Theoretical Modeling Processing

To determine the shear wave velocity profile from the "apparent" velocities of the dispersion curve, analytical modeling is necessary. This modeling was used to determine what the different crack category data truly represented. The analytical modeling used in SASW analyses is a forward modeling process that is iterative and involves assuming a shear wave velocity profile and constructing a theoretical dispersion curve. The experimental (field) and theoretical curves are compared, and the assumed theoretical shear wave velocity profile is adjusted until the two curves match. The interactive computer algorithm for both 2-dimensional and 3-dimensional analyses was developed by Dr. Jose Roesset and his colleagues at the University of Texas at Austin to compute a theoretical dispersion curve based upon an assumed shear wave velocity and layer thickness profile (WINSASW software). These algorithms have been in use for some time and have produced reasonable accuracy when comparing velocities determined with the SASW method versus results from more direct measurements between coreholes or boreholes.

4.2.4 Example SASW Test Results

The SASW method was used to estimate crack penetration depth and characterize the cracks for all 5 houses at the Badger Army Ammunition Plant. Three categories were assigned to characterize the cracks: Category A - Through-penetrating open crack with little or no contact (low velocity for all wavelengths), Category B - Surface crack penetrating less than 2 inches (high velocity concrete at longer wavelengths), Category C - Partial, mid-depth penetrating crack or through-crack with significant cross-crack contact. Example data from a control or parallel sound concrete test are shown in Fig. 12 for location BL4A. The top plot is coherence vs. frequency with coherence near 1 indicating high quality data. The dispersion curve in the bottom plot is velocity vs. frequency (after masking of phase data). Notice the high velocity (9000 ft/s) for all wavelengths in Fig. 12. Example

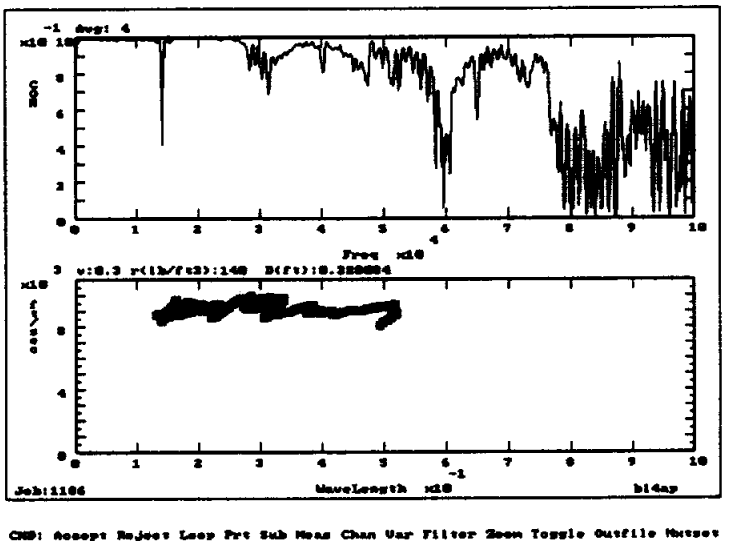

Figure 12 - Control/parallel SASW example coherence plot (top) and dispersion curve (bottom) from location BL4A

data are shown below in Figs. 13, 14, 15 for categories A (location BL4A3), B (location BL7A1), and C (location BL7A4), respectively. The example data are shown as coherence plots (top windows) and dispersion curve plots (bottom windows) in our TFS SASW software. Note the initial low velocities at short wavelengths due to cracking with increasing velocity with longer wavelengths in Figs. 13 - 15.

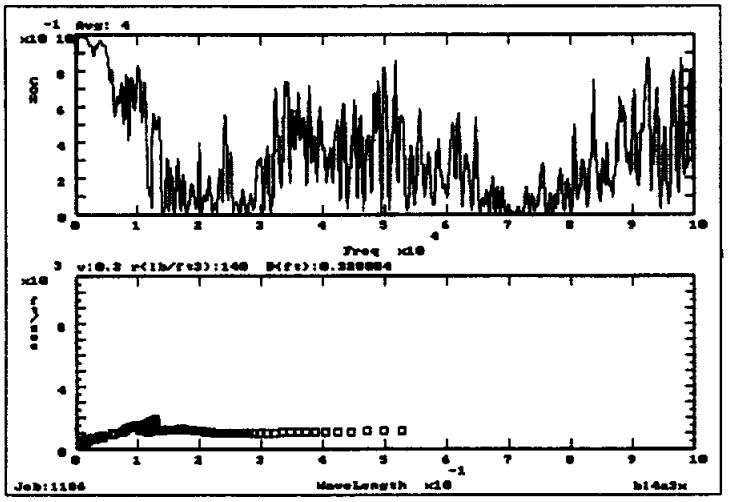

Figure 13 - Category A - Through-penetrating open crack with little or no contact (low velocity for all wavelengths) - BL4A3

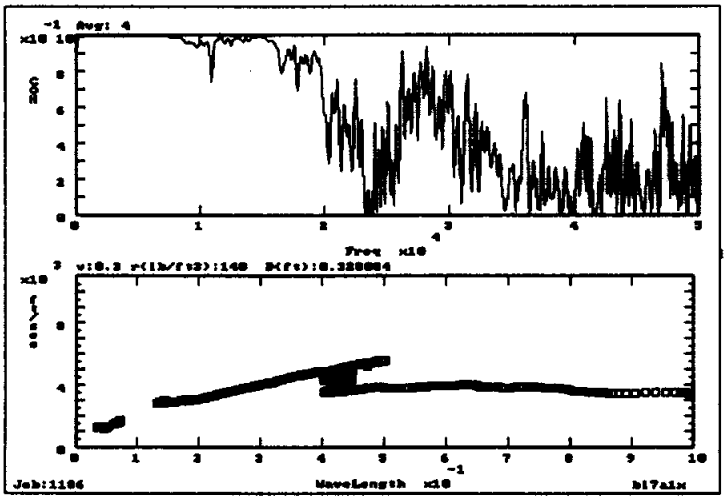

Figure 14 - Category B - Surface crack penetrating less than 2 inches (high velocity at longer wavelengths) - BL7A1

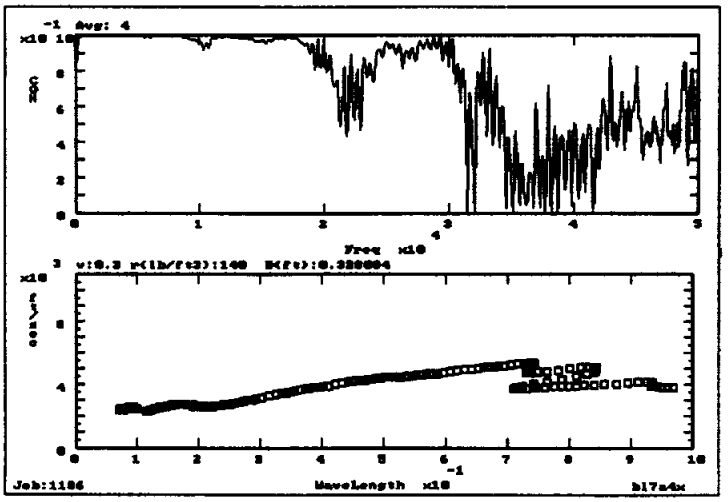

Figure 15 - Category C - Partial, mid-depth penetrating crack or through-crack with significant cross-crack contact - BL7A4

4.2.5 SASW Method References

1. M.F. Aouad, "Evaluation of Flexible Pavements and Subgrades Using the Spectral Analysis of Surface Waves Method", Dissertation Submitted in Partial Fulfillment of the Doctor of Philosophy Degree, The University of Texas at Austin, 1993.
2. S. Nazarian and K.H. Stokoe, II, In Situ Determination of Elastic Moduli of Pavement Systems by SASW Method (Practical Aspects), Report 368-1F, Center For Transportation Research, The University of Texas at Austin, 1985.
3. S. Nazarian and K.H. Stokoe, II, In Situ Determination of Elastic Moduli of Pavement Systems by SASW Method (Theoretical Aspects), Report 437-2, Center For Transportation Research, The University of Texas at Austin, 1986.
4. Roesset, J.M., D.W. Chang and K.H. Stokoe, "Comparison of 2-D and 3-D Models for Analysis of Surface Waves Tests", Proceedings, Fifth International Conference on Soil Dynamics and Earthquake Engineering, Karlsruhe, Germany, 1991, pp. 111-126
5. Andrus, R.D., K.H. Stokoe and J.A. Bay, "In Situ Vs of Gravelly Soils Which Liquified", Proceedings, Tenth World Conference on Earthquake Engineering, Madrid, Spain, July 1992.
6. Olson, L.D., Chan, Y.F., Sack, D.A., Dumont, M.F., Gilmore, R.T., Christy, J.T., "The Use of Impact-Echo and Spectral-Analysis-of-Surface-Wave Methods for the Concrete Investigation of the Rogers Dam Spillway Structure", Proceedings, Fifty-sixth American Power Conference, Chicago, April 1994.

4.3 Impact Echo (IE) Method

The Impact Echo (IE) method was used in this investigation to estimate concrete slab thickness and to characterize cracks. The IE method description, field technique, and example data are given below.

4.3.1 Impact Echo (IE) Test Method and Collection of Data

The IE method was performed during this investigation using our Olson Instruments Concrete Thickness Gauge (Model CTG-1TF). The CTG is a nondestructive, battery powered, handheld instrument for measuring the thickness and integrity of concrete slabs, pavements, tunnel linings, walls and other plate-like structures. Data from the near receiver, R1, of the SASW test was also used as IE data for determining slab thickness.

The IE tests performed in this investigation involved impacting the concrete slab with a small solenoid operated impactor and identifying the reflected wave energy with a displacement transducer (Fig 16). Two IE test-types were performed at the Ammunition plant. The first test-type was to estimate thickness of the concrete slab. For this investigation, the IE test was performed in a local

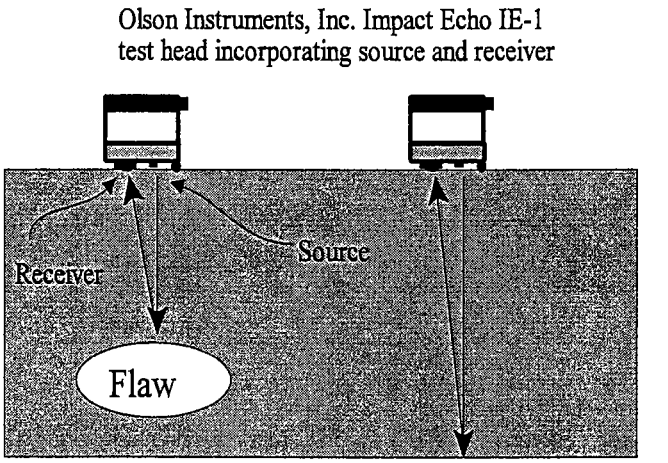

Figure 16 - Schematic of IE Method

area that was free of cracking. The second test-type was to estimate crack depth and/or severity. For this investigation, the CTG solenoid impactor source was placed on one side of the crack and the CTG displacement transducer was set orthogonally across the crack (Fig. 16). In this manner, the CTG spanned the crack. The best indicator of a category A, through-penetrating crack for the IE test was a "No Signal" response. The energy generated at one side of an open crack cannot "jump" the relatively large gap of an open crack and therefore no energy was received on the other side by the receiver head. The IE span tests were not successful in determining depth of mid-penetrating, category C cracks, because of their meandering, and partially filled nature.

After the sound wave is generated by the solenoid source, the resonant echoes are recorded by the displacement transducer of the CTG. The resonant echoes of the displacement responses are usually not apparent in the time domain, but are more easily identified in the frequency domain. Consequently, the linear frequency spectra of the displacement responses are calculated by performing a Fast Fourier transform (FFT) analysis to determine the resonant echo peak(s). The relationship among the resonant echo depth frequency peak (f), the compression wave velocity (V_P) and the echo



Figure 17 - Olson Instruments CTG in use

depth (D) is expressed in the following equation:

$$D = \beta V_p/(2*f) \quad (1)$$

where β is a factor equal to 0.96 for a slab/wall shape. The local compressional wave velocity of the concrete, V_p, was estimated from the Rayleigh surface wave velocity recorded in the SASW testing as explained in Section 4.1.

The IE method can be used for measuring concrete thicknesses, evaluating concrete quality, and detecting hidden flaws such as cracks, honeycombs, etc. The IE test data was recorded on the CTG (300 data point capability shown in Fig. 17) during the field NDT&E and later downloaded to a computer for post-processing.

4.3.2 Impact Echo (IE) Example Data

Figure 18 shows example data recorded on the CTG during a slab thickness test at location BL6A1. The top plot shows transducer displacement versus time. The signal has been high-pass frequency domain filtered at 10 KHz. The second plot is the spectra of the data and shows the frequency domain thickness peak at 5.8 inches (frequency of 15,891 Hz).

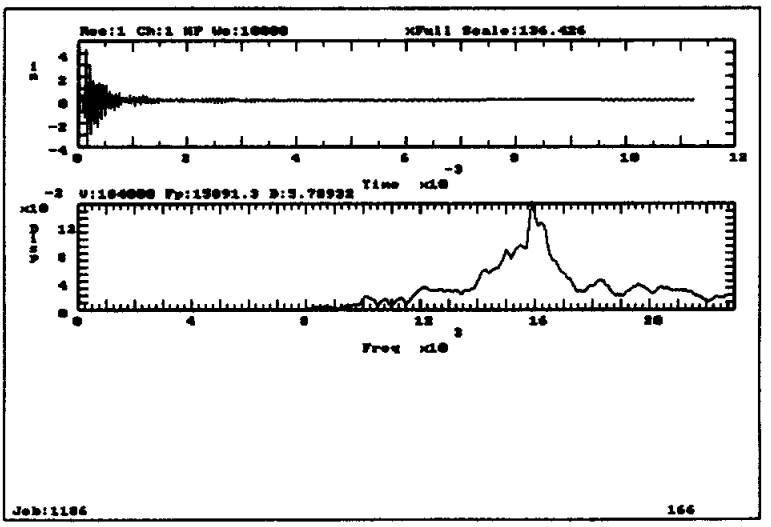

Figure 18 - CTG IE thickness test at BL6A1 shows a 5.8 inch thick slab

5.0 TABULATED CRACKING NDT&E DATA RESULTS AND DISCUSSION

The results of the SASW testing for crack characterization, IE testing for slab thickness and crack characterization, and crack width gauging are shown below in Table I. Crack lengths are given as well. A discussion of the results follows.

5.1 Tabulated Data

The data are tabulated below for all test locations. Question marks in the notes column indicate locations of suspect data quality.

Survey Grid Cell	Test Point Location	CTG Slab Thickness (in)	IE Slab Thickness from SASW data (in)	Category	Crack Width (in)	Crack Length (ft)	SASW Crack Depth (in)	IE Crack Character	Notes
HH2A	1	5.9	N/A	B	0.04		SURFACE		
HH2A	2	5.0	N/A	C	0.07	7.50	THRU	N/A	PARTIAL CONTACT
HH2A	3	4.5	N/A	A	0.05		THRU	N/A	
HH2A	4	5.0	N/A	A	0.05		THRU	N/A	
HH2D	1	3.4	N/A	B	0.03		SURFACE	N/A	
HH3C	1	5.3	N/A	B	0.02	5.00	SURFACE	N/A	
HH2C	1	N/A	N/A	B	0.02		SURFACE	N/A	
HH2D	2	3.8	N/A	B	0.02	3.25	SURFACE	N/A	
HH2D	3	5.5	N/A	A	0.04		THRU	N/A	
HH4B	1	N/A	N/A	A	0.11		24 +	NO SIGNAL	FOUNDATION WALL
HH4B	2	9.1	N/A	C	0.08	6.00	THRU	N/A	PARTIAL CONTACT
HH4B	3	6.5	N/A	A	0.06		SURFACE	N/A	
RH1A	1	6.1	6.1	A	0.016	4.00	THRU	N/A	CRACK PENETRATES ON SIDE OF SLAB
RH1D	1	6.0	5.9	B	0.013	2.00	SURFACE	N/A	
RH2E	1	5.6	N/A	B	0.02	2.75	SURFACE	N/A	MACHINE PAD
RH2F	1	N/A	6.0	C	0.016	7.00	THRU	N/A	

Survey Grid Cell	Test Point Location	CTG Slab Thickness (in)	IE Slab Thickness from SASW data (in)	Category	Crack Width (in)	Crack Length (ft)	SASW Crack Depth (in)	IE Crack Character	Notes
RH2F	2	N/A	6.0	C	0.013		THRU	N/A	
RH3C	1	N/A	6.7	B	0.01	5.50	SURFACE	N/A	
RH3D	1	N/A	6.2	B	0.01	5.00	SURFACE	N/A	
RH3D	2	N/A	6.5	B	0.01		SURFACE	N/A	
RH3E	1	N/A	5.8	B	0.016	4.50	SURFACE	N/A	
RH4A	1	6.6	6.4	B	0.01	4.50	SURFACE	N/A	
RH4E	1	6.1	5.5	B	0.016	1.00	SURFACE	N/A	
RH5A	1	N/A	6.5	B	0.01	3.00	SURFACE	N/A	
RH5D	1	4.8	4.8	B	0.013	2.75	SURFACE	N/A	
RH6A	1	6.7	6.7	B	0.016	8.50	SURFACE	N/A	
RH6B	1	5.6	5.3	B	0.01		SURFACE	N/A	
RH6C	1	N/A	4.8	B	0.013	6.00	SURFACE	N/A	
RH6D	1	4.3	5.2	A	0.04		THRU	N/A	
RH6F	1	5.6	5.6	A	0.02	6.50	THRU	N/A	
RH6F	2	N/A	6.0	A	0.016		THRU	N/A	
RH7A	1	5.8	5.9	A	0.016	9.00	THRU	N/A	
RH7B	1	6.1	7.0	A	0.013		THRU	NO SIGNAL	
RH7B	2	5.6	6.5	A	0.02	8.25	THRU	N/A	TRENCH
RH7C	1	8.4	7.0	B	0.02	3.50	SURFACE	N/A	
RH7D	1	N/A	5.3	B	0.03	7.00	SURFACE	N/A	
RH7D	2	N/A	5.3	B	0.02		SURFACE	N/A	
RH8E	1	5.6	5.5	B	0.016	7.00	SURFACE	N/A	
RH8E	2	N/A	N/A	B	0.02		SURFACE	N/A	
RH9B	1	10.1	7.7	B	0.01	3.50	SURFACE	N/A	
RH9E	1	3.8	3.7	B	0.013	6.50	SURFACE	N/A	
RH9E	2	N/A	3.2	B	0.016		SURFACE	N/A	
RH10D	1	4.2	4.4	B	0.014	2.75	SURFACE	N/A	

Survey Grid Cell	Test Point Location	CTG Slab Thickness (in)	IE Slab Thickness from SASW data (in)	Category	Crack Width (in)	Crack Length (ft)	SASW Crack Depth (in)	IE Crack Character	Notes
RH11D	1	N/A	5.8	A	0.03	3.00	THRU	N/A	???
RH11E	1	4.1	5.5	C	0.02	7.00	THRU	N/A	PARTIAL CONTACT
RH12E	1	5.5	4.5	B	0.03	3.00	SURFACE	N/A	
RH12F	1	6.0	6.0	A	0.02	7.00	THRU	N/A	
RH12F	2	5.9	5.8	A	0.03		THRU	N/A	???
RH12G	1	N/A	5.2	B	0.013	4.00	SURFACE	N/A	
RH13G	1	5.2	4.5	B	0.01	5.00	SURFACE	N/A	
RH13H	1	7.2	6.3	B	0.01	5.50	SURFACE	N/A	
RH14G	1	N/A	6.0	C	0.016	2.00	THRU	N/A	PARTIAL CONTACT
RH14H	1	7.4	6.7	A	0.013	5.50	THRU	N/A	
RH14H	2	N/A	6.5	A	0.04		THRU	N/A	
RH14H	3	N/A	6.6	B	0.01		SURFACE	N/A	
BB2B	1	6.6	8.2	A	0.25	10.00	THRU	N/A	
BB2D	1	3.7	4.3	0	N/A	10.00	N/A	N/A	ONLY A PARALLEL TEST
BB3C	1	4.9	6.8	A	0.25	7.50	THRU	N/A	
BB3D	1	N/A	N/A	A	0.25	5.00	THRU	N/A	NOT TESTABLE B/C OF FLOOR COVER
BB4B	1	N/A	5.4	A	0.05	15.00	THRU	N/A	
BB4B	2	6.5	8.5	A	0.04		THRU	NO SIGNAL	
BB5B	1	4.6	5.2	A	0.03	3.50	THRU	N/A	
BL1B	1	4.6	4.8	B	0.02	14.00	SURFACE	N/A	???
BL1B	2	N/A	4.6	B	0.03		SURFACE	N/A	
BL1B	3	N/A	4.8	C	0.02		THRU	N/A	PARTIAL CONTACT

Survey Grid Cell	Test Point Location	CTG Slab Thickness (in)	IE Slab Thickness from SASW data (in)	Category	Crack Width (in)	Crack Length (ft)	SASW Crack Depth (in)	IE Crack Character	Notes
BL2B	7	N/A	6.1	B	0.05		SURFACE	N/A	
BL1C	1	N/A	6.7	B	0.02	8.00	SURFACE	N/A	
BL2C	1	5.9	5.0	A	0.02		THRU	N/A	
BL2A	1	7.4	7.0	A	0.08	10.00	THRU	N/A	
BL2A	2	N/A	N/A	C	0.08		THRU	N/A	PARTIAL CONTACT
BL2A	3	N/A	6.0	C	0.08	9.00	THRU	N/A	PARTIAL CONTACT
BL2A	4	N/A	6.4	B	0.03		SURFACE	N/A	
BL2B	1	8.5	6.2	A	0.02	2.00	THRU	N/A	
BL2B	2	N/A	7.4	A	0.07	9.00	THRU	NO SIGNAL	
BL2B	4	N/A	N/A	A	0.07		THRU	N/A	
BL2B	3	N/A	5.7	C	0.016	12.00	THRU	N/A	PARTIAL CONTACT
BL2B	5	N/A	6.2	B	0.02		SURFACE	N/A	
BL2B	6	N/A	6.4	A	0.04	1.00	THRU	N/A	
BL3A	1	N/A	5.6	A	0.05	10.00	THRU	N/A	
BL3A	2	N/A	7.1	B	0.08		SURFACE	N/A	
BL3A	3	N/A	5.7	A	0.05	10.00	THRU	NO SIGNAL	
BL3A	4	N/A	N/A	B	0.05		SURFACE	N/A	
BL3B	1	7.2	6.3	A	0.06	9.00	THRU	N/A	
BL3B	2	N/A	5.3	A	0.08		THRU	N/A	
BL3C	1	N/A	N/A	B	0.02	13.00	SURFACE	N/A	
BL3C	2	N/A	3.9	C	0.03		THRU	N/A	PARTIAL CONTACT
BL4A	1	5.7	N/A	B	0.08	8.00	SURFACE	N/A	
BL4A	2	N/A	5.5	B	0.06		SURFACE	N/A	
BL4A	3	N/A	6.2	A	0.08	10.00	THRU	N/A	
BL4A	4	N/A	9.3	B	0.08		SURFACE	N/A	
BL4A	5	N/A	6.0	C	0.05	7.00	2.4	NO SIGNAL	
BL4A	6	N/A	7.1	B	0.04		SURFACE	N/A	

Survey Grid Cell	Test Point Location	CTG Slab Thickness (in)	IE Slab Thickness from SASW data (in)	Category	Crack Width (in)	Crack Length (ft)	SASW Crack Depth (in)	IE Crack Character	Notes
BL4B	1	N/A	5.9	C	0.05	3.00	THRU	N/A	PARTIAL CONTACT
BL4B	2	N/A	5.6	A	0.06	7.00	THRU	N/A	
BL4B	3	6.5	6.0	A	0.07		THRU	N/A	
BL4B	4	N/A	N/A	A	0.06	4.00	THRU	N/A	???
BL4B	5	N/A	5.8	A	0.08	4.00	THRU	N/A	
BL4B	6	5.8	6.3	A	0.06	8.00	THRU	N/A	
BL4B	7	N/A	5.2	A	0.04		THRU	N/A	
BL5A	1	N/A	5.6	B	0.07	9.50	SURFACE	N/A	
BL5A	2	N/A	5.6	C	0.04		2.3	N/A	???
BL5A	3	N/A	6.0	B	0.05	10.00	SURFACE	N/A	
BL5A	4	N/A	5.5	C	0.08		THRU	N/A	PARTIAL CONTACT
BL5B	1	N/A	5.4	A	0.08	9.00	THRU	N/A	
BL5B	2	N/A	5.7	A	0.08		THRU	N/A	
BL5C	1	5.1	5.4	B	0.05	13.00	SURFACE	N/A	
BL5C	2	N/A	6.0	C	0.04		THRU	N/A	PARTIAL CONTACT
BL5C	3	N/A	6.0	A	0.03		THRU	N/A	
BL5D	1	N/A	5.6	C	0.03		2.5	N/A	
BL5C	4	N/A	5.7	B	0.06	4.00	SURFACE	N/A	
BL6A	1	5.8	5.6	A	0.08	10.00	THRU	NO SIGNAL	???
BL6A	2	N/A	5.4	C	0.08		THRU	N/A	PARTIAL CONTACT
BL6A	3	N/A	6.0	A	0.05	10.00	THRU	N/A	
BL6A	4	N/A	5.8	B	0.08		SURFACE	N/A	
BL6B	1	N/A	5.7	A	0.06	5.00	THRU	N/A	
BL6B	2	N/A	6.1	B	0.08		SURFACE	N/A	
BL6B	3	N/A	6.2	C	0.06	5.00	THRU	N/A	PARTIAL CONTACT
BL6B	4	N/A	6.9	A	0.08		THRU	N/A	
BL7A	1	N/A	5.8	B	0.02	10.00	SURFACE	N/A	

Survey Grid Cell	Test Point Location	CTG Slab Thickness (in)	IE Slab Thickness from SASW data (in)	Category	Crack Width (in)	Crack Length (ft)	SASW Crack Depth (in)	IE Crack Character	Notes
BL7A	2	N/A	5.4	B	0.06		SURFACE	N/A	
BL7A	3	N/A	5.2	C	0.06	4.00	THRU	N/A	PARTIAL CONTACT
BL7A	4	N/A	5.1	C	0.04	4.00	2.6	N/A	
BL7A	5	N/A	5.8	B	0.05	3.00	SURFACE	N/A	
BL7A	6	6.0	N/A	C	0.04	7.50	THRU	N/A	PARTIAL CONTACT
BL7A	7	N/A	4.8	B	0.03		SURFACE	N/A	
BL8A	1	6.1	6.1	C	0.08	10.00	THRU	N/A	PARTIAL CONTACT
BL8A	2	N/A	5.0	A	0.06		THRU	NO SIGNAL	
BL8A	3	N/A	5.3	B	0.03	8.00	SURFACE	N/A	
BL8A	4	N/A	5.4	C	0.016		SURFACE	N/A	
BL8C	1	5.5	5.0	B	0.03	10.00	SURFACE	N/A	
BL8C	2	N/A	5.9	B	0.05		SURFACE	NO SIGNAL	
BL8C	4	N/A	5.7	A	0.07		THRU	N/A	
BL8D	1	N/A	5.6	B	0.05		SURFACE	N/A	
BL8C	3	N/A	5.6	C	0.05	6.00	2.8	N/A	???
BL9A	1	N/A	6.6	B	0.04	12.00	SURFACE	N/A	
BL9A	2	N/A	6.0	B	0.03		SURFACE	N/A	
BL9A	3	N/A	6.1	B	0.04	7.00	SURFACE	N/A	
BL9B	1	N/A	5.0	B	0.08	7.00	SURFACE	N/A	???
BL9B	2	N/A	5.3	B	0.08	4.00	SURFACE	N/A	
BL9B	3	N/A	7.2	A	0.03	3.00	THRU	N/A	
BL9B	4	N/A	5.0	B	0.03	10.00	SURFACE	N/A	
BL9C	7	N/A	N/A	B	0.016		SURFACE	N/A	
BL9C	1	N/A	7.7	B	0.05	21.00	SURFACE	N/A	
BL9C	2	N/A	7.4	B	0.04		SURFACE	N/A	
BL9C	3	N/A	7.1	C	0.04		THRU	N/A	PARTIAL CONTACT
BL9C	4	N/A	7.1	B	0.06		SURFACE	N/A	

Survey Grid Cell	Test Point Location	CTG Slab Thickness (in)	IE Slab Thickness from SASW data (in)	Category	Crack Width (in)	Crack Length (ft)	SASW Crack Depth (in)	IE Crack Character	Notes
BL9C	5	N/A	7.5	B	0.05		SURFACE	N/A	
BL9C	6	N/A	N/A	C	0.05	9.00	THRU	N/A	PARTIAL CONTACT
BT1A	1	N/A	6.1	C	0.03	2.50	THRU	NO SIGNAL	
BT1A	2	7.4	6.2	C	0.02	4.50	THRU	N/A	PARTIAL CONTACT
BT1A	3	7.1	6.6	C	0.05		THRU	N/A	PARTIAL CONTACT
BT1A	4	N/A	6.4	C	0.016	4.00	THRU	N/A	PARTIAL CONTACT
BT1A	5	N/A	6.9	C	0.03		THRU	N/A	PARTIAL CONTACT
BT1B	1	6.0	6.1	A	0.03	2.50	THRU	N/A	
BT1B	2	N/A	6.7	A	0.02	3.00	THRU	N/A	
BT1D	1	N/A	N/A	C	0.05	3.00	THRU	N/A	PARTIAL CONTACT
BT1E	1	N/A	5.4	A	0.02	2.50	THRU	N/A	
BT1E	2	N/A	6.0	A	0.02	2.00	THRU	N/A	
BT1E	3	N/A	6.6	B	0.013	2.00	SURFACE	N/A	
BT1E	4	N/A	7.5	C	0.03	3.00	THRU	N/A	PARTIAL CONTACT
BT2A	1	7.4	5.7	A	0.05	3.00	THRU	N/A	
BT2B	1	6.6	7.9	A	0.02	3.00	THRU	N/A	
BT2D	1	5.5	5.5	A	0.05	3.00	THRU	N/A	
BT2E	1	5.4	5.4	B	0.04	3.00	SURFACE	N/A	
BT2E	2	N/A	N/A	A	0.01	2.00	THRU	N/A	
BT2E	3	N/A	5.9	C	0.03	3.00	THRU	N/A	PARTIAL CONTACT

5.2 NDT&E Data Results and Discussion

All cracks tested at the Badger Army Ammunition Plant are classified as medium to severe in surface crack width, ranging from 0.01 to 0.25 inches. Generally speaking, cracks with wide surface openings are through-penetrating cracks and those with narrow surface openings are surface cracks. Although this is a general trend, there are exceptions. Areas which experienced significant loading and unloading and traversed by heavy objects, such as loading docks and hallways, are generally characterized by through-penetrating cracks. These cracks are structural in nature and are most likely caused by accidental overload of a poorly supported floating slab. Mr. Douglas Close indicated to us that, after holes were drilled in our recommended locations for through-penetrating cracks, all the drilled cracks were indeed through-penetrating and often were more severe at the slab bottom than the top. This observation confirms the conclusion that many of the cracks are flexural in nature due to the tension placed on the bottom of the slab during accidental loading which caused initial bottom of slab cracking.

Diagonal cracks were typically found at the corner of machine pads such as in the three large rooms of the Pre and Final Roll House. These cracks were of categories A, B, and C and were apparently caused by settling of the machine pad and shear and compressional vibration of the machinery when running. Surface cracks may have been caused after hardening due to drying shrinkage, crazing, or chemical reaction with the NC and/or NG substances.

Estimated concrete slab thicknesses at the Homogenizer House range from 3.4 to 9.1 inches. The slab was thickest at the foundation wall near HH4B as it sloped toward the center of the room and the concrete gutter at the south side of the building to allow for proper draining. The thinnest section of slab was near the drain in cell HH2D. The outside loading dock crack was severe and at most locations penetrated the 4.5 - 6 inch thick slab. The crack in the southeast corner of cell HH2C appeared to be a shallow, surface crack. The foundation wall cracks all appeared to penetrate to grade level.

The Pre and Final Roll House is characterized by category A, B, and C cracks. Crack patterns were typical for the two largest rooms located in the center of the building and crack

characterizations for these rooms were similar. For example, cracks located in cells RH2F and RH6F both appear to be through-penetrating cracks. Slab thicknesses in the Roll House ranged from just under 4 inches to over 7 inches. No correlation was apparent between crack patterns and depth for the Roll House.

The cracking at the Paste Breaker and Blender House was the most severe and had the largest widths of all the cracks at any of the 5 tested houses. This is most likely due to the demanding operations that took place in the house which may have caused repeated excessive loading of the 4 - 7 inch thick slab. The bottom echoes of the IE test were of poor quality indicating rough, jagged bottom conditions. For all locations tested, cracks apparent in the conductive flooring material appeared to correlate with those penetrating through the slab.

The Bag Loading House had many category C cracks– they were partially filled through-penetrating cracks or mid-depth cracks. The cracking pattern was similar for the main hallway, doorway thresholds, and inner rooms. Category A cracks were seen mostly in cells 4B– most likely an area of heavy traffic. Crack characterizations for the outside loading dock/platform were not typical but consisted of cracks of all three categories. Cracks located closest to the inside drain, cells 5D and 8D, were of categories B and C. Concrete slab thicknesses at the Bag Loading House ranged from roughly 4.5 - 7.5 inches.

The floor covering material at the Bag Turning House was similar to that of the Paste Breaker and Blender House. Most cracks at the Bag Turning House were category A cracks. We expect that some of the test locations at the door thresholds may have been located on foundation walls as opposed to the floating slab. The slab at the northern loading dock was measured to be approximately 6.5 inches thick. Impact Echo test measurements gave a concrete slab thickness range of 5.4 - 7.4 inches depending on slab bottom conditions.

6.0 CLOSURE

The field portion of this engineering investigation was performed in accordance with generally accepted testing procedures. The report includes discussions of the methods and results, and a summary of the investigation and conclusions. The report was prepared based on factual data developed during the investigation and our experience. If we can provide additional consultation, or be of further service on this project, please call. If additional information is developed that is pertinent to our investigation, please contact our office.

Respectfully submitted,

Olson Engineering, Inc.

David A. Hollema
Project Engineer

Larry D. Olson, P.E.
Principal Engineer

(1 copy faxed and 2 copies mailed)

Appendix B.2

Applied Research Associates, Inc. – Raman Spectroscopy and Technical Support at Badger Army Ammunition Plant, Final Report

RAMAN SPECTROSCOPY AND TECHNICAL SUPPORT AT BADGER ARMY AMMUNITION PLANT

FINAL REPORT

Report Prepared for:

Stone & Webster, Inc.
7677 East Berry Avenue
Greenwood Village, CO 80111-2137

Purchase Order No. 13341-13341025-10982
Under Prime Contract No. DACA 45-96-D-0007

Prepared by:

John W. Haas, Ph.D.

ARA Project No. 5453

July 15, 2002

Applied Research Associates, Inc.
New England Division
415 Waterman Road
South Royalton, Vermont 05068

INTRODUCTION

The U.S. Army is seeking to dispose of its excess ordnance production facilities. Decontamination and decommissioning (D&D) are major elements of this effort, which is slated to take decades to complete. Some of the buildings at former Army Ammunition Plants (AAPs) may contain residual energetic materials (EM) in former process lines, wall boards, cracks and crevices in floors, or beneath the flooring. Levels of residual EM must be determined prior to full-scale D&D in order to assess whether a potential hazard exists to workers.

Potentially hazardous quantities of EM are in the gram to kilogram range. Therefore, the material will be present in neat form, and will not require highly sensitive analytical methods for detection. What is needed, however, is a technique that can rapidly perform qualitative identification of suspect material *in situ*. Ideally, the technique should also be low cost and portable. Raman spectroscopy is an appealing candidate for meeting these requirements. The Raman technique uses laser light scattering to produce a spectrum corresponding to the vibrations of the molecules illuminated by the laser beam. Since the vibrations in every chemical are unique, the Raman spectrum can be used as a "fingerprint" to identify individual explosives and distinguish them from non-explosive materials. Figure 1 below presents Raman spectra for several important explosives, including nitrocellulose (NC) which is a major focus of the present study. The spectra are distinctly different from one another, even for materials with closely related chemical structures (TNT and 2,4-DNT). It is notable that NC is a poor Raman scatterer compared to most other EM (in Figure 1, note the lower signal-to-background ratio and the broader peaks in the NC spectrum); therefore it represents a "worst-case" detection challenge. The two major Raman bands for NC are at 851 and 1286 cm^{-1}, with a minor band at 1371 cm^{-1}. If the spectra collected are intense enough, the band at 1371 cm^{-1} can be used to differentiate NC from nitroglycerine (NG) which has only the other two strong bands in about the same positions and relative intensities as NC.

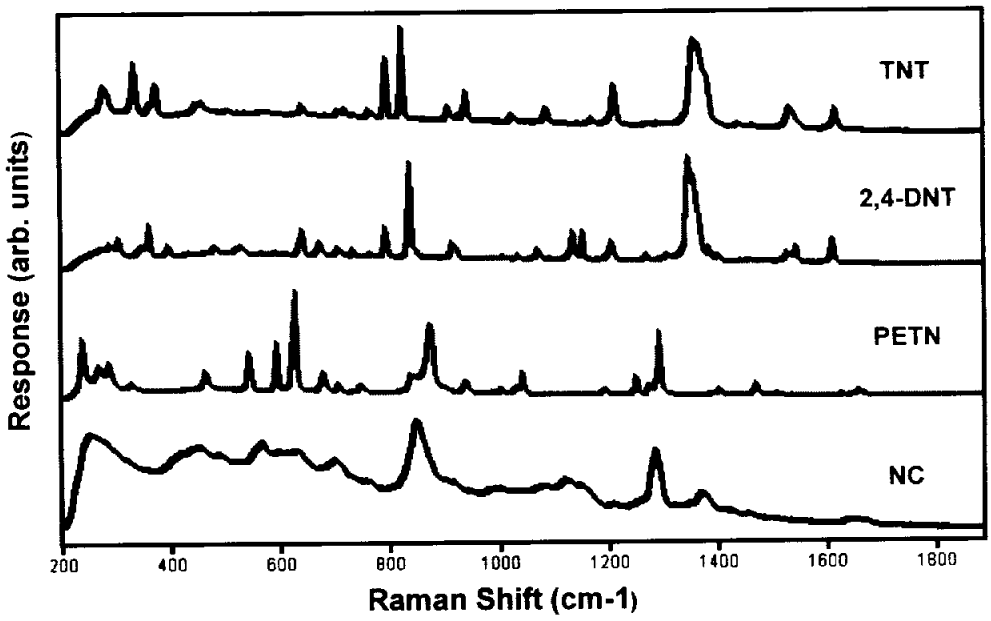

Figure 1. Raman spectra of four explosives.

Raman scattering is a relatively weak phenomenon, and therefore cannot generally be used for detecting materials at concentrations below a few percent. The method is best suited for non-contact, non-destructive qualitative analysis of neat materials (solids, liquids or gases) without the need for sample preparation. Over the past decade, major advances in lasers, detectors, optical filters, and fiber optics have enabled small, portable Raman systems to be assembled for field applications. The use of fiber optic probes allows spectra to be collected *in situ* from samples located hundreds of meters from the spectrometer. High-efficiency optics produce high quality Raman spectra in as little as a few seconds. All of these features are advantageous for screening former AAP buildings for residual EM.

In the past year, portable fiberoptic Raman spectroscopy has been deployed by Applied Research Associates (ARA) at Badger AAP (BAAP) and LoneStar AAP (LSAAP) to investigate surface cracks in the floors and walls of former explosives processing buildings. Small quantities of EM, primarily NC but also nitrotoluenes, HMX, RDX and Tetryl were detected *in situ*. While the quantities detected did not present an immediate explosion hazard, the question remained as to whether significant quantities of EM had accumulated beneath the buildings, having traversed through cracks penetrating the slabs. The objective of the present study was to utilize a combination of fiberoptic video and Raman spectroscopy to analyze soils beneath the slabs of former production buildings at BAAP. Analysis was conducted in surface cracks, through a few large penetrating cracks, and through holes cored with a high pressure water jet. In addition to *in situ* analysis, samples were collected and analyzed in a field laboratory using colorimetric methods. Colorimetry was performed in collaboration with Stone & Webster personnel and is not included in this report.

EQUIPMENT AND METHODS

Portable Video-Raman System

A photograph of ARA's portable, fiber optic Raman system is presented in Figure 2. Major components of the system include a diode laser emitting at 785 nm and a single grating spectrograph equipped with a multichannel CCD detector. Multichannel detection allows a full Raman spectrum to be collected at all wavelengths simultaneously, without the need to scan the grating. This greatly speeds up the data collection process, which ranged from 5 sec to a maximum of 5 min at BAAP. Longer integrations were used to improve the signal-to-noise ratio when background levels were low. A portable computer controls and receives data from the CCD camera. The fiber optic probe uses two fibers with optical elements at the distal (sampling) end. One fiber delivers light from the laser to the sample and the other fiber returns the scattered light to the spectrometer for dispersion and detection. A 50 m length fiber optic cable was employed in this project to allow for sampling throughout each demonstration building without the need to move the spectrometer within the structure. When used in combination with the video fiberscope (Olympus), the fiber optic Raman probe was simply affixed to the fiberscope probe head. The fiberscope light source was turned off during Raman analysis.

At BAAP, the video-Raman equipment was transported from building to building in a compact rental car and the Raman spectrometer was setup on a lightweight folding table inside each structure. Setup time was approximately 20 minutes per building, including cooling the CCD detector and performing a wavelength calibration check. The Raman laser, videoscope light source and computer were operated with 110 VAC electrical power supplied via an inverter connected to the rental car battery. For *in situ* analysis, the videoscope and Raman probe were simply moved between sampling locations within each building. On the first pass through the buildings (prior to water coring), only Raman analysis was performed on surface cracks. Positioning and holding the Raman probe steady during spectral acquisition was facilitated by affixing it to a weighted stand with a gimbal mount. After the probe was positioned, a black cloth was draped over the stand to block ambient light from the sampling area.

Upon completion of water coring, at most locations video inspection was performed first, followed by Raman analysis. In general, video inspection revealed that soil had been present immediately below the slabs (i.e., there were no significant gaps between the bottom of the slab and the soil below it) and the water cutting process excavated soil in varying amounts. The Raman probe was affixed inside of a plastic tube which, when it contacted the soil, positioned the probe at its focal distance from the soil below it. At each cored location, Raman spectra were collected from the wall of the excavated hole just below the slab, and at the bottom of the hole produced when a soil sampling tube was used to collect soil for colorimetric analysis. The latter sampling point was most often a hard, compact soil layer about 2 ft beneath the softer fill material (usually a fine sand) immediately below the slab. At a few sampling points where foreign material was observed in the subsurface, the video and Raman probes were attached together to enable precise positioning of the Raman laser beam on the suspect material.

Five buildings - Roll, Breaker/Blender, Bag Loading, Bag Turn, and Homogenizer Houses - were investigated during the week of May 6, 2002. The remainder of this report discusses the video and Raman spectroscopy results for these five structures.

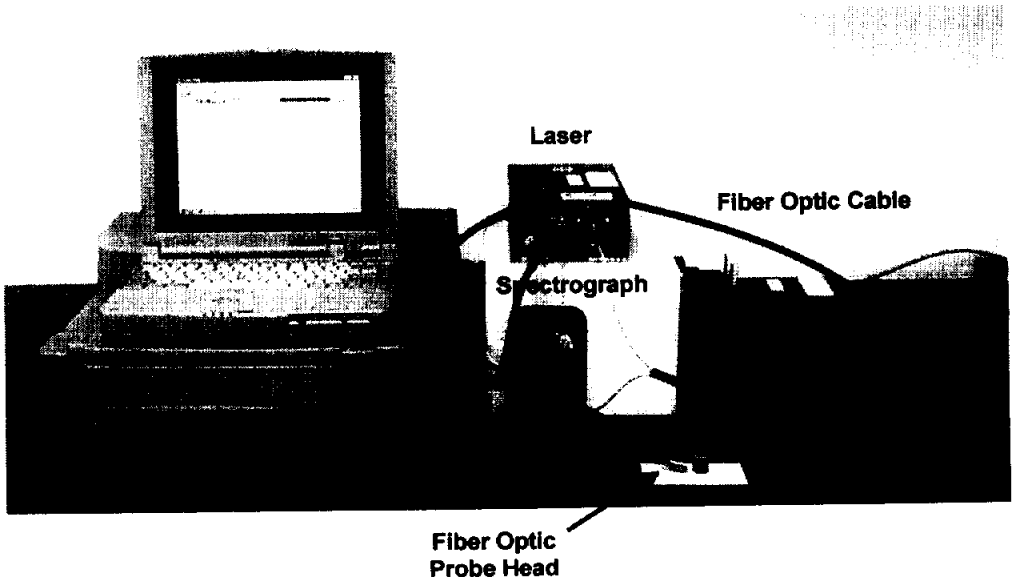

Figure 2. ARA's portable fiber optic Raman system.

RESULTS AND DISCUSSION

A summary of the sampling locations and Raman results for each of the five buildings can be found in Appendices A-E to this report. Overall, the results did not show evidence for large quantities of energetics beneath the structures, although small quantities of residual EM were detected, especially in some of the surface cracks during the pre-coring investigation. Results for each of the buildings are discussed in the subsections that follow.

Roll House

During preliminary surface crack screening, 43 Raman spectra were recorded in 4 rooms of the Roll House. Low levels of NC/NG were detected at 6 of the sampling points, with 3 detects in one room. No other EM were detected. A typical Raman spectrum for a sample location that tested positive for NC/NG is shown in Figure 3. Note that there is a broad, downward-sloping background underlying the characteristic NC/NG Raman bands at 851 and 1286 cm^{-1} in Figure 3. The Raman intensity is not sufficient to discriminate between NC and NG, however the presence of lightly colored fibers in the cracks suggests that the material is likely to be NC. The background is typical of that observed for most of the samples (see the later spectra as well) and displays both a periodic undulation and a general decline in intensity with increasing Raman shift. The broad undulations peaking at about 450, 600, and 700 cm^{-1} are produced by the transmission functions of the optical interference filters in the fiber optic probe.

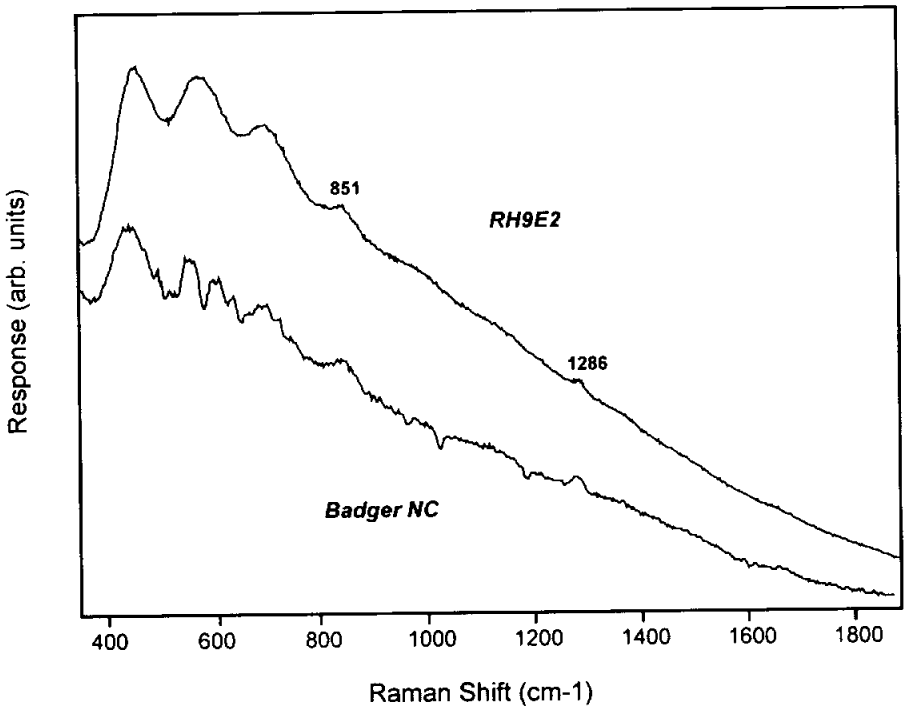

Figure 3. Characteristic NC/NG Raman bands are detected *in situ* at Roll House pre-core sampling location RH9E2.

Although clearly not attributable to EM, Raman bands were evident in spectra from some of the other sampling locations. For example, samples RH13H1 and RH14G1 had a sharp, moderately intense Raman feature at about 1085 cm^{-1} that is in the spectral region characteristic for inorganic species containing oxyanions such as carbonate and nitrate. In a previous study, this band, evident in Figure 4 for sample RH14G1, was frequently observed in a poaching process facility. Because copious quantities of nitric acid were used in the poaching process, we concluded that the sample was nitrated concrete. We make the same assignment in the present study.

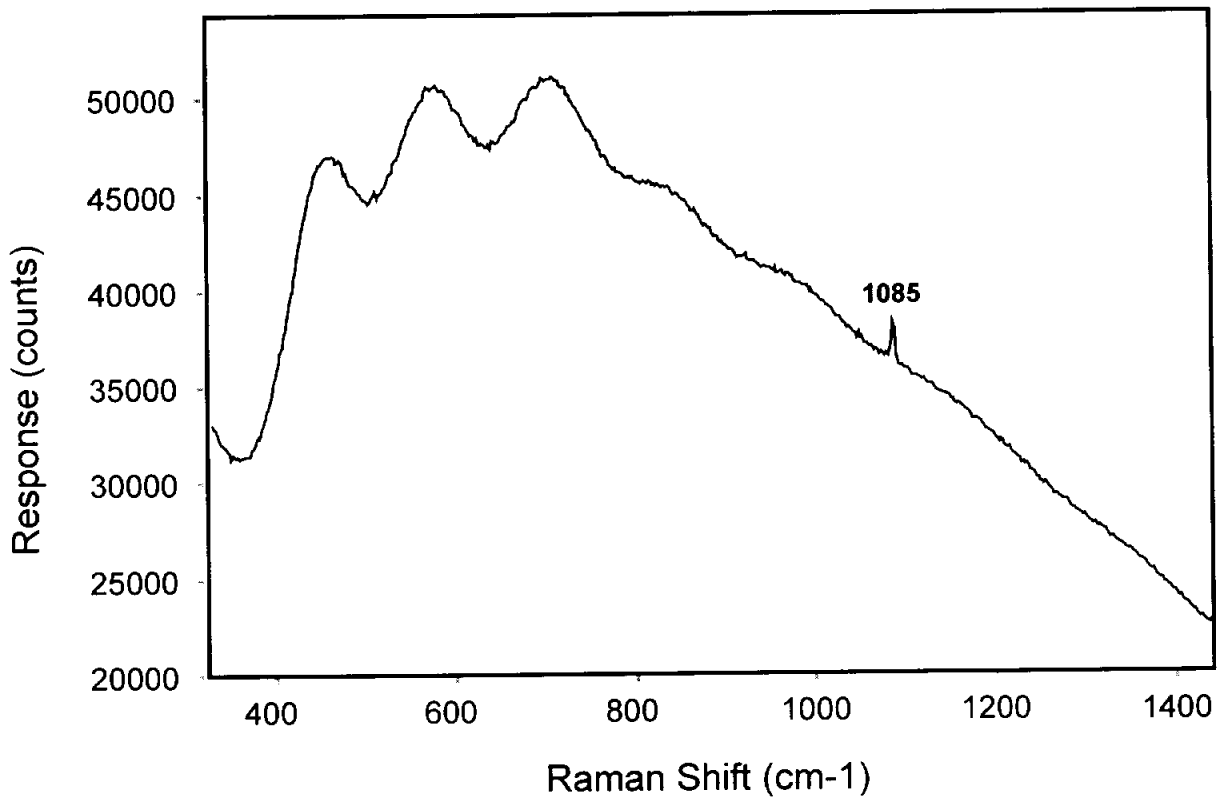

Figure 4. *In Situ* Raman spectrum from Roll House pre-core sampling location RH14G1.

A total of 9 cores through the concrete slab were conducted in the Roll House. *In situ* video and Raman inspections showed no evidence of EM beneath the slab, but confirmed that the cracks had penetrated through the slab. The spectrum presented as Figure 5 is typical of all the Roll House sub-slab Raman spectra. A common feature in the spectra is a strong band in the region of 465 cm^{-1}, which is a Si-O vibration characteristic for SiO_2 in sand, rock, and other minerals. The presence of this peak is not surprising since the soil immediately below the concrete slab was quartz sand fill. There were no other major bands of interest in the spectra.

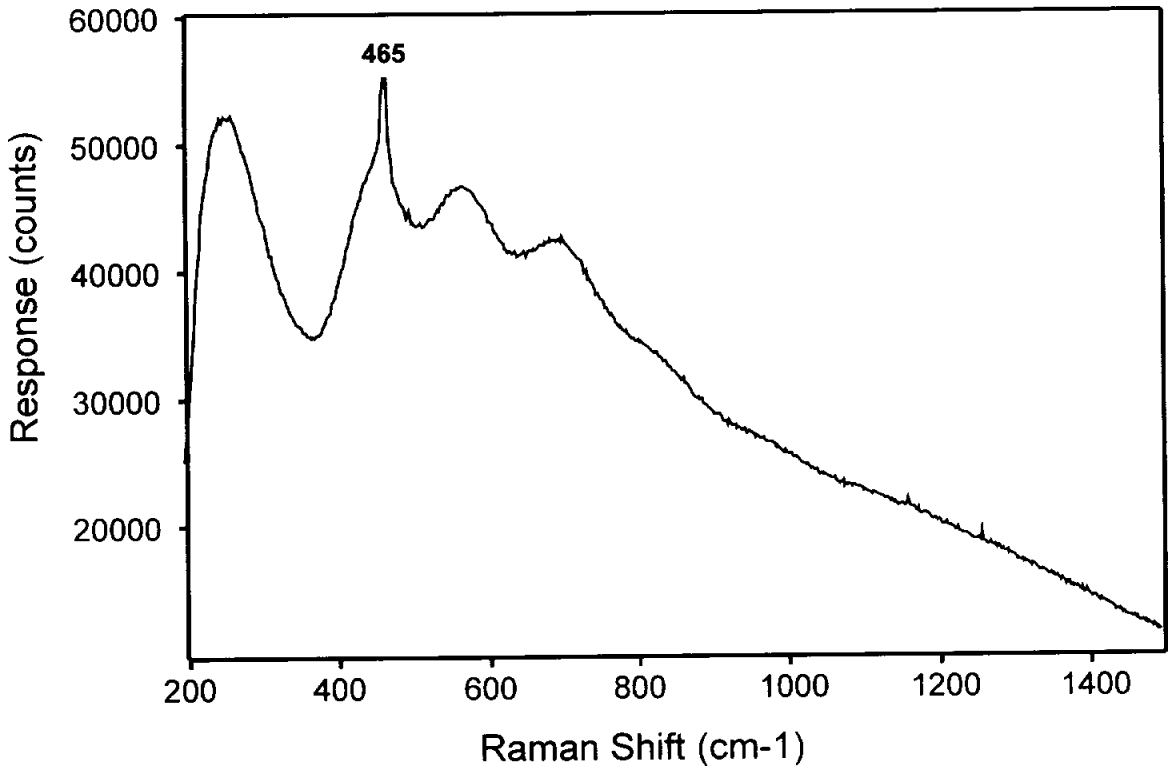

Figure 5. *In Situ* Raman spectrum from Roll House sub-slab sampling location RH14HA.

Breaker/Blender House

The Breaker/Blender house was a small structure with a much higher percentage of large cracks penetrating the slab foundation when compared with the Roll House. Much of the floor had been covered with asphalt, which showed widespread signs of deterioration. *In situ* Raman spectra were acquired from 9 above-slab locations and NC/NG was detected in approximately half of the sampling points, including several inches into the deep cracks. Again, fibrous material was observed in some of the cracks, suggesting that the positive detections were due to NC. Nitrate was also detected at two locations. No other significant Raman bands were observed.

After coring, *in situ* video inspection revealed a very different scenario than at the Roll House. First, the soil beneath the slab was generally clay, not sand. This required a considerable waiting period (overnight) for the coring water to drain from the holes. More interesting, however, was the observation of light, fibrous "strings" hanging from the underside of the crack in the region of core hole BB2B. Raman analysis of the "strings" confirmed they were NC, as shown in Figure 6. However, fibers were not observed in the sub-slab soil and EM was also not detected by Raman to a depth of about 2 ft below the slab, indicating that significant quantities of NC had probably not been transported below the crack.

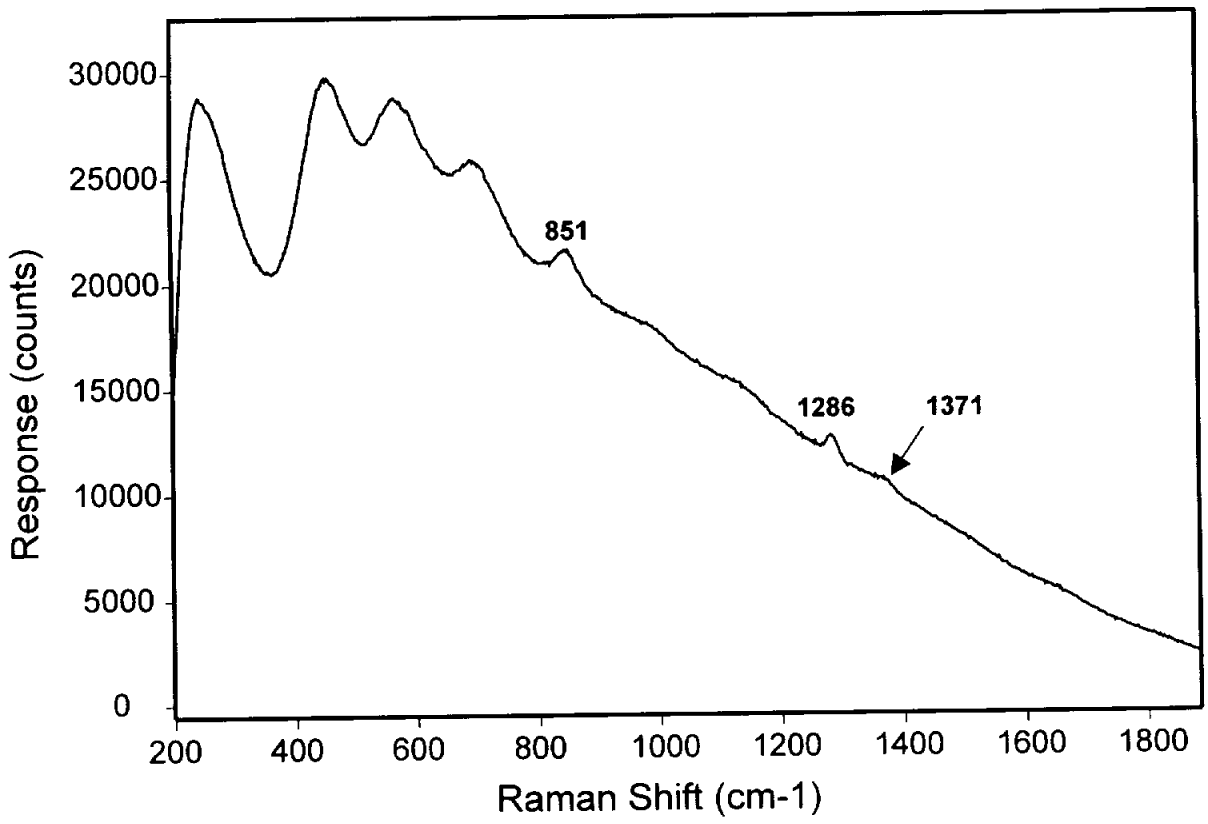

Figure 6. *In situ* Raman spectrum of NC "strings" hanging from a crack beneath the slab floor of the Breaker/Blender House at core sampling location BB2B.

In the region of another core hole (BB4B), a light powder was observed in the underside of the crack, but this did not prove to be EM. It was probably degraded concrete. Only one of the remaining 10 sub-slab sampling locations produced measurable Raman peaks. At location BB3CB, the Si-O Raman band at 465 cm^{-1} was detected about 2 ft below the slab, in native soil beneath the clay fill.

Bag Loading House

The Bag Loading House was a relatively large, long building with a bare concrete floor and many stress-type cracks, especially on the porch areas. A total of 23 above-slab locations were analyzed by *in situ* Raman, three of which tested positive for NC/NG. In addition, SiO_2 (465 cm^{-1}) was detected in three samples and nitrate (1085 cm^{-1}) was detected in three others. The most interesting Raman spectrum was collected at location BL6A2 and is presented as Figure 7. In addition to the Si-O peak at 465 cm^{-1}, about a dozen additional bands were present in the spectrum. The major bands are identified in Figure 7 and Appendix C and could not be attributed to EM. Upon closer visual inspection of the sampling location, we were able to identify small green particles. *Ex situ* Raman analysis of the green particles gave the same spectrum as in Figure 7. Further investigation revealed that the source of the green particles was degrading shingles on the roof of the building.

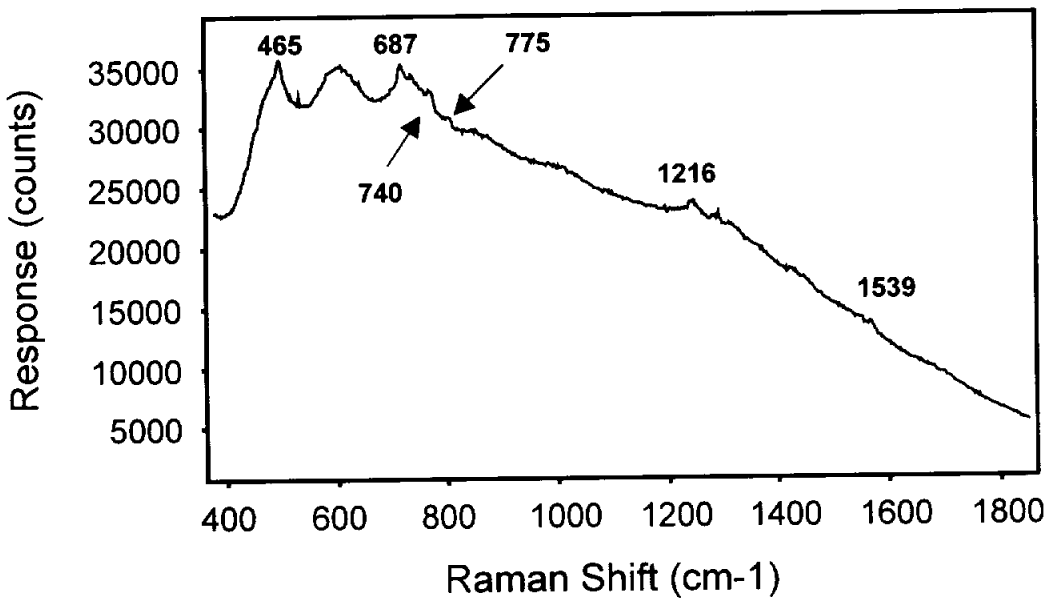

Figure 7. Raman spectrum acquired *in situ* at above-slab location BL6A2 in the Bag Loading House.

After water coring, visual inspection beneath the slab revealed nothing of special interest. Fill material was variable - ranging from sand to rich, dark topsoil. Raman analysis at 16 sub-slab locations proved negative for EM. SiO_2 from sand produced the only significant Raman peak (465 cm^{-1}) in a quarter of the samples.

Bag Turn House

The Bag Turn House was another small structure with few cracks in the slab. The inside floor of the building was generally well sealed with asphalt. Video inspection proved uninteresting below the slab - only clean sand fill was observed. Raman results were negative for EM both above-slab and sub-slab at 9 and 7 sampling locations, respectively. The 465 cm^{-1} band of SiO_2 was observed in all but one of the sub-slab core hole locations, as was expected with the fill being quartz sand. Three of the above-slab samples gave a single, sharp Raman peak at 704 cm^{-1} that was not observed in spectra acquired in the other buildings. The peak is not indicative of EM and its sharpness suggests a crystalline, inorganic structure - perhaps a mineral. We have not attempted to further identify the peak.

Homogenizer House

The final building investigated was a Homogenizer House that consisted of two rooms. The floor in the larger room was in the worst condition of any of the buildings in which we operated. There was a translucent gelatinous-like material in some of the many floor cracks. The material was probably diethylphthalate and/or candelilla wax used in the homogenizing operations. Heaving and buckling of the slab was observed in several places. The floor in the second room was in considerably better condition, with just a few penetrating cracks. However, there were considerable gaps along the floor/wall interface.

A total of 13 above-slab analyses were performed *in situ*. It was difficult to collect high quality Raman spectra in cracks where the gelatinous material was present due to the intense background fluorescence it produced. The fluorescence is visible as a broad peak from 1000 to 1600 cm^{-1} in Figure 8 (compare this with the downward sloping baseline in previous figures), which was the best Raman spectrum we could acquire for the gelatinous material. Nevertheless, the spectral quality was sufficient to rule out EM as the source of the spectrum.

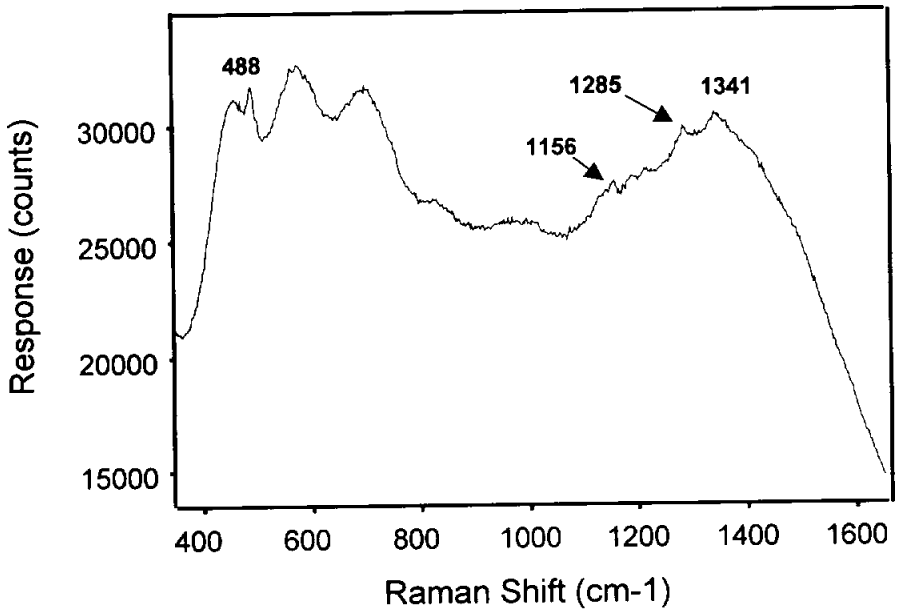

Figure 8. *In situ* Raman spectrum of translucent, gelatinous material in a surface crack at sampling location HH6D2 in the first room of Homogenizer House.

In the second room, probing in the gap between the wall and the floor slab produced the rich Raman spectrum shown in Figure 9 at sampling location HH1B1. Video probing revealed the material to be a red-orange crystalline material mixed with particles of sand. We assign the spectrum to 2-nitrodiphenylamine (2-NDPA), a munitions stabilizer. Spectral features are consistent with the nitro, amine, and phenyl functionalities of the 2-NDPA.

A final above-slab sample of interest in the Homogenizer House was HH2A3, which was the only sample in the building indicating the possible presence of EM. Interestingly, there was a single broad peak at 1376 cm^{-1} in the Raman spectrum, which is the characteristically strongest peak for nitroaromatic explosives such as TNT and 2,4-DNT. This was the only sample where evidence for nitroaromatics was found in the project - additional analyses along the crack did not indicate the presence of nitroaromatics.

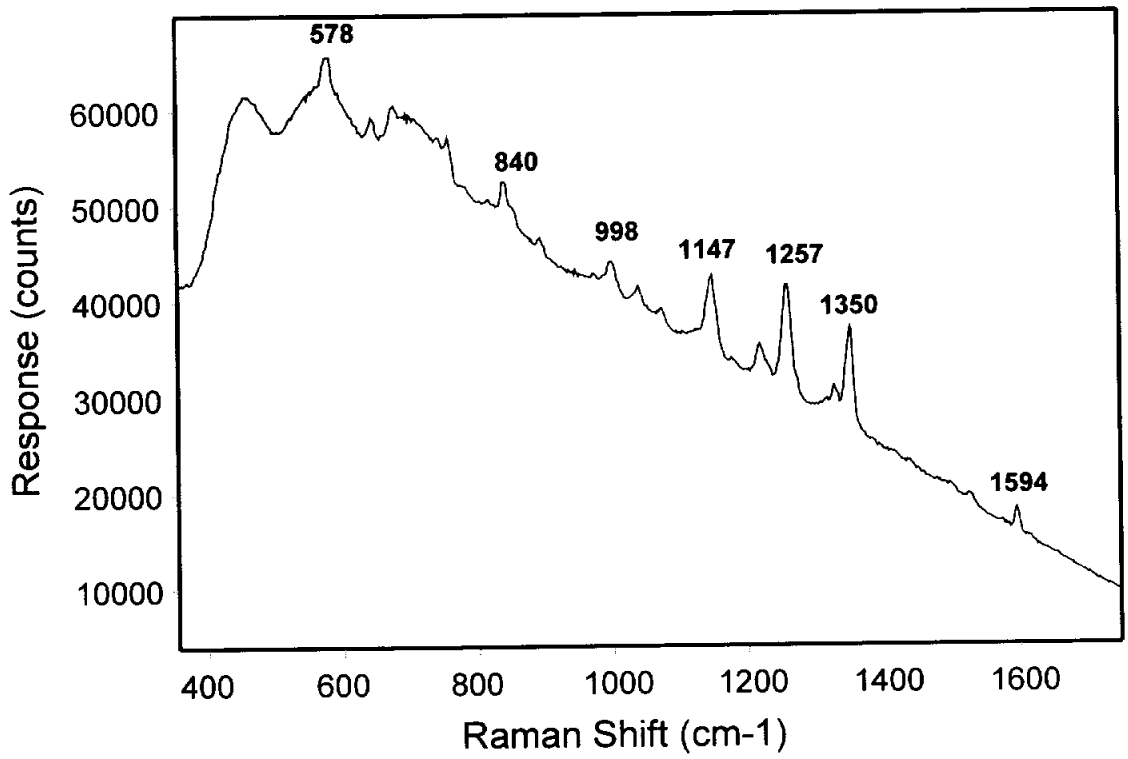

Figure 9. *In situ* Raman spectrum of red-orange material in slab-wall gap (sampling location HH1B1) in the second room of the Homogenizer House.

Post-coring, sub-slab video inspection and Raman analysis generally indicated only clean sand fill beneath the Homogenizer House (Raman SiO_2 peak at 465 cm^{-1}). However, a collection pit several feet wide and extending 4 or 5 ft beneath the slab was discovered at one of the coring locations (HH2D). The soil on the pit walls and bottom were stained with crystals ranging in color from yellow to deep red/purple. A series of *in situ* Raman analyses performed on the different colored materials indicated that all were 2-NDPA stabilizer, with spectra matching that shown in Figure 9. It is notable that the collection pit was on the opposite side of the room from where the surface 2-NDPA was detected, suggesting that 2-NDPA may be contaminating soil beneath much of the building. There was no evidence for EM in any sub-slab samples.

CONCLUSIONS

This project has demonstrated that fiber optic video Raman spectroscopy can be used to rapidly detect and identify, *in situ*, EM and other materials (binders, stabilizers, etc.) in and beneath cracked slab floors of process buildings at AAPs. The system is suitably rugged and field-portable, successfully operating at BAAP on automobile battery power without any problems.

Our results from the 5 buildings at BAAP suggest that explosive quantities of EM are not likely to be present beneath these buildings, despite the prevalence of penetrating cracks in the concrete floor slabs and widely-dispersed, residual EM on many building floors. Evidence for

transport of EM (NC) through a slab was found only beneath one crack in the Breaker/Blender House. Perhaps not surprisingly, the Breaker/Blender House also had the highest above-slab residual EM contamination. What remains unclear, however, is the impact the coring water jet had in the region below the slab. The copious quantities of water that at times excavated large cavities in the fill soil below the core may have been sufficient to wash EM away from the sampling region. Additional sampling, to a greater depth and lateral extent beneath the slab, would be required to answer this question. The observation of significant and easily detectable quantities of 2-NDPA beneath the Homogenizer House at a distance of some 10 feet from an above-slab detection point suggests that the additional investigation may be warranted.

APPENDIX A
Raman Results - BAAP Roll House

Above-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	RH12F1	No	-----
2	RH12F2	No	-----
3	RH12F3	No	-----
4	RH11E1	Yes	851, 1286
5	RH11D1	No	-----
6	RH14H1	No	-----
7	RH14H2	Yes	851, 1286
8	RH13H1	No	1085
9	RH14G1	No	1085
10	RH13G1	No	-----
11	RH12G1	No	-----
12	RH12GTR	No	-----
13	RH12G2	No	-----
14	RH9E1	No	-----
15	RH9E2	Yes	851, 1286
16	RH10D1	No	-----
17	RH8E1	No	-----
18	RH7D1	No	1219, 1252
19	RH7D2	No	-----
20	RH7C1	No	-----
21	RH7CTR	No	-----
22	RH9G1	No	-----
23	RH6F1	No	-----
24	RH6F2	No	-----
25	RH5E1	No	-----
26	RH5D1	No	-----
27	RH6C1	Yes	851, 1286
28	RH6C2	No	-----
29	RH4E1	No	-----
30	RH3D1	No	-----
31	RH3C1	No	-----
32	RH2F1	No	465, 1085
33	RH1D1	No	-----
34	RH2C1	No	-----
35	RH2B1	No	-----
36	RH2BTR	No	-----
37	RH6A1	No	-----
38	RH6A2	No	-----
39	RH6B1	Yes	851, 1286
40	RH6B2	No	-----
41	RH7ATR	No	-----
42	RH7BTR	Yes	851, 1286, 1085
43	RH9BTR	No	-----

Sub-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	RH12FA	No	465
2	RH12FB	No	1085
3	RH14HA	No	465
4	RH14HB	No	465
5	RH8EA	No	465
6	RH8EB	No	465
7	RH6FA	No	465
8	RH6FB	No	465
9	RH6DA	No	-----
10	RH6DB	No	465
11	RH2BA	No	465
12	RH2BB	No	1085
13	RH6BA	No	465, 1085
14	RH6BB	No	465
15	RH3CA	No	465
16	RH3CB	No	465
17	RH1DA	No	465
18	RH1DB	No	465

APPENDIX B
Raman Results - BAAP Breaker/Blender House

Above-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	BB5A1	No	-----
2	BB4B1	No	1085
3	BB4B2	Yes	851, 1286
4	BB3C1	Yes	851, 1286
5	BB3C2	Yes	851, 1286
6	BB2B1	No	-----
7	BB1C1	No	-----
8	BB1D1	No	-----
9	BB3D1	Yes	851, 1286, 1085

Sub-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	BB3DA	No	-----
2	BB3DB	No	-----
3	BB3CA	No	-----
4	BB3CB	No	465
5	BB2BCONC	Yes	851, 1286, 1371
6	BB2BA	No	-----
7	BB2BB	No	-----
8	BB4BCONC	No	-----
9	BB4BA	No	-----
10	BB5AA	No	-----
11	BB5CA	No	-----
12	BB1DA	No	-----

APPENDIX C
Raman Results - BAAP Bag Loading House

Above-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	BL1C1	No	-----
2	BL3C1	No	465
3	BL1B1	No	-----
4	BL2B1	No	-----
5	BL3B1	No	-----
6	BL2A1	No	-----
7	BL3A1	No	-----
8	BL4A1	No	-----
9	BL4B1	No	-----
10	BL5C1	Yes	851, 1286
11	BL5B1	Yes	851, 1286
12	BL8C1	No	-----
13	BL6B1	No	-----
14	BL6B2	No	-----
15	BL6A1	No	1085
16	BL6A2	No	465, 687, 40, 775, 983, 1214, 161, 1396, 1539
17	BL7A1	No	-----
18	BL8A1	No	465
19	BL9A1	No	-----
20	BL9B1	Yes	851, 1286
21	BL9B1A	No	1085
22	BL9C1	No	1085
23	BL9CHOLE	No	-----

Sub-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	BL5CA	No	465
2	BL5CB	No	465
3	BL4BA	No	-----
4	BL4BB	No	465
5	BL2AA	No	-----
6	BL2AB	No	-----
7	BL4AA	No	-----
8	BL4AB	No	465
9	BL6BA	No	-----
10	BL6BB	No	-----
11	BL6AA	No	-----
12	BL6AB	No	-----
13	BL8AA	No	-----
14	BL8AB	No	-----
15	BL9BA	No	-----
16	BL9BB	No	-----

APPENDIX D
Raman Results - BAAP Bag Turn House

Above-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	BT1A2	No	704
2	BT2A1	No	-----
3	BT2B1	No	-----
4	BT1B1	No	704
5	BT1C1	No	704
6	BT2C1	No	-----
7	BT2D1	No	-----
8	BT1E1	No	-----
9	BT1E1A	No	

Sub-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	BT1AA	No	465
2	BT1BA	No	465
3	BT2CA	No	465
4	BT2DA	No	-----
5	BT2DB	No	465
6	BT1EA	No	465
7	BT1EB	No	465

APPENDIX E
Raman Results - BAAP Homogenizer House

Above-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	HH1C1	No	-----
2	HH1B1	No	578, 644, 675, 757, 840, 998, 1038, 1073, 1147, 1217, 1257, 1327, 1350, 1438, 1498, 1594
3	HH2B1	No	578, 644, 675, 757, 840, 998, 1038, 1073, 1147, 1217, 1257, 1327, 1350, 1438, 1498, 1594
4	HH2D1	No	-----
5	HH4B2	No	-----
6	HH4B1CRACK	No	-----
7	HH2A3	Yes	1376
8	HH6D1	No	-----
9	HH6D2	No	488, 562, 1156, 1190, 1215, 1285, 1341
10	HH6D3	No	-----
11	HH6D4	No	-----
12	HH6D5	No	1085
13	HH7C1CRACK	No	-----

Sub-Slab

Sample No.	Sample ID	EM (Yes or No)	Raman Bands (cm^{-1})
1	HH7BA	No	465
2	HH7BB	No	465
3	HH4AA	No	465
4	HH4AB	No	465
5	HH4BA	No	465
6	HH4DA	No	465
7	HH2AA	No	-----
8	HH2AB	No	465
9	HH1CA	No	-----
10	HH1CB	No	465
11	HH2DA	No	578, 644, 675, 757, 840, 998, 1038, 1073, 1147, 1217, 1257, 1327, 1350, 1438, 1498, 1594
12	HH2DB	No	578, 644, 675, 757, 840, 998, 1038, 1073, 1147, 1217, 1257, 1327, 1350, 1438, 1498, 1594

Appendix B.3

Laboratory Data

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court, SE •PO Box 888692
Grand Rapids, MI 49512 (616) 975-4500

TRANSMITTAL FORM

Date: June 7, 2002

Attention: Doug Rubingh
To: Stone & Webster Engineering Corp.
7677 East Berry Avenue
Englewood, CO 80111-2137
303-741-7370

Project No.: 35988-1
Client: Stone & Webster
Project Name: ESTCP
Site Name: Badger Army Base
Location: Wisconsin

WE ARE SENDING YOU:

BY: ____ U.S. Mail ____ RPS __X__ Federal Express ____ Other: ____

ENCLOSED WITH THIS TRANSMITTAL: *X* ***UNDER SEPARATE COVER:*** ____

____ Work Plan(s)	____ Report(s) (DRAFT)(FINAL)	____ Contract Documents
____ Specifications	____ Design Plans	__X__ Data Package
____ Shop Drawings	____ Proposal(s)	____ Other

QUANTITY	*DESCRIPTION / DOCUMENT NAME*
1	Copy of the data validation package
1	CD

THESE ARE TRANSMITTED AS CHECKED BELOW:

____ For Approval	____ For Your Information	____ For Your Use
____ For File	__X__ Furnished As Requested	____ As Corrected
____ For Review and Comment	____ Revise and Resubmit	____ For Field Use
____ Rejected	____ ____	____ For Submittal To: ____

REMARKS:

cc:

BY: Lisa M. Harvey
Project Chemist

vgc - c:\newtrans.DOC

DATA VALIDATION PACKAGE

PREPARED FOR:

Stone & Webster Engineering Corporation
7677 East Berry Avenue
Englewood, Colorado 80111-2137

FOR THE SITE:

BAAP-ESTCP DEMONSTRATION
SDG-35988-1

JUNE 7, 2002

Submitted by:

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court
Grand Rapids, Michigan 49512

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Modified Level 5 Analysis

STONE & WEBSTER ENGINEERING CORPORATION

BAAP-ESTCP DEMONSTRATION

SDG-35988-1

JUNE 7, 2002

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SAMPLE DELIVERY GROUP CASE NARRATIVE
Modified Level 5 Analysis
STONE & WEBSTER ENGINEERING CORPORATION
BAAP-ESTCP DEMONSTRATION
SDG-35988-1
JUNE 7, 2002

This case narrative is applicable to all samples received May 11, 2002 and May 14, 2002. Laboratory sample numbers were assigned as follows:

Submittal Number: 35988-1 **Submittal Description:** May 2002 Samples

Laboratory Sample Numbers	Sample Identification	Requested Analysis	Date Sampled
305052	6807-13 12 FNS 01001	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305053	6807-13 14 HWP 01002	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305054	6807-13 6 FNP 01003	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305055	6807-13 6 CNS 01004	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305056	6807-13 3 CNS 01005	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305057	6807-13 2 BNS 01006	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305058	6807-13 6 BNS 01007	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305059	6807-13 8 ENS 01008	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305060	6807-13 8 EANS 01008	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305061	6807-13 1 DNS 01010	SVOC,NG,NC,Pb,Cu,Al,%S	5/10/02
305316	6731-2 5 AWP 01001	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305317	6731-2 4 BNP 01002	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305318	6731-2 3 CWP 01003	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305319	6731-2 3 CAWP 01003	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305320	6731-2 2 BWP 01004	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305321	6731-2 1 DWP 01005	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305322	6731-2 3 DNS 01006	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305323	6731-2 5 CNS 01007	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305324	6739 2 AWP 01001	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305325	6739 4 AWP 01002	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305326	6739 4 BNP 01003	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305327	6739 5 CWP 01004	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305328	6739 5 CAWP 01004	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305329	6739 6 AWP 01005	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305330	6739 6 BWP 01006	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305331	6739 8 AWP 01007	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305332	6739 9 BWP 01008	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305333	6736 1 ANS 01001	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305334	6736 2 CNS 01002	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305335	6736 2 CANS 01002	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305336	6736 2 DNS 01003	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305337	6736 1 ENS 01004	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305338	6712 1 CNP 01001	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305339	6712 1 CANP 01001	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305340	6712 2 DNP 01002	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02

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SAMPLE DELIVERY GROUP CASE NARRATIVE
Modified Level 5 Analysis
STONE & WEBSTER ENGINEERING CORPORATION
BAAP-ESTCP DEMONSTRATION
SDG-35988-1
JUNE 7, 2002
(Continued)

Submittal Number: 35988-1 **Submittal Description:** May 2002 Samples

Laboratory Sample Numbers	Sample Identification	Requested Analysis	Date Sampled
305341	6712 2 ANP 01003	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305342	6712 4 BNP 01004	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305343	6712 4 DNP 01005	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305344	6712 4 ANP 01006	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305345	6712 7 BNP 01007	SVOC,NG,NC,Pb,Cu,Al,%S	5/13/02
305346	6712 4 DANP 01008	NG,NC,%S	5/13/02

SVOC=select list of non-purgeable organics; NG=nitroglycerine; NC=nitrocellulose; Pb=lead; Cu=copper; Al=aluminum; %S=percent solids

Sample Receipt

On May 11, 2002 at 9:45 AM, a sample delivery group (SDG) containing ten (10) soil samples was received at our Grand Rapids, Michigan Laboratory. These samples were scheduled for the analyses requested on the chain-of-custody.

One cooler was received with this shipment. The receipt temperature of the samples were determined by recording the temperature of two (2) random samples of varying container types and the temperature blank, using an infra-red thermometer. The average temperature of the three (3) temperatures measured from the cooler received was 6.7°C.

All samples and containers were sent via Federal Express and were received intact and in good condition, except that only 2 containers were received for samples 305058, 305059, and 305060, although 3 containers were indicated on the Chain-of-Custody. Custody seals were present and intact upon receipt. Shipping documents included a field chain-of custody form and Federal Express air bill.

On May 14, 2002 at 8:43 AM, a sample delivery group (SDG) containing thirty-one (31) soil samples was received at our Grand Rapids, Michigan Laboratory. These samples were scheduled for the analyses requested on the chain-of-custody.

Two coolers were received with this shipment. The receipt temperature of the samples was determined by recording the temperature of the temperature blank, using an infra-red thermometer. The temperature recorded for the coolers received was 8.4°C for cooler 1 and 7.7°C for cooler 2.

All samples and containers were sent via Federal Express and were received intact and in good condition. Custody seals were present and intact upon receipt. Shipping documents included a field chain-of custody form and Federal Express air bill.

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Analytical Methods

The analytical methods used are as follows.

Parameter	Analytical Method
Select Semi-Volatile Organics	USEPA Method 8270
Semi-Volatile Organic Extraction	USEPA Method 3550B
Nitroglycerine	USEPA Method 8332
Nitrocellulose	USARMY BR&D Lab Method
Lead	USEPA Method 6020
Copper	USEPA Method 6020
Aluminum	USEPA Method 6010B
% Solids	USEPA Method 3550B

These methods are presented in detail in Section L-Methods Pages.

Holding Times

All samples were prepared and analyzed within EPA approved hold times. The hold time date, pre-treatment date, and analysis date are presented in Section K, Analysis-Pretreatment Date Summary Pages.

Administrative Issues/Problems

Only two sample containers were received for samples 305058, 305059, and 305060. According to Doug Close, Stone & Webster, May 13, 2002, all analyses were required for these samples.

Although not requested on the COC, samples 305338-305345 had been inadvertently logged in for Nitrocellulose and Nitroglycerin. Doug Close was contacted on May 30, 2002 regarding whether the results should be reported or canceled. Later that day, on May 30, 2002, Doug Close stated that Nitrocellulose and Nitroglycerin should be reported for these samples.

Technical Issues/Problems

Please note that the matrix spike results for copper for sample 67362CANS010029 (305335) were calculated to be 68% and 78%. One matrix spike is out side the Stone& Webster criteria of 75%-125%.

Other technical problems or issues encountered during the analysis of this SDG are discussed on the following pages.

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **2,4-Dinitrophenol**
Semi-Volatiles GC/MS
SOIL USEPA-8270C

Qualification:

The recovery of this analyte in one or both of the matrix spikes had a recovery of less than 10%. All positive results must be considered estimated. All less than or non-detectable results must be considered unusable.

Explanation for Sample(s) listed below:

Percent Recovery	Control Limits
3%	28- 97
3%	28- 97

Sample(s) Qualified: 305327 6739 5CWP01004

Analysis: **Aluminum, Total**
Atomic Emission-ICP
SOIL USEPA-6010B

Qualification:

Matrix QC results (SPK and MSD) for this sample, QC batch, matrix and analysis are unavailable due to high analyte concentrations.

Sample(s) Qualified:			
	305052	6807-13	12FNS01001
	305325	6739	4AWP01002
	305335	6736	2CANS01002
	305342	6712	4BNP01004

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **Copper, Total**
ICP Mass Spectrometry (ICP-MS)
SOIL USEPA-6020

Qualification:

The matrix duplicate (DUP) RPD for this sample, fell outside the laboratory established control limits for this method and matrix. The corresponding sample result must be considered estimated.

Explanation for Sample(s) listed below:

Relative % Diff	Control Limits
24%	0- 20

Sample(s) Qualified: 305335 6736 2CANS01002

Explanation for Sample(s) listed below:

Relative % Diff	Control Limits
133%	0- 20

Sample(s) Qualified: 305052 6807-13 12FNS01001

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **TCL Semi-Volatile Organic**
Semi-Volatiles GC/MS
SOIL USEPA-8270C

Qualification:

Surrogate results are unavailable due to positive results in the sample extract resulting in a dilution of greater than 1:5 of the sample extract.

Sample(s) Qualified: 305340 6712 2DNP01002

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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CASE NARRATIVE

Analysis: **TCL Semi-Volatile Organic**
Semi-Volatiles GC/MS
SOIL USEPA-8270C

Narrative:

Chromatographic limitations of this method prevent 4-methylphenol from being resolved from 3-methylphenol. Because of this, the reported result could actually be 4-methylphenol, 3-methylphenol, or a combination of both isomers.

Sample(s) Narrated: 305333 6736 1ANS01001

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In addition to the location of information, the following is a list of QA/QC types utilized by TriMatrix Laboratories, and our in-house type designations.

Method QC:

MPB	Method Preparation Blank
BLK	Daily Instrument Blank
LFB	Laboratory Fortified Blank
LCS	Laboratory Control Sample
IEC	ICP Interference Check Sample
CRL	Contract Required Detection Limit Standard
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification

Matrix QC:

SPK	Sample Matrix Spike
MSD	Sample Matrix Spike Duplicate
DUP	Sample Duplicate Analysis
SUR	Surrogate
PDS	Post Digestion Spike

Lisa M. Harvey, Project Chemist

Date

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SECTION - A

FIELD
CHAIN-OF-CUSTODY (COC) RECORDS

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CART 5

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 86700

Project Manager	Project Name	Project No.	Sampler (Print)	Sampler Signature
D. RUBINGH	BAAP ESTCP	13374.0702	C. BURSICH	C M Bursich

For Lab Use Only: Rack/Tray No: ; Lab Project # 35988-1

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
5/10/02	1355	SOIL	X		6807-13 12FNS01001	3		SVOC Full TCL per Rick Taylor 5/13/02 NG, NC Pb, Cu, Al, LS	305052	01
5/10/02	1358	SOIL	X		6807-13 14HWP01002	3		"	305053	
5/10/02	1405	SOIL	X		6807-13 6FNP01003	3		"	305054	
5/10/02	1407	SOIL	X		6807-13 6CNS01004	3		"	305055	
5/10/02	1409	SOIL	X		6807-13 3CNS01005	3		"	305056	
5/10/02	1415	SOIL	X		6807-13 2BNS01006	3		"	305057	5/14-02
5/10/02	1419	SOIL	X		6807-13 6BNS01007	3		MISSING # ~~17~~ BOTTLE 18 (MW) " * Rerun all analytes per Mary Gipson 5/13/02	305058	
5/10/02	1423	SOIL	X		6807-13 8ENS01008	2 3		MISSING # ~~17~~ BOTTLE 18 (MW) " *	305059	
~~5/10/02~~ 5/10/02	1430	SOIL	X		6807-13 8EAN S01008	2 3		MISSING # ~~17~~ BOTTLE 18 (MW) " *	305060	

Relinquished By:	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
C M Bursich	5/10/02 1530		D. Hulbert	5-11-02 9:45AM FEDEX		5/14/02 4:22 pm

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

J 4/1-4

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No.

№ 86701

Project Manager	Project Name	Project No.	Sampler (Print)	Sampler Signature
D. RUBINGH	BAAP ESTCP	13374.0702	C. BURSICH	C M Burnich

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	For Lab Use Only: Sample No.	For Lab Use Only: Filtered Date/Time
5/10/02	1422	SOIL	X		680713 IDNS0101 0	3	No's Correspond to Bottle Packing List	SVOC NG, NC Pb, Cu, Al	305061	01

Rack/Tray No:

Lab Project # 35788-1

Relinquished By:	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged In By:	Date/Time
C M Burnich	5/10/02 1530		D. Lubberts	5-11-02 9:45 AM FEDEX		5/14/02 4:22 pm

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc.

Cooler Receipt Form

Analyst: _____ **Date:** 5/11/08 **Time:** 10:20

Project Chemist: L. Harvey **Client:** _____ **Project #:** _____

Chain-of-Custody Type: ~~TriMatrix~~ _____ **COC#:** _____

Temperature Taken via: IR Thermometer / Digital Thermometer #:_____, Other:_____

Cooler Number: 1 of 1 TriMatrix Cooler ID:_____

Custody Seals: ☐ No Custody Seals ☒ Present/Intact ☐ Present/Not Intact

Type of Coolant: ☐ Blue Ice ☐ Loose Ice ☒ Bagged Ice ☐ None

Reading	Recorded °C	Correction Factor °C	Actual °C	Notes
Temperature 1	7.4	0	7.4	
Temperature 2	5.7	0	5.7	
Temperature 3				
*Average or ≤6.0° C	6.6 6.5	6.6	6.7	
*Temperature Blank	6.9	0	6.9	

Cooler Number: _____ of _____ TriMatrix Cooler ID:_____

Custody Seals: ☐ No Custody Seals ☐ Present/Intact ☐ Present/Not Intact

Type of Coolant: ☐ Blue Ice ☐ Loose Ice ☐ Bagged Ice ☐ None

Reading	Recorded °C	Correction Factor °C	Actual °C	Notes
Temperature 1				
Temperature 2				
Temperature 3				
*Average or ≤6.0° C				
*Temperature Blank				

Cooler Number: _____ of _____ TriMatrix Cooler ID:_____

Custody Seals: ☐ No Custody Seals ☐ Present/Intact ☐ Present/Not Intact

Type of Coolant: ☐ Blue Ice ☐ Loose Ice ☐ Bagged Ice ☐ None

Reading	Recorded °C	Correction Factor °C	Actual °C	Notes
Temperature 1				
Temperature 2				
Temperature 3				
*Average or ≤6.0° C				
*Temperature Blank				

*Wisconsin requires either the temperature of the temperature blank, the melt water, or the average temperature of the 3 samples, to be ≤4° C. Wisconsin also allows in lieu of a temperature, when the samples are received surrounded by crushed or cubed ice, to record the temperature as "Received on Ice".

Sample Receiving and Log-in Checklist

Submittal Information

Client Name: SHAP FSTCP

Submittal Number: 35988-1 Sample Number(s): 305052-61

Project Chemist: _____ Date Logged in: 5/14/02

Log-in Technician Signature: _____

Collection and Review of Paperwork

- ✓ Custody seals intact? ..... N/A (YES) NO
- ✓ All paperwork collected?
  - COC, Freight Slip, Letters, PO, Bottle Order, Other: _____
  - Is COC (Present) / Absent (Complete) / Incomplete?
- ✓ Bottle types and quantities were recorded on COC form? ..... (YES) NO
- ✓ Recorded rack and / or tray number for volatiles on COC form? ..... (N/A) YES NO
- ✓ Temperature blanks present and recorded? YES NO Temp. (C°) SEE COOLER FORM
- ✓ Ice, ice packs, or other cooling material present? ..... (YES) NO
- ✓ Was the cooler empty? (Have you checked that everything has been removed?) ..... (YES) NO
- ✓ Noted cooler number on COC and Log-in Logbook? Cooler #(s) _____
  - Logged cooler number(s) for various sample ID's on COC? ..... YES NO
- ✓ Signed, dated, and timed receipt of COC?

Review of Sample Container Condition

- ✓ Compared samples received to COC form(s)? ..... (YES) NO
  - Does COC match sample tags? ..... (YES) NO
  - Are date & time sampled on COC? ..... (YES) NO
  - If not, has project chemist been notified? ..... (YES) NO
- ✓ Checked the condition of VOA / TOC vials? (N/A) / Acceptable / Broken / Head Space
- ✓ Were any short hold time samples received? ..... YES (NO)
  - Have the laboratory and the project chemist been notified? ..... YES NO
- ✓ Were any sample containers Non-TriMatrix containers? ..... YES (NO)
  - If yes, note description here and on COC: _____
  - Are all pH's correct? ..... (NA) YES NO
  - Have out of range pH's been noted on the sample container? ..... YES NO
  - Project Chemist notified of out of range pH value ..... YES NO
- ✓ Entered project information in the Receiving Logbook?

Sample Receiving

- ✓ Entered date and time received in LIMS? ..... (YES) NO
- ✓ Checked narratives for any due date information (Check for 10th of the month)?
  - Were any special due dates noted? ..... YES (NO)

Sample Receiving and Log-in Checklist

Sample Log-in

Checked COC information? YES NO
Were any special notes present YES (NO) Were multiple test groups required? YES (NO)
If yes, do LIMS Test Group options match? YES NO
Read all narratives at project and submittal level? YES (NO)
Entered sample location narrative: Rack / Tray Numbers, Waste Cabinet? YES NO
Setup samples on counter? **(Do not leave on cart!)** AD 5-14-07
Checked sample containers and other paperwork for notes about pH problems or receipt of Non-TriMatrix bottles? Noted on Log-In Logbook? (YES) NO
Checked test group for proper tag colors/preservatives associated with analysis?
Compared to what was received?
Were there extra or too few bottles? YES (NO)
Was project chemist contacted? YES NO
Were all tag colors received? (YES) NO
Were extra tag colors received? YES (NO)
Entered sample information into LIMS?
Printed labels and counted sample container tags for number needed?
Signed dated and timed COC?
Completed internal COC, if needed?

Labeling and Distribution of Samples

Samples were set up on counter? Did not leave samples on cart?
Verified correct sample bottles with COC? (YES) NO
Placed LIMS sample stickers on the logo side of the sample bottle tags? (YES) NO
Did the person who logged sample(s) into LIMS perform this step? YES (NO)
Checked for typos on label? Were any errors present? YES (NO)
If yes, were corrections made in project maintenance? YES NO
Put samples on cart in sequential order?
Rechecked sample container tag information against printed label information? QC'd by MCP
Put samples in correct storage area?
Walk-in: Write down numbers when shelf is closed and start another.
Randells: Make sure there is a narrative for Rack / Tray locations.
Waste cabinets: Attached "Return to Waste Cabinet" sticker.
(Documented client name and sample number on log in waste cabinet)
Bacti Refrigerator
Other(please indicate)_____

Typed a submittal narrative indicating sample location(s).

Completion of Log-in Documentation

Collated all paperwork?
Entered submittal information in Receiving Log?
Initials must be of the person who logged in samples.
Made copy of COC forms.
Created a labeled submittal folder that includes:

COC Forms	✓	**Preservation Log**		**Arrival Log**	✓
Check List	✓	**Shipping Records**	✓	**Miscellaneous**	

Distributed to project chemist (initials):_____ **by:** AD

TriMatrix Laboratories, Inc.

TriMatrix Laboratory
Problem Submittal Report

CLIENT: SAAP ESTCP

RECEIPT: DATE: 5-13-02 TIME: 11:50pm BY: DL

DEFICIENCIES CITED:

___ CUSTODY SEALS - ABSENT / NOT INTACT (IF REQUIRED)

___ SAMPLES RECEIVED - WITHOUT COOLANT

___ CHAIN-OF-CUSTODY - ABSENT / INCOMPLETE

✓ SAMPLES ABSENT - QUANTITY DOES NOT MATCH COC FORM

___ CHAIN-OF-CUSTODY – DOES NOT MATCH SAMPLE TAGS

___ SAMPLE TAGS / ABSENT

___ SAMPLE BOTTLES – BROKEN

___ SAMPLE BOTTLES - TYPES & QUANTITY DO NOT MATCH ANALYTICAL REQUIREMENTS

___ SAMPLE PRESERVATIVES - INCORRECT FOR ANALYSIS

___ SAMPLE VOLUMES_____INCORRECT FOR ANAYSIS_____HEADSPACE IN VIALS

___ CORRECTIVE ACTIONS TAKEN AT LOGIN-SAMPLES WILL BE PROCESSED AS IS

___ SAMPLES PLACED ON HOLD UNTIL CORRECTIVE ACTIONS ARE ISSUED

DATE:_____TIME:_____BY:_____

___ CORRECTIVE ACTIONS REQUIRED:

DATE: _____ TIME: _____BY: _____

ADDITIONAL COMMENT:

MISSING SAMPLES 1007 & 1008 ~~#17~~ #18 BOTTLE

Cart 1 + 3012 FRIDGE

1/2

TriMatrix Laboratories, Inc.

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Chain of Custody Record

COC No.

№ 86702

Project Manager	Project Name	Project No.	Sampler (Print)	Sampler Signature
D. RUBINGH	BAAP ESTCP	13374.0702	C. BURSICH	CM Burs

No's Correspond to Bottle Packing List

For Lab Use Only

Rack/Tray No:

Lab Project # 35988-1

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
5/13/02	1032	SOIL	X		673 1-2 5AWP0100 1	3		SVOC NG, NC Pb, Cu, Al	305316	01 All
5/13/02	1038	SOIL	X		673 1-2 4BNP0100 2	3		"	305317	
5/13/02	1043	SOIL	X		673 1-2 3CWP0100 3	3		"	305318	
5/13/02	1047	SOIL	X		673 1-2 3CAWP0100 3	3		"	305319 305318	
5/13/02	1052	SOIL	X		673 1-2 2BWP0100 4	3		"	305320	
5/13/02	1055	SOIL	X		673 1-2 1DWP0100 5	3		"	305321	
5/13/02	1100	SOIL	X		673 1-2 3DNS0100 6	3		"	305322	
5/13/02	1107	SOIL	X		673 1-2 5CNS0100 7	3		"	305323	
5/13/02	1130	SOIL	X		673 9 2AWP0100 1	3		"	305324	

Relinquished By:	Date/Time	Received By:	Received in Lab By:	Date/Time	Logged in By:	Date/Time
CM Burs	5/13/02 1200			5/14/02 8:43	USA Hooley	5/15/02 2:36

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

45-14

TriMatrix Laboratories, Inc.

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Chain of Custody Record

COC No. № 86703 44

| Project Manager | Project Name | | |

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 86704 3/4

Project Manager	Project Name	
D. RUBINGH	BAAP ESTCP	
Project No. 13374.0702	Sampler (Print) C. BURSICH	
	Sampler Signature CMBurnich	

For Lab Use Only

Rack/Tray No:

Lab Project# Add to 35588.1

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type (No's Correspond to Bottle Packing List)	Analysis Required/Comments	Sample No.	Filtered Date/Time
5/13/02	1219	SOIL	X		6736 2CNS01002	3	1 2 3 4 5 / 6 7 8 9 10 / 11 12 13 14 15 / 16 17 18 19 20	SVOC NG, NC Pb, Cu, Al	305334	01 All
5/13/02	1222	SOIL	X		6736 2CANS01002	3	1 2 3 4 5 / 6 7 8 9 10 / 11 12 13 14 15 / 16 17 18 19 20	"	305335	
5/13/02	1227	SOIL	X		6736 2DNS01003	3	1 2 3 4 5 / 6 7 8 9 10 / 11 12 13 14 15 / 16 17 18 19 20	"	305336	
5/13/02	1229	SOIL	X		6736 1ENS01004	3	1 2 3 4 5 / 6 7 8 9 10 / 11 12 13 14 15 / 16 17 18 19 20	"	305337	
~~5/13/02~~	~~1233~~	~~SOIL~~	~~X~~		~~6736 1BNS01005~~	~~3~~	~~1 2 3 4 5 / 6 7 8 9 10 / 11 12 13 14 15 / 16 17 18 19 20~~	~~" SAMPLE COMPROMISED THEREFORE REMOVED~~		
5/13/02	1248	SOIL	X		6712 1CNP01001	2	1 2 3 4 5 / 6 7 8 9 10 / 11 12 13 14 15 / 16 17 18 19 20	SVOC Pb, Cu, Al add NG + NC per Dry Wt 5/30/02	305338	01 All
5/13/02	1252	SOIL	X		6712 1CANP01001	2	1 2 3 4 5 / 6 7 8 9 10 / 11 12 13 14 15 / 16 17 18 19 20	"	305339	
5/13/02	1259	SOIL	X		6712 2DNP01002	2	1 2 3 4 5 / 6 7 8 9 10 / 11 12 13 14 15 / 16 17 18 19 20	"	305340	
5/13/02	1310	SOIL	X		6712 2ANP01003	2	1 2 3 4 5 / 6 7 8 9 10 / 11 12 13 14 15 / 16 17 18 19 20	"	305341	

Relinquished By:	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
CMBurnich	5/13/02 1200		[signature]	5/14/02 8:43	Lisa Arroy	5/15/02 236

000021

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc.

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Chain of Custody Record

COC No. 4/4

№ 86705

| Project Manager | Project Name | | |

TriMatrix Laboratories, Inc.

Cooler Receipt Form

Analyst: _____ **Date:** 5/14/02 **Time:** 8:43

Project Chemist: MH **Client:** Baap **Project #:** 35588-1

Chain-of-Custody Type: (TriMatrix) / _____ **COC#:** 86702 -5

Temperature Taken via: (IR Thermometer) / Digital Thermometer #:_____, Other:_____

Cooler Number: 1 of 2 — TriMatrix Cooler ID:_____

Custody Seals: ☐ No Custody Seals ☑ Present/Intact ☐ Present/Not Intact

Type of Coolant: ☐ Blue Ice ☐ Loose Ice ☑ Bagged Ice ☐ None

Reading	Recorded °C	Correction Factor °C	Actual °C	Notes
Temperature 1	8.4	0	8.4	Temp Blank
Temperature 2				
Temperature 3				
*Average or ≤6.0° C				
*Temperature Blank				

Cooler Number: 2 of 2 — TriMatrix Cooler ID:_____

Custody Seals: ☐ No Custody Seals ☑ Present/Intact ☐ Present/Not Intact

Type of Coolant: ☐ Blue Ice ☐ Loose Ice ☑ Bagged Ice ☐ None

Reading	Recorded °C	Correction Factor °C	Actual °C	Notes
Temperature 1	7.7	0	7.7	Temp Blank
Temperature 2				
Temperature 3				
*Average or ≤6.0° C				
*Temperature Blank				

Cooler Number: _____ of _____ — TriMatrix Cooler ID:_____

Custody Seals: ☐ No Custody Seals ☐ Present/Intact ☐ Present/Not Intact

Type of Coolant: ☐ Blue Ice ☐ Loose Ice ☐ Bagged Ice ☐ None

Reading	Recorded °C	Correction Factor °C	Actual °C	Notes
Temperature 1				
Temperature 2				
Temperature 3				
*Average or ≤6.0° C				
*Temperature Blank				

*Wisconsin requires either the temperature of the temperature blank, the melt water, or the average temperature of the 3 samples, to be ≤4° C. Wisconsin also allows in lieu of a temperature, when the samples are received surrounded by crushed or cubed ice, to record the temperature as "Received on Ice".

Sample Receiving and Log-in Checklist

Submittal Information

Client Name: Baap

Submittal Number: 35988-1 Sample Number(s): 305316 - 346

Project Chemist: VMH Date Logged in: _____

Log-in Technician Signature: VMH

Collection and Review of Paperwork

✓ Custody seals intact? ..... N/A (YES) NO

✓ All paperwork collected?

COC, Freight Slip, Letters, PO, Bottle Order, Other: _____

Is COC **Present / Absent** **Complete / Incomplete?**

✓ Bottle types and quantities ~~were recorded~~ on COC form? ..... (YES) NO

✓ Recorded rack and / or tray number for volatiles on COC form? ..... N/A (YES) NO

✓ Temperature blanks present and recorded? **YES (NO)** **Temp. (C°)** See COC

✓ Ice, ice packs, or other cooling material present? ..... (YES) NO

✓ Was the cooler empty? (Have you checked that everything has been removed?) ..... (YES) NO

✓ Noted cooler number on COC and Log-in Logbook? **Cooler #(s)** _____

Logged cooler number(s) for various sample ID's on COC? ..... YES NO

✓ Signed, dated, and timed receipt of COC?

Review of Sample Container Condition

✓ Compared samples received to COC form(s)? ..... (YES) NO

Does COC match sample tags? ..... (YES) NO

Are date & time sampled on COC? ..... (YES) NO

If not, has project chemist been notified? ..... YES (NO)

✓ Checked the condition of VOA / TOC vials? (N/A) **Acceptable / Broken / Head Space**

✓ Were any short hold time samples received? ..... YES (NO)

Have the laboratory and the project chemist been notified? ..... YES (NO)

✓ Were any sample containers Non-TriMatrix containers? ..... YES (NO)

If yes, note description here and on COC: _____

_____

Are all pH's correct? ..... (NA) YES NO

Have out of range pH's been noted on the sample container? ..... YES NO

Project Chemist notified of out of range pH value ..... YES NO

✓ Entered project information in the Receiving Logbook?

Sample Receiving

✓ Entered date and time received in LIMS? ..... (YES) NO

Checked narratives for any due date information (Check for 10th of the month)?

Were any special due dates noted? ..... YES (NO)

VM

TriMatrix Laboratories, Inc.

Sample Receiving and Log-in Checklist

Sample Log-in

_____ Checked COC information? ..... YES NO
Were any special notes present YES (NO) Were multiple test groups required? ... YES NO
If yes, do LIMS Test Group options match? ..... YES NO
_____ Read all narratives at project and submittal level? ..... YES NO
_____ Entered sample location narrative: Rack / Tray Numbers, Waste Cabinet? ..... YES NO N/A
_____ Setup samples on counter? **(Do not leave on cart!)**
_____ Checked sample containers and other paperwork for notes about pH problems or receipt of Non-TriMatrix bottles? Noted on Log-In Logbook? ..... YES NO
_____ Checked test group for proper tag colors/preservatives associated with analysis?
Compared to what was received?
Were there extra or too few bottles? ..... YES NO
Was project chemist contacted? ..... YES NO
Were all tag colors received? ..... YES NO
Were extra tag colors received? ..... YES NO
_____ Entered sample information into LIMS?
_____ Printed labels and counted sample container tags for number needed?
_____ Signed dated and timed COC?
_____ Completed internal COC, if needed?

Labeling and Distribution of Samples

_____ Samples were set up on counter? Did not leave samples on cart?
_____ Verified correct sample bottles with COC? ..... YES NO
_____ Placed LIMS sample stickers on the logo side of the sample bottle tags? ..... YES NO
Did the person who logged sample(s) into LIMS perform this step? ..... YES NO
_____ Checked for typos on label? Were any errors present? ..... YES NO
If yes, were corrections made in project maintenance? ..... YES NO
_____ Put samples on cart in sequential order?
_____ Rechecked sample container tag information against printed label information? **QC'd by** CP
_____ Put samples in correct storage area?
_____ Walk-in: Write down numbers when shelf is closed and start another.
_____ Randells: Make sure there is a narrative for Rack / Tray locations.
_____ Waste cabinets: Attached "Return to Waste Cabinet" sticker.
(Documented client name and sample number on log in waste cabinet)
_____ Bacti Refrigerator
_____ Other(please indicate)_____

Typed a submittal narrative indicating sample location(s).

Completion of Log-in Documentation

_____ Collated all paperwork?
_____ Entered submittal information in Receiving Log?
Initials must be of the person who logged in samples.
_____ Made copy of COC forms.
_____ Created a labeled submittal folder that includes:

COC Forms	✓	**Preservation Log**	✓	**Arrival Log**	✓
Check List	✓	**Shipping Records**	✓	**Miscellaneous**	____

Distributed to project chemist (initials):_____ **by:** CP

TriMatrix

SECTION - A

INTERNAL
CHAIN-OF-CUSTODY (COC) RECORDS

This report shall not be reproduced except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: NITROGLYCERINE Method: GC/HPLC/NG/SOIL Ref Cit: USEPA-8332 Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052	[signature]	5/14/2 2PM			5/14/2 7PM
305053					
305054					
305055					
305056					
305057					
305058					
305059					
305060					
305061	[signature]	5/14/2 2PM			5/14/2 7PM

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: NITROGLYCERINE Method: GC/HPLC/NG/SOIL Ref Cit: USEPA-8332 Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052	Janet Kuderka	5/14/2 3pm			5/22/2 9AM
305053					
305054					
305055					
305056					
305057					
305058					
305059					
305060					
305061					
305316					
305317					
305318					
305319					
305320					
305321	Janet Kuderka	5/14/2 3PM			5/22/2 9AM

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: NITROGLYCERINE Method: GC/HPLC/NG/SOIL Ref Cit: USEPA-8332 Matrix: SOIL

305322	Janet Kudelka	5/21/2 3PM			5/22/2 9AM
305323					
305324					
305325					
305326					
305327					
305328					
305329					
305330					
305331					
305332					
305333					
305334					
305335					
305336					
305337					
305338					
305339	Janet Kudelka	5/21/2 3PM			5/22/2 9AM

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: NITROGLYCERINE		Method: GC/HPLC/NG/SOIL	Ref Cit: USEPA-8332	Matrix: SOIL	
305340	Janet Kudelka	5/21/02 3PM			5/22/02 9AM
305341					
305342					
305343					
305344					
305345					
305346	Janet Kudelka	5/14/02 3PM			5/22/02 9AM

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: SEMI TCL BNA S&W 8270 SOL Method: SEMI-VOL/MS/SOL Ref Cit: USEPA-8270C Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052		5/21/2 12PM			5/21/2 PM
305053					
305054					
305055					
305056					
305057					
305058		5/21/2 12PM			5/21/2 PM
305059		5/21/2 PM			5/22/2 AM
305060					
305061					
305316					
305317					
305318					
305319					
305320					
305321		5/21/2 PM			5/22/2 AM

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: METALS PRETREAT-MS (TTL) Method: D/ICP/3050/SOL Ref Cit: USEPA-3050B Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052	ma Scott	05/16/02 7:00 AM			05/16/02 5:00 PM
305053	MSS				
305054	MSS				
305055	MSS				
305056	MSS				
305057	MSS				
305058	MSS				
305059	MSS				
305060	MSS				
305061	MSS	05/16/02 7:00 AM			05/16/02 5:00 PM
305316	MSS	05/20/02 7:00 AM			05/20/02 5:00 PM
305317	MSS				
305318	MSS				
305319	MSS				
305320	MSS				
305321	MSS	05/20/02 7:00 AM			05/20/02 5:00 PM

0000034

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: METALS PRETREAT-MS (ITL) Method: D/ICP/3050/SOL Ref Cit: USEPA-3050B Matrix: SOIL

305322	Ma Swett	05/20/02 7:00 AM		05/20/02 5:00 PM
305323	MSS			
305324	MSS			
305325	MSS			
305326	MSS			
305327	MSS			
305328	MSS			
305329	MSS			
305330	MSS			
305331	MSS			
305332	MSS			
305333	MSS			
305334	MSS			
305335	MSS	05/20/02 7:00 AM		05/20/02 5:00 PM
305336	MSS			
305337	MSS			
305338	MSS			
305339	MSS	05/20/02 7:00 AM		05/20/02 5:00 PM

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: METALS PRETREAT-ICP (TTL) Method: D/ICP/3050/SOL Ref Cit: USEPA-3050B Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052	Ma Scott	05-16-02 7:00 AM			05-16-02 5:00 PM
305053	MSS				
305054	MSS				
305055	MSS				
305056	MSS				
305057	MSS				
305058	MSS				
305059	MSS				
305060	MSS				
305061	MSS	05-16-02 7:00 AM			05-16-02 5:00 PM
305316	MSS	05-17-02 7:00 AM			05-17-02 5:00 PM
305317	MSS				
305318	MSS				
305319	MSS				
305320	MSS				
305321	MSS	05-17-02 7:00 AM			05-17-02 5:00 PM

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: ALUMINUM, TOTAL Method: ICP/6010/SOL Ref Cit: USEPA-6010B Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052	Kari Vissers			5-20-02 1:00pm	5-20-02 9:00pm
305053					
305054					
305055					
305056					
305057					
305058					
305059					
305060					
305061					
305316					
305317					
305318					
305319					
305320					
305321	Kari Vissers			5-20-02 1:00pm	5-20-02 9:00pm

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: ALUMINUM, TOTAL Method: ICP/6010/SOL Ref Cit: USEPA-6010B Matrix: SOIL

305322	Kari Vosses			5-20-02 1:00pm	5-20-02 9:00pm
305323					
305324					
305325					
305326					
305327					
305328					
305329				KW	
305330	KW				
305331					
305332					
305333					
305334					
305335					
305336					
305337					
305338					
305339	Kari Vosses			5-20-02 1:00pm	5-20-02 9:00pm

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: ~~COPPER~~ TOTAL, All metals Method: MS/EPA/SOL Ref Cit: USEPA-6020 Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052	Denise Coffey			5-22-02 89	5-22-02 SP
305053					
305054					
305055					
305056					
305057					
305058					
305059				DSC	DC
305060	DSC				
305061					
305316					
305317					
305318					
305319					
305320					
305321	Denise Coffey			5-22-02 89	5-22-02 SP

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: ~~COPPER~~ TOTAL All metals	Method: MS/EPA/SOL	Ref Cit: USEPA-6020	Matrix: SOIL	
305322			S-22-02	S-22-02
305323				
305324				
305325				
305326				
305327				
305328				
305329			DSC	
305330				
305331				
305332				
305333				
305334				
305335				
305336				
305337				
305338				
305339			S-22-02	S-22-02

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: ~~COPPER~~ TOTAL, All metals	Method: MS/EPA/SOL	Ref Cit: USEPA-6020	Matrix: SOIL	
305340			5-22-02 SP	5-22-02 SP
305341				
305342				
305343				
305344				
305345			5-22-02 SP	5-22-02 SP

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: NITROCELLULOSE Method: NC/AUTOAN/SOIL Ref Cit: USARMY BR&D Lab Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052	Jodi Z Bloom	5/22/02 9:10am			5/22/02 3pm
305053					
305054					
305055					
305056					
305057					
305058					
305059					
305060					
305061					
305316					
305317					
305318					
305319					
305320					
305321	Jodi Z Bloom	5/22/02 9:10am			5/22/02 3pm

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: NITROCELLULOSE Method: NC/AUTOAN/SOIL Ref Cit: USARMY BR&D Lab Matrix: SOIL

305322	Jodi Blouin	5/22/02 9:10am			5/22/02 3pm
305323					
305324					
305325					
305326					
305327					
305328					
305329					
305330					
305331					
305332					
305333					
305334					
305335					
305336					
305337					
305338					
305339	Jodi Blouin	5/22/02 9:10am			5/22/02 3pm

000047

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: NITROCELLULOSE Method: NC/AUTOAN/SOIL Ref Cit: USARMY BR&D Lab Matrix: SOIL

305340	Jodi Blom	5/22/02 9:10am			5/22/02 3pm
305341					
305342					
305343					
305344					
305345					
305346	Jodi Blom	5/22/02 9:10am			5/22/02 3pm

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: PERCENT SOLIDS Method: RESD/TOTAL/SOIL Ref Cit: SW-846 3550B Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052	Ruth Hamby	5-15-02 12^00 p			5-15-02 12^30 pm
305053					
305054					
305055					
305056	GES	GES			
305057					GES
305058					
305059					
305060					
305061	Ruth Hamby	5-15-02 12^00 p			5-15-02 12^30 p

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: PERCENT SOLIDS Method: RESD/TOTAL/SOIL Ref Cit: SW-846 3550B Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
305052					
305053					
305054					
305055					
305056					
305057					
305058					
305059					
305060					
305061					
305316	Ruth Hawley	5-17-02 11^00 A			5-17-02 12^00
305317					
305318	GES	GES			GES
305319					
305320					
305321	Ruth Hawley	5-17-02 11^00 A			5-17-02 12^00

000050

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: PERCENT SOLIDS Method: RESD/TOTAL/SOIL Ref Cit: SW-846 3550B Matrix: SOIL

305322	[signature]	5-17-02 11 Am			5-17-02 12:00 pm
305323					
305324					
305325					
305326					
305327					
305328					
305329	GEA				
305330		GEA			GEA
305331					
305332					
305333					
305334					
305335					
305336					
305337					
305338					
305339	[signature]	5-17-02 11 Am			5-17-02 12:00 pm

000051

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: May 2002 Samples PROJECT: 35988-1

Parameter: PERCENT SOLIDS Method: RESD/TOTAL/SOIL Ref Cit: SW-846 3550B Matrix: SOIL

305340	[signature]	5-17-02 11:00 Am			5-17-02 12:00 pm
305341					
305342					
305343	GEH	GEH			GEH
305344					
305345					
305346	[signature]	5-17-02 11:00 Am			5-17-02 12:00 pm

SECTION - C

NITROGLYCERINE DATA

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Individual sample results relate only to the sample tested.
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SECTION - C

QUALITY CONTROL (QC) SUMMARY

NITROGLYCERINE DATA

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305326
Sample ID.	67394BNP01003	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitroglycerine	70 - 130	39.5	<25	U	50	79	
Nitroglycerine	70 - 130	39.5	<25	U	50	79	

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305326
Sample ID.	67394BNP01003	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Nitroglycerine	0 - 40	39.5	39.5	0	

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305331
Sample ID.	67398AWP01007	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitroglycerine	70 - 130	38.3	<25	U	50	77	
Nitroglycerine	70 - 130	37.6	<25	U	50	75	

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305331
Sample ID.	67398AWP01007	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Nitroglycerine	0 - 40	38.3	37.6	2	

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305346
Sample ID.	67124DANP01008	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitrocellulose	0 - 0	33	2.5	J	42	73	
Nitroglycerine	70 - 130	42.2	<25	U	50	84	
Nitroglycerine	70 - 130	39.4	<25	U	50	79	

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305346
Sample ID.	67124DANP01008	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Nitroglycerine	0 - 40	42.2	39.4	7	

000060

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Individual sample results relate only to the sample tested.

QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No. 35988 -1 Units mg/kg dry

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Aluminum, Total	75109	250	241.6	78 - 123	97
Aluminum, Total	75110	250	249.2	78 - 123	100
Aluminum, Total	75111	250	226.3	78 - 123	91
Copper, Total	75197	25	23.1	72 - 115	92
Copper, Total	75199	25	23.2	72 - 115	93
Copper, Total	75200	25	24.3	72 - 115	97
Lead, Total	75197	25	23.9	80 - 110	96
Lead, Total	75199	25	22.9	80 - 110	92
Lead, Total	75200	25	24.1	80 - 110	96
Nitroglycerine	75193	50	47.6	70 - 130	95
Nitroglycerine	75194	50	45.6	70 - 130	91
Nitroglycerine	75195	50	41.8	70 - 130	84

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TRIMATRIX LABORATORIES, INC.

8332 METHOD BLANK SUMMARY

Lab ID:	MPB121-186025	Matrix:	SOIL
Lab File Name:	A31_006	Extraction(SepF/Cont/Sonc):	Sonc.
Date Analyzed:	5/21/02	Sulfur Cleanup (Y/N):	N
Time Analyzed:	14:49	Date Extracted:	5/21/02
Instrument ID:	151		

This Method Blank applies to the Following Samples, MS and MSD:

EPA Sample #	Lab Sample #	Date Analyzed
LFB121-186025	LFB121-186025	5/21/02
6807-13 1ZFNS01001	305052	5/21/02
6807-13 14HWP01002	305053	5/21/02
6807-13 6FNP01003	305054	5/21/02
6807-13 6CNS01004	305055	5/21/02
6807-13 3CNS01005	305056	5/21/02
6807-13 2BNS01006	305057	5/21/02
6807-13 6BNS01007	305058	5/21/02
6807-13 8ENS01008	305059	5/21/02
6807-13 8EANS01008	305060	5/21/02
6807-13 1DNS01010	305061	5/21/02
6731-2 5AWP01001	305316	5/21/02
6731-2 4BNP01002	305317	5/21/02
6731-2 3CWP01003	305318	5/21/02
6731-2 3CAWP01003	305319	5/21/02
6731-2 2BWP01004	305320	5/21/02
6731-2 1DWP01005	305321	5/21/02
6731-2 3DNS01006	305322	5/21/02
6731-2 5CNS01007	305323	5/21/02
6739 2AWP01001	305324	5/21/02
6739 4BNP01003	305326	5/21/02
6739 4BNP01003	305326MS	5/22/02
6739 4BNP01003	305326MSD	5/22/02

TRIMATRIX LABORATORIES, INC. FORM 4

8332 METHOD BLANK SUMMARY

Lab ID:	MPB121-186026	Matrix:	SOIL
Lab File Name:	A31_030	Extraction(SepF/Cont/Sonc):	Sonc.
Date Analyzed:	5/21/02	Sulfur Cleanup (Y/N):	N
Time Analyzed:	21:53	Date Extracted:	5/21/02
Instrument ID:	151		

This Method Blank applies to the Following Samples, MS and MSD:

EPA Sample #	Lab Sample #	Date Analyzed
LFB121-186026	LFB121-186026	5/21/02
6739 4AWP01002	305325	5/21/02
6739 5CWP01004	305327	5/21/02
6739 5CAWP01004	305328	5/21/02
6739 6AWP01005	305329	5/21/02
6739 6BWP01006	305330	5/21/02
6739 8AWP01007	305331	5/22/02
6739 9BWP01008	305332	5/22/02
6739 1ANS01001	305333	5/22/02
6739 2CNS01002	305334	5/22/02
6739 2CANS01002	305335	5/22/02
6739 2DNS01003	305336	5/22/02
6739 1ENS01004	305337	5/22/02
6712 1CNP01001	305338	5/22/02
6712 1CANP01001	305339	5/22/02
6712 2DNP01002	305340	5/22/02
6712 2ANP01003	305341	5/22/02
6712 4BNP01004	305342	5/22/02
6712 2ANP01003	305331MS	5/22/02
6712 2ANP01003	305331MSD	5/22/02

TRIMATRIX LABORATORIES, INC.

8332 METHOD BLANK SUMMARY

Lab ID:	MPB121-186027	Matrix:	SOIL
Lab File Name:	A31_064	Extraction(SepF/Cont/Sonc):	Sonc.
Date Analyzed:	5/22/02	Sulfur Cleanup (Y/N):	N
Time Analyzed:	6:23	Date Extracted:	5/21/02
Instrument ID:	151		

This Method Blank applies to the Following Samples, MS and MSD:

EPA Sample #	Lab Sample #	Date Analyzed
LFB121-186027	LFB121-186027	5/22/02
6712 4DNP01005	305343	5/22/02
6712 4ANP01006	305344	5/22/02
6712 7BNP01007	305345	5/22/02
6712 4DANP01008	305346	5/22/02
6712 4DANP01008	305346MS	5/22/02
6712 4DANP01008	305346MSD	5/22/02

SECTION - C

SAMPLE DATA

NITROGLYCERINE DATA

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		12FNS01001				
	Lab Sample No:	305052				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.2	J	1.9	6.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 1820		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	* 4.8		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	7.9		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	13:55
Date Received:	05/11/02
Time Received:	09:45

* See attached Statement of Data Qualifications.

000066

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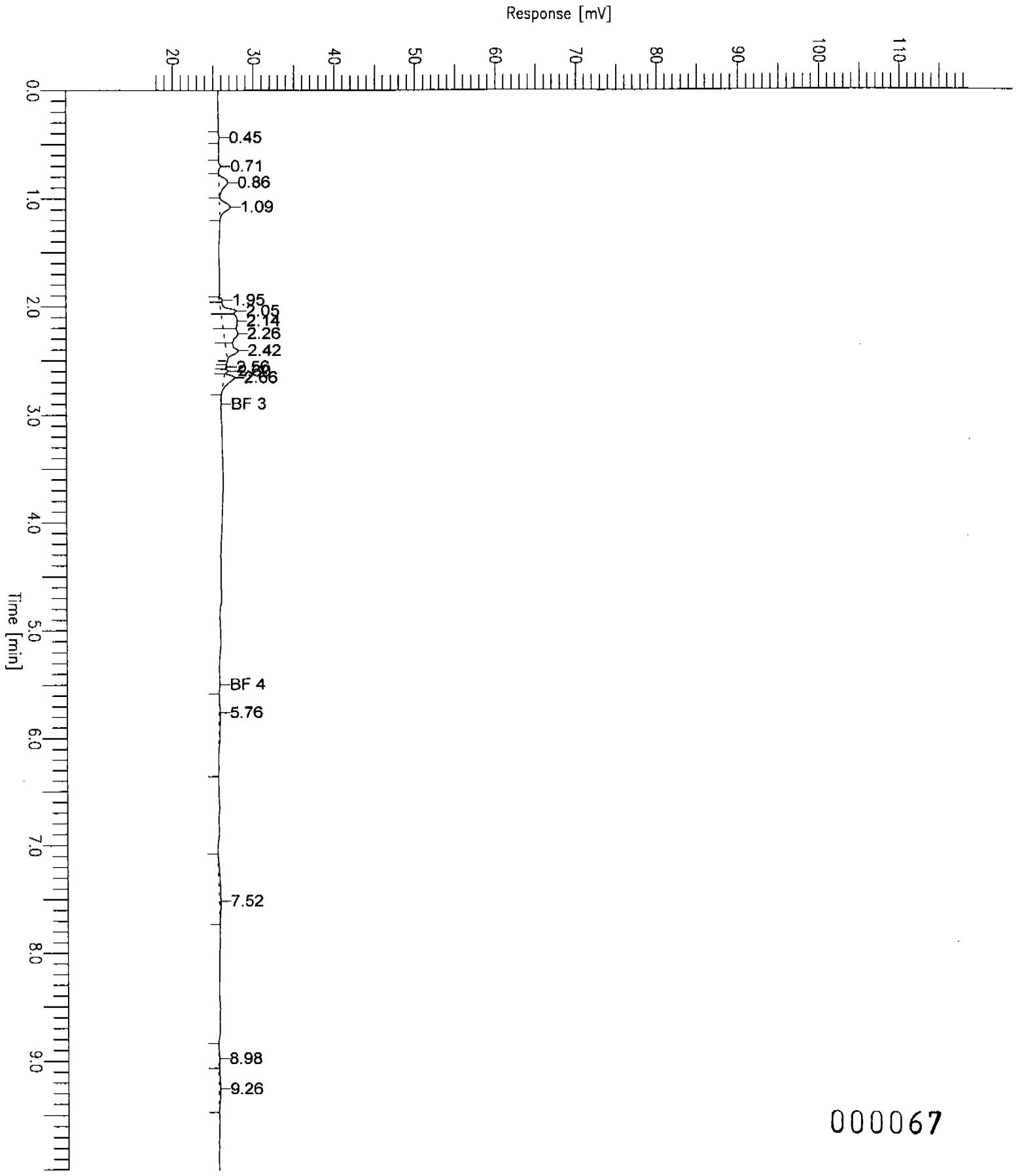
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305052
FileName : C:\TC4\LC151\A31_008.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 8 Page 1 of 1
Date : 5/21/02 17:55
Time of Injection: 5/21/02 15:18
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000067

Software Version: 4.1<2F12>
Sample Name : 305052 Time : 5/21/02 17:55
Sample Number: 8 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 15:18
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_008.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

~3

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		14HWP01002				
	Lab Sample No:	305053				
E-1047	Percent Solids	95		N/A	0.1	%
9004-70-0	Nitrocellulose	5.9	J	2.0	6.5	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	927		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	3.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	1.9		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	13:58
Date Received:	05/11/02
Time Received:	09:45

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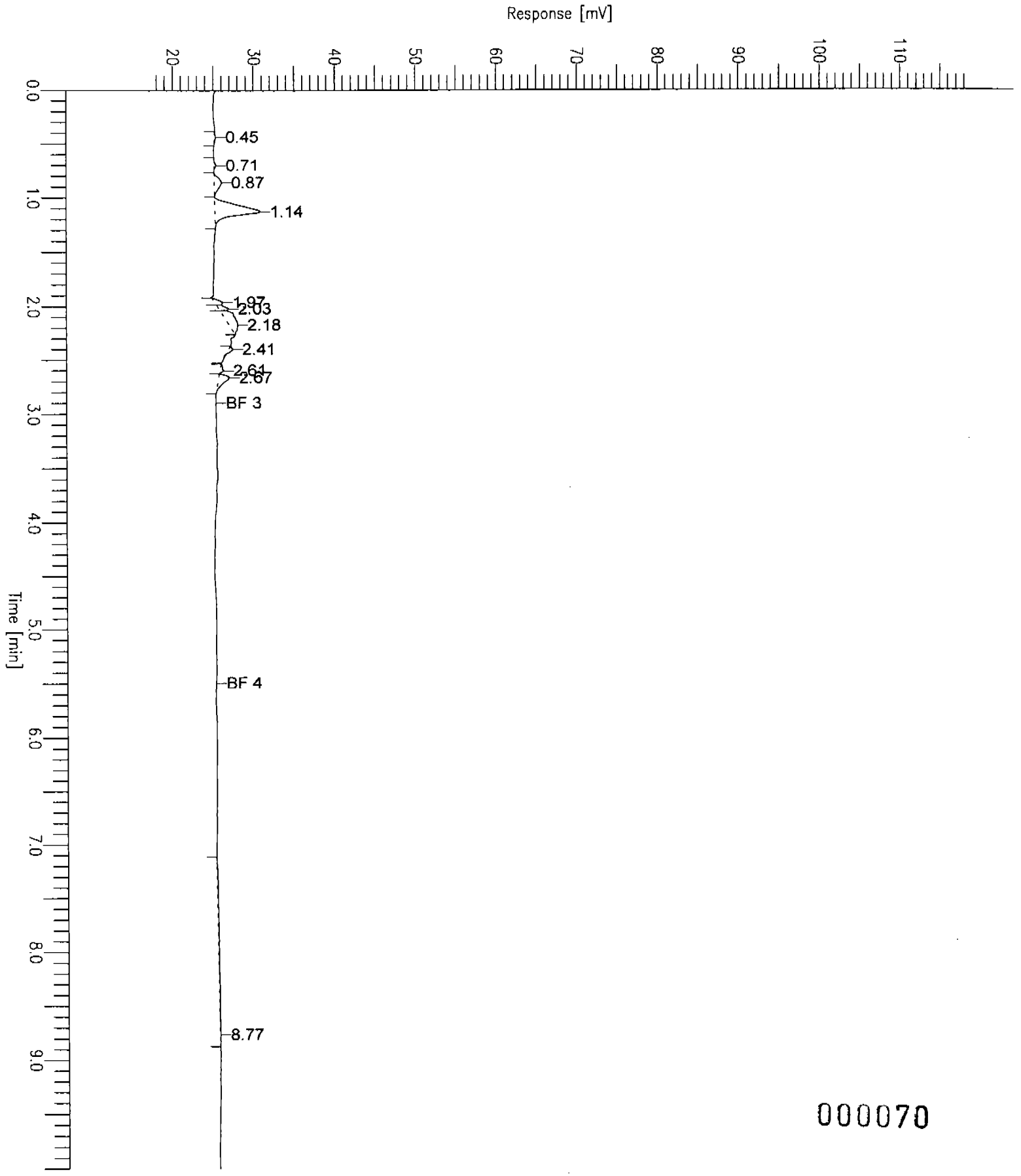
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305053
FileName : C:\TC4\LC151\A31_009.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 9
Date : 5/21/02 17:54
Time of Injection: 5/21/02 15:33
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305053 Time : 5/21/02 17:54
Sample Number: 9 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 15:33
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_009.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9500 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 6FNP01003		LOD	LOQ	Units
	Lab Sample No:	305054				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	6.9	J	2.1	7.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	4.0		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.3		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:05
Date Received:	05/11/02
Time Received:	09:45

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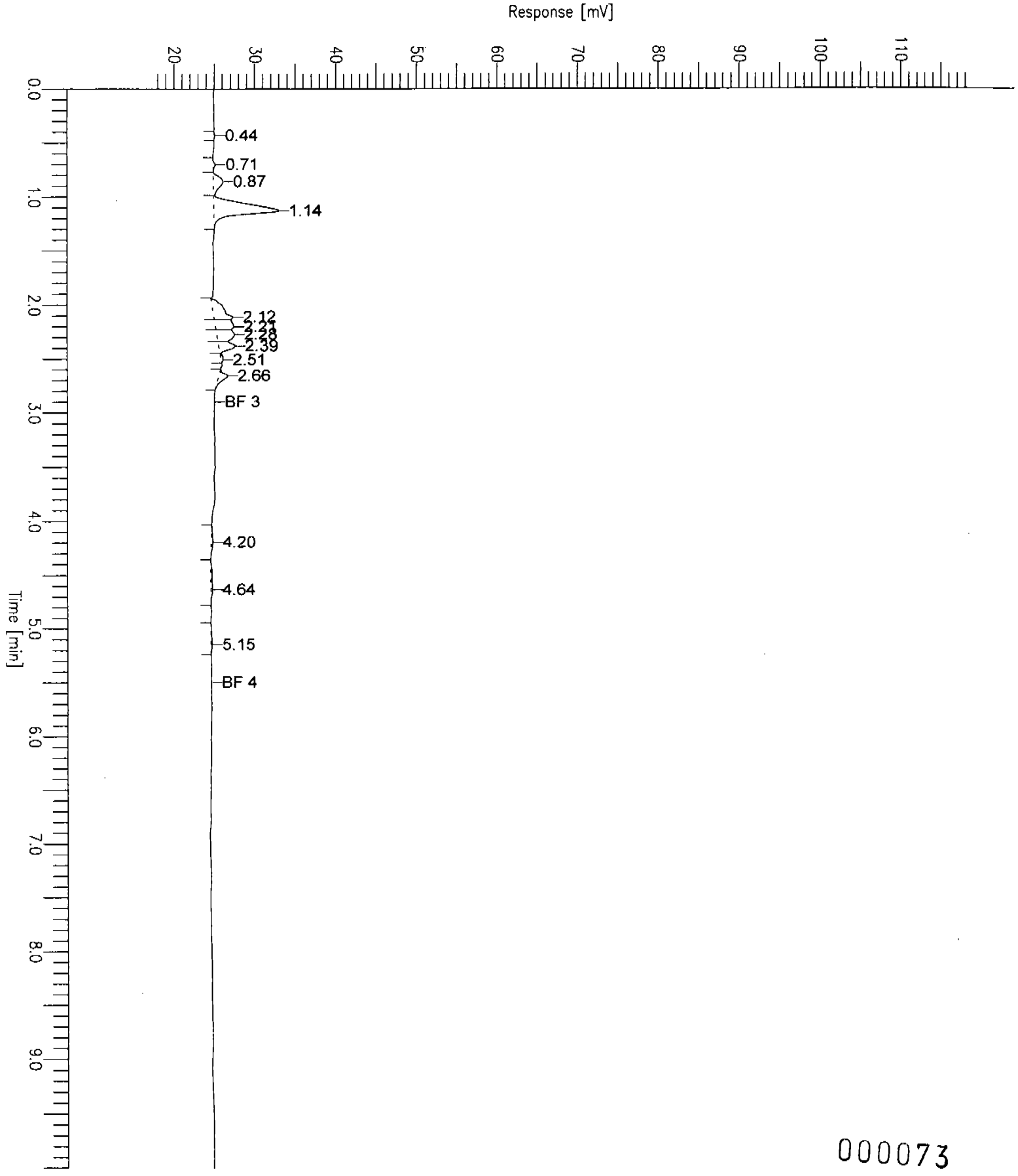
Chromatogram

Sample Name : 305054
FileName : C:\TC4\LC151\A31_010.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 10 Page 1 of 1
Date : 5/21/02 17:54
Time of Injection: 5/21/02 15:48
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305054 Time : 5/21/02 17:54
Sample Number: 10 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 15:48
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_010.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9600 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 6CNS01004		LOD	LOQ	Units
	Lab Sample No:	305055				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	6.0	J	2.1	7.0	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1480		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	4.0		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:07
Date Received:	05/11/02
Time Received:	09:45

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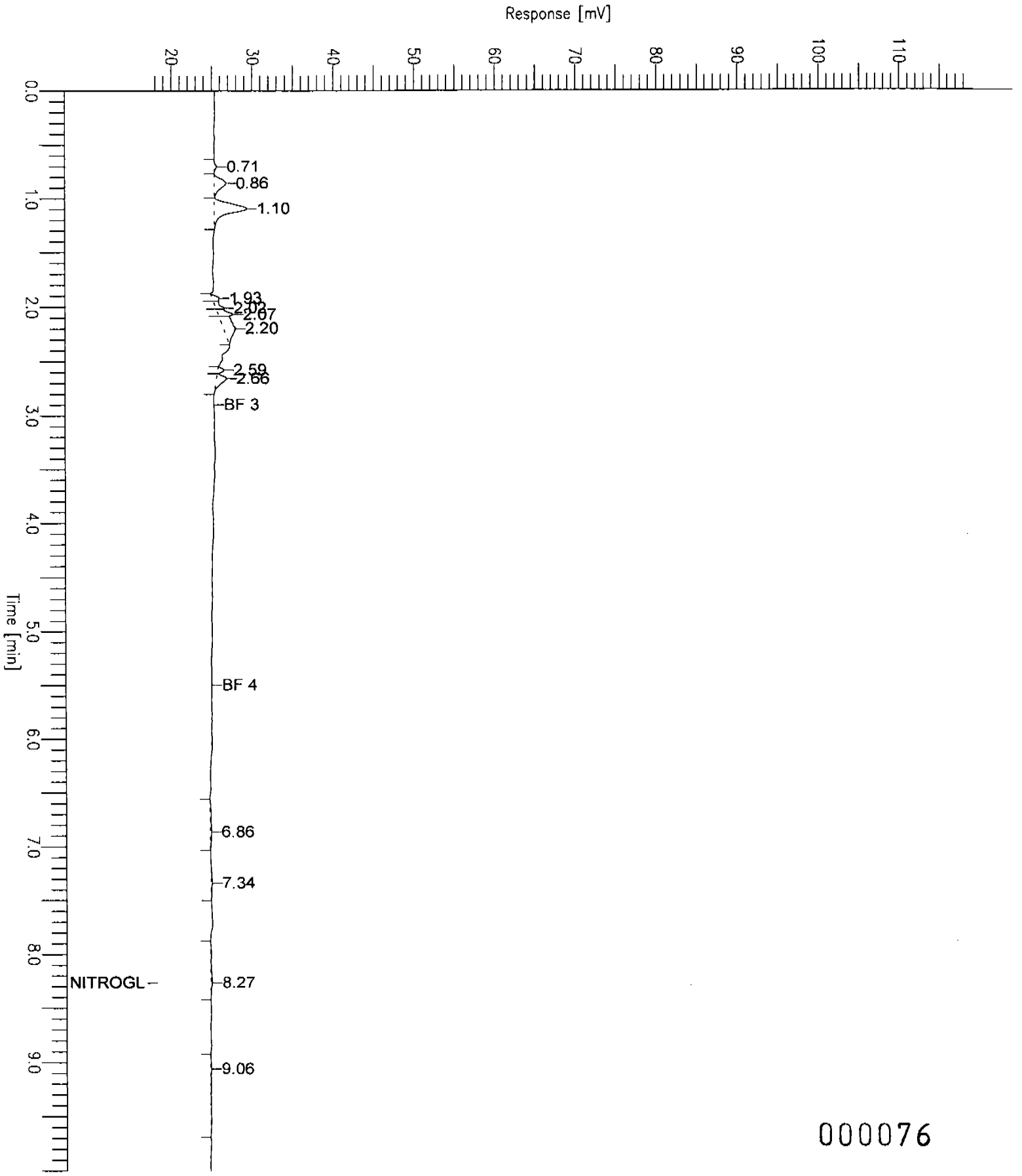
Chromatogram

Sample Name : 305055
FileName : C:\TC4\LC151\A31_011.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 11 Page 1 of 1
Date : 5/21/02 17:54
Time of Injection: 5/21/02 16:03
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305055 Time : 5/21/02 17:54
Sample Number: 11 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 16:03
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_011.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9600 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
8.265	NITROGLYCERIN	0.4319	2467.00	169.18	2.00	10.0	2.2493
		0.4319	2467.00	169.18	2.00	10.0	2.2493

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 3CNS01005		LOD	LOQ	Units
	Lab Sample No:	305056				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	5.4	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1190		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	3.9		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	31		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:09
Date Received:	05/11/02
Time Received:	09:45

000078

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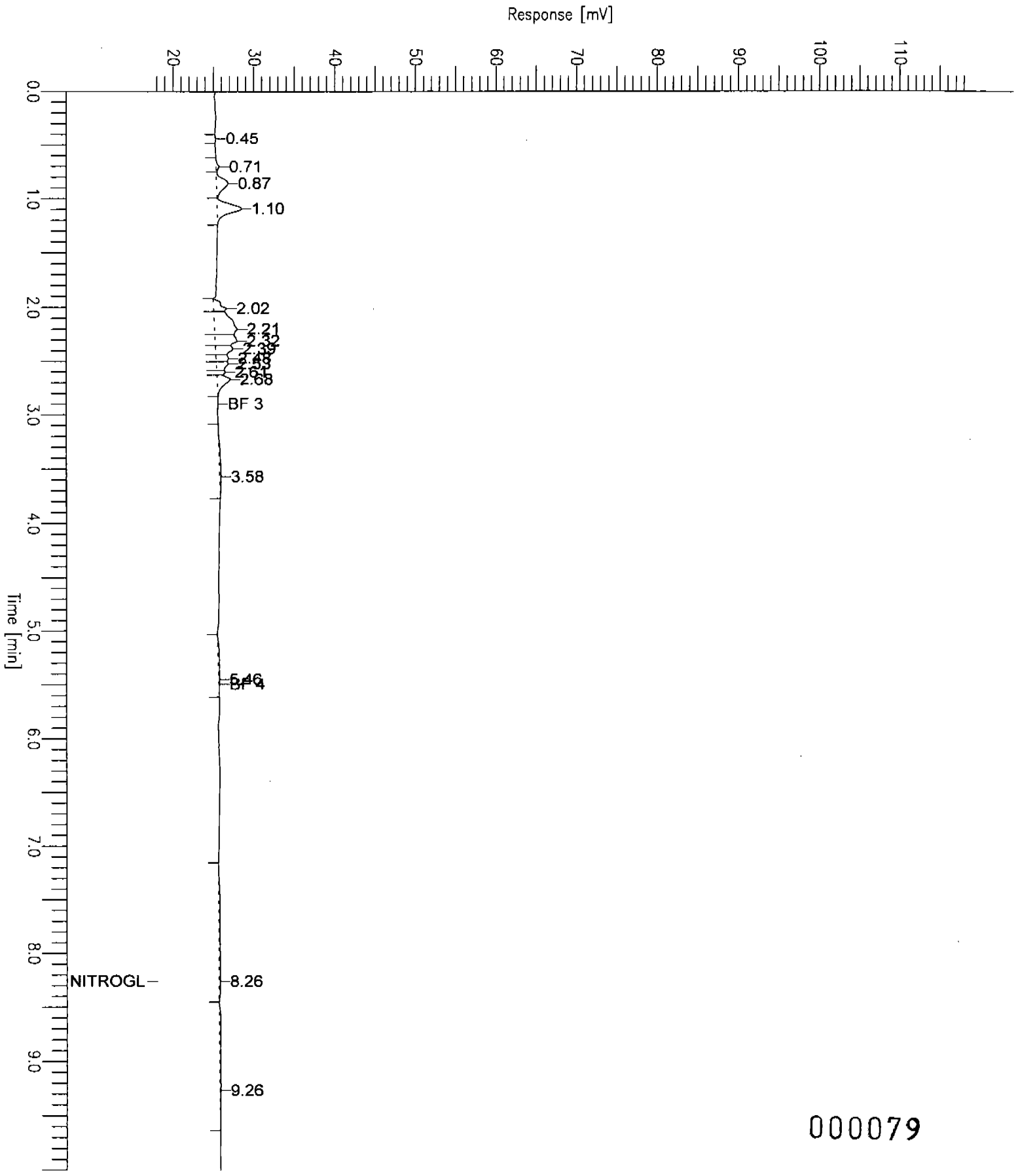
Chromatogram

Sample Name : 305056
FileName : C:\TC4\LC151\A31_013.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 13 Page 1 of 1
Date : 5/21/02 17:53
Time of Injection: 5/21/02 16:33
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000079

Software Version: 4.1<2F12>
Sample Name : 305056 Time : 5/21/02 17:53
Sample Number: 13 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 16:33
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_013.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9800 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
8.259	NITROGLYCERIN	0.3890	8843.00	152.39	2.00	10.0	1.9847	SMDL
		0.3890	8843.00	152.39	2.00	10.0	1.9847	

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		2BNS01006				
	Lab Sample No:	305057				
E-1047	Percent Solids	95		N/A	0.1	%
9004-70-0	Nitrocellulose	5.2	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1860		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	5.1		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.4		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:15
Date Received:	05/11/02
Time Received:	09:45

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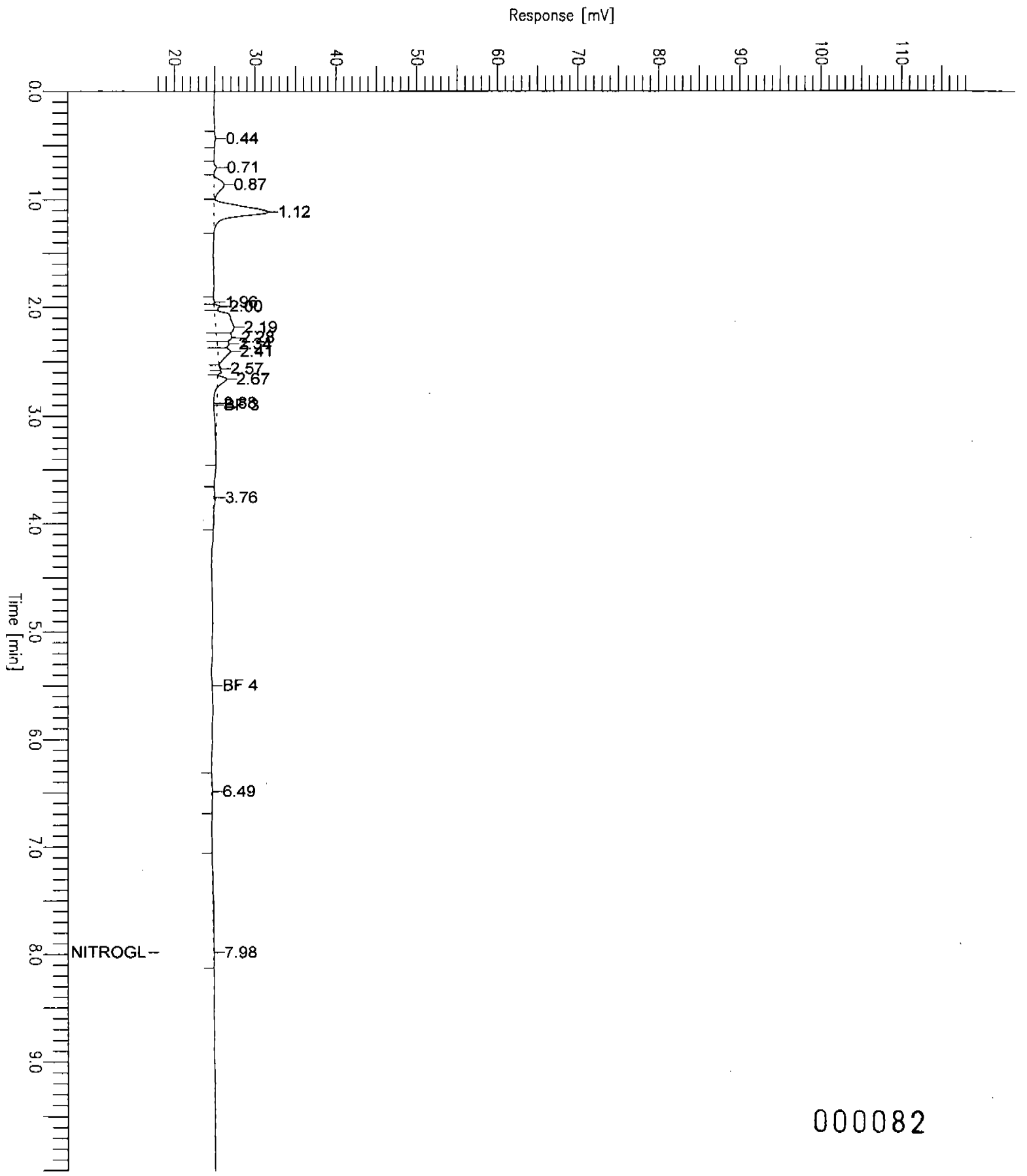
Chromatogram

Sample Name : 305057
FileName : C:\TC4\LC151\A31_014.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 14 Page 1 of 1
Date : 5/21/02 17:53
Time of Injection: 5/21/02 16:47
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000082

Software Version: 4.1<2F12>
Sample Name : 305057 Time : 5/21/02 17:53
Sample Number: 14 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 16:47
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_014.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9500 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
7.982	NITROGLYCERIN	0.2175	4120.50	85.21	2.00	10.0	1.1448	CMAL
		0.2175	4120.50	85.21	2.00	10.0	1.1448	

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 6BNS01007		LOD	LOQ	Units
	Lab Sample No:	305058				
E-1047	Percent Solids	94		N/A	0.1	%
9004-70-0	Nitrocellulose	2.6	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1920		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	5.7		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.5		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	04:19
Date Received:	05/11/02
Time Received:	09:45

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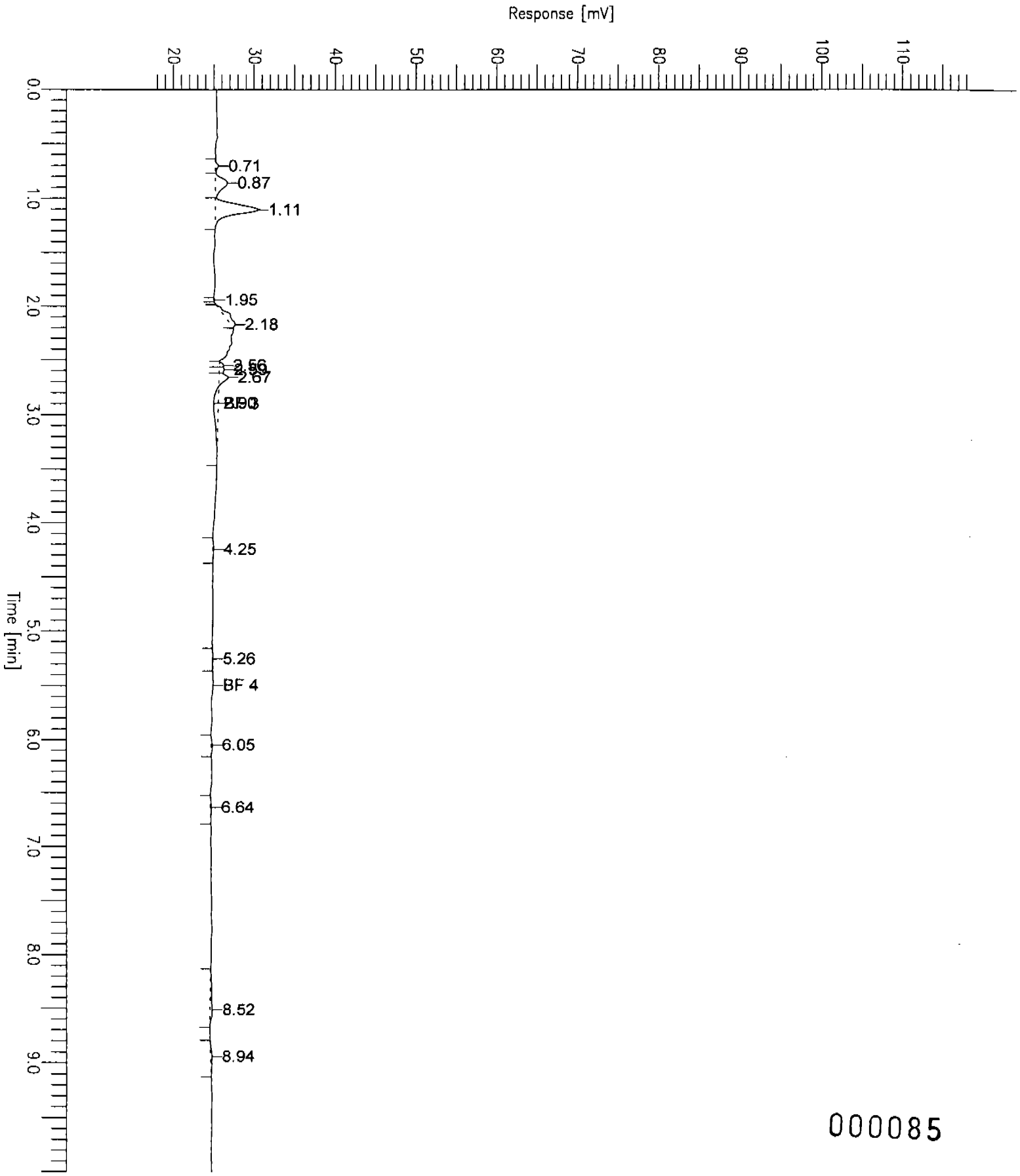
Chromatogram

Sample Name : 305058
FileName : C:\TC4\LC151\A31_015.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 15 Page 1 of 1
Date : 5/21/02 17:52
Time of Injection: 5/21/02 17:02
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000085

Software Version: 4.1<2F12>
Sample Name : 305058 Time : 5/21/02 17:52
Sample Number: 15 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 17:02
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_015.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9400 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		8ENS01008				
	Lab Sample No:	305059				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	3.3	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	893		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	2.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	1.8		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/10/02
Time Sampled: 14:23
Date Received: 05/11/02
Time Received: 09:45

000087

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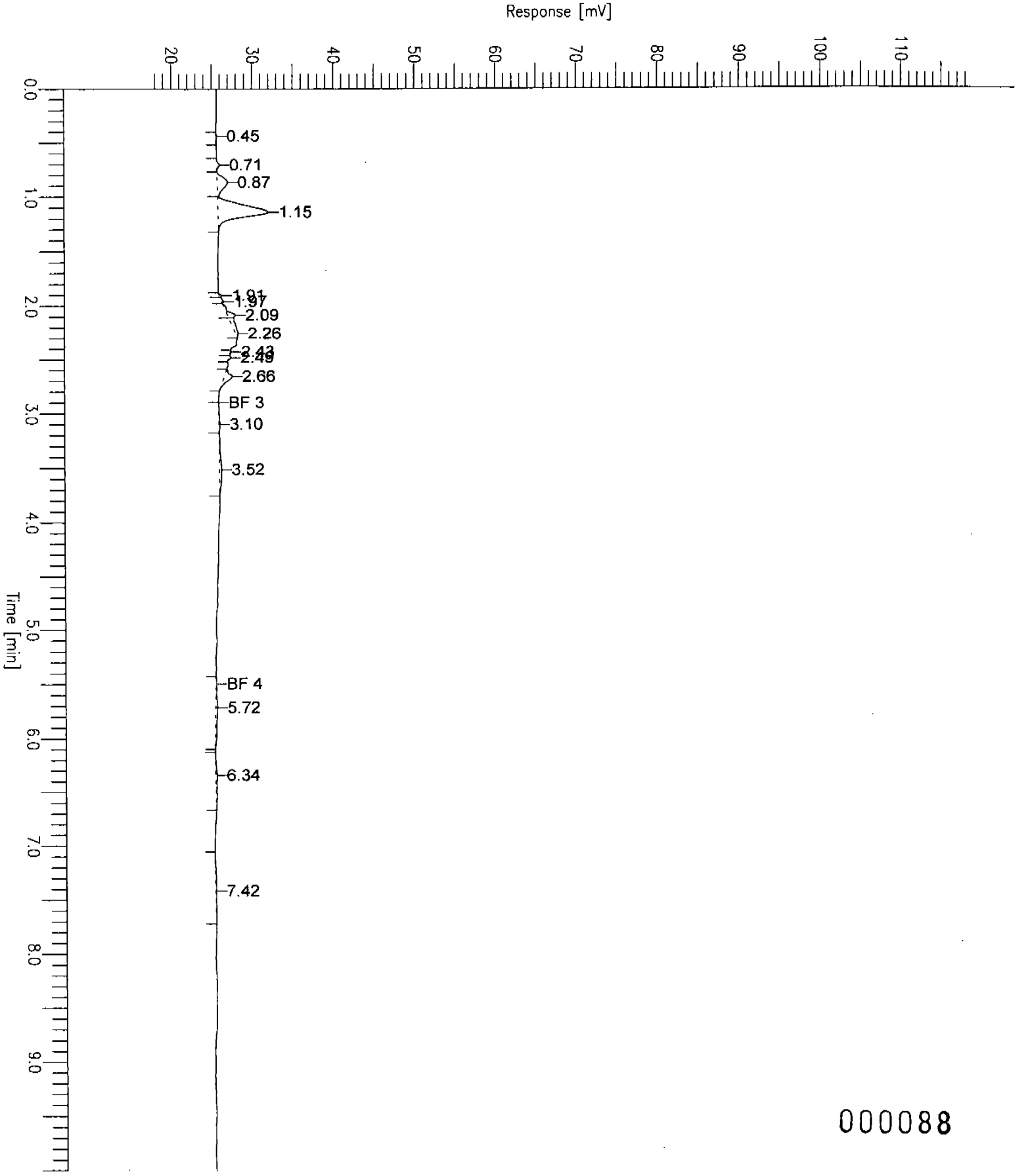
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305059
FileName : C:\TC4\LC151\A31_016.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 16
Date : 5/21/02 17:52
Time of Injection: 5/21/02 17:16
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305059 Time : 5/21/02 17:52
Sample Number: 16 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 17:16
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_016.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9700 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		8EANS01008				
	Lab Sample No:	305060				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	3.3	J	2.0	6.8	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	967		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	2.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	1.6		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:30
Date Received:	05/11/02
Time Received:	09:45

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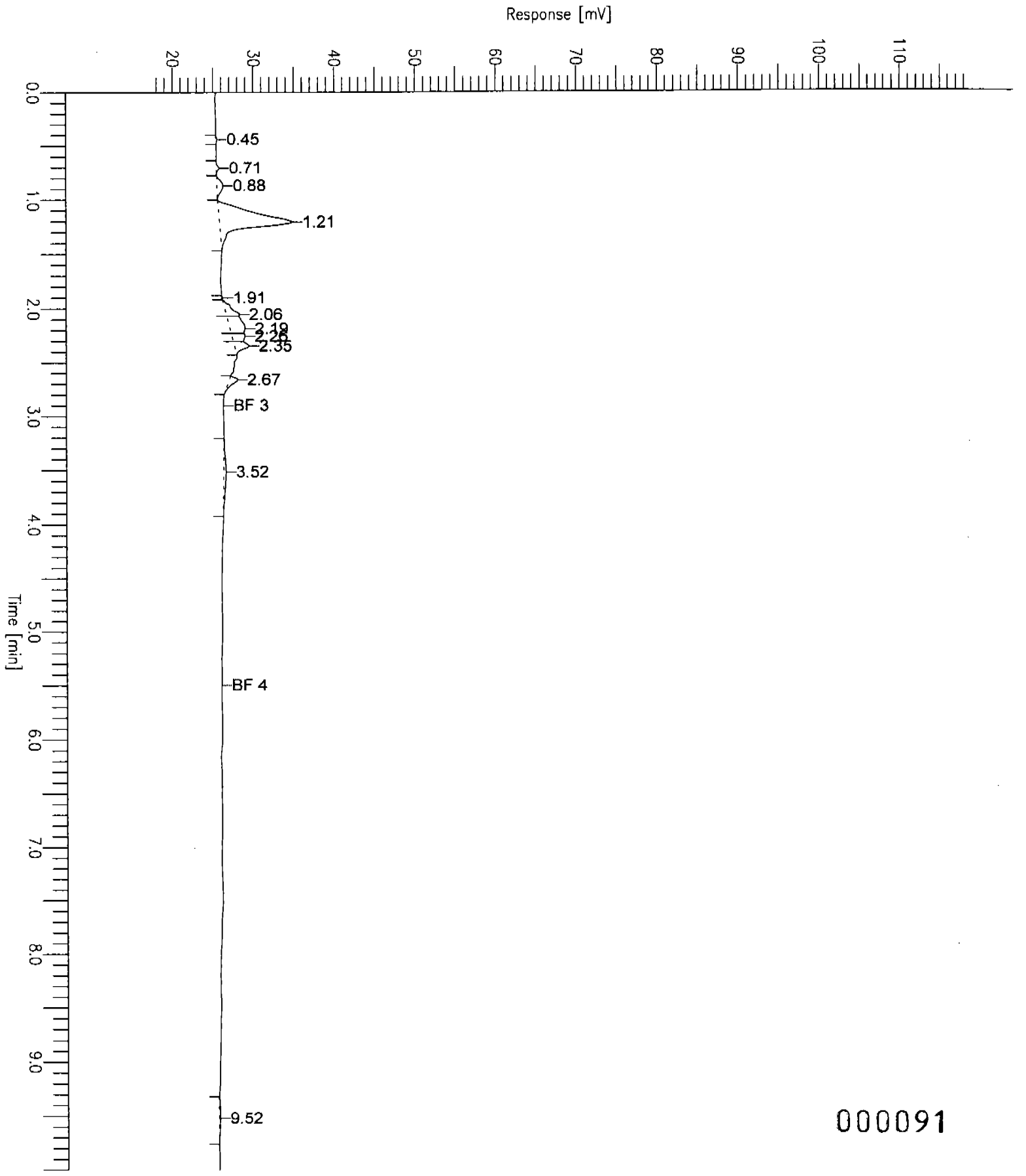
Chromatogram

Sample Name : 305060
FileName : C:\TC4\LC151\A31_017.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 17
Date : 5/21/02 17:51
Time of Injection: 5/21/02 17:31
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305060 Time : 5/21/02 17:51
Sample Number: 17 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 17:31
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_017.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9700 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		1DNS01010				
	Lab Sample No:	305061				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	5.8	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1280		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	3.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.2		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:22
Date Received:	05/11/02
Time Received:	09:45

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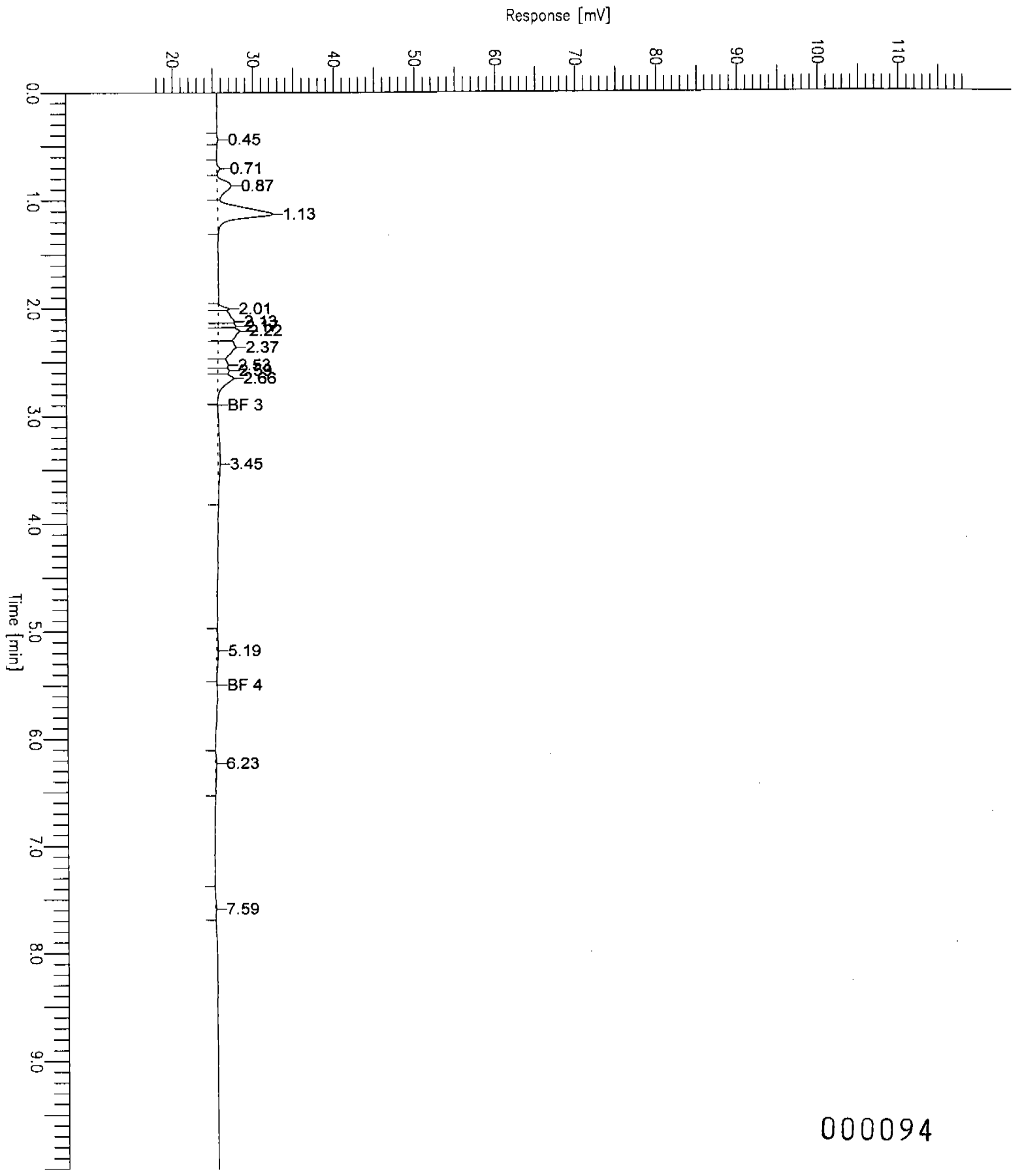
Chromatogram

Sample Name : 305061
FileName : C:\TC4\LC151\A31_018.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 18 Page 1 of 1
Date : 5/21/02 18:14
Time of Injection: 5/21/02 18:00
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000094

Software Version: 4.1<2F12>
Sample Name : 305061 Time : 5/21/02 18:14
Sample Number: 18 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 18:00
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_018.RAW
Result File : C:\WINDOWS\TEMP\~RST2919.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2919.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9600 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 5AWP01001		LOD	LOQ	Units
	Lab Sample No:	305316				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	3.1	J	1.9	6.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	9770		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	9.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:32
Date Received:	05/14/02
Time Received:	08:43

000096

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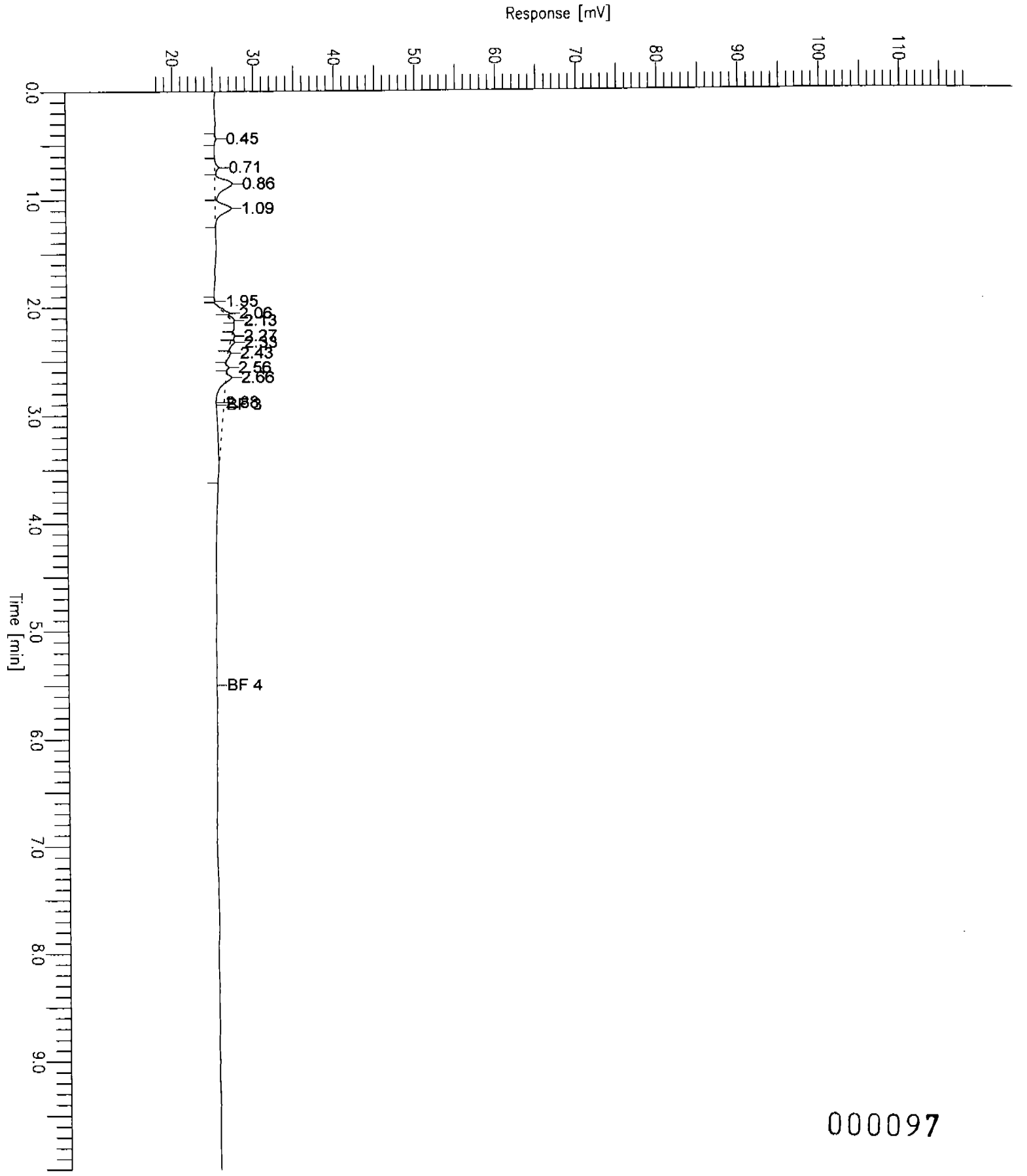
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305316
FileName : C:\TC4\LC151\A31_019.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 19
Date : 5/21/02 21:16
Time of Injection: 5/21/02 18:15
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305316 Time : 5/21/02 21:16
Sample Number: 19 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 18:15
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_019.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9700 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2		LOD	LOQ	Units
		4BNP01002				
	Lab Sample No:	305317				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	16		2.0	6.8	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	13500		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	9.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	12		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:38
Date Received:	05/14/02
Time Received:	08:43

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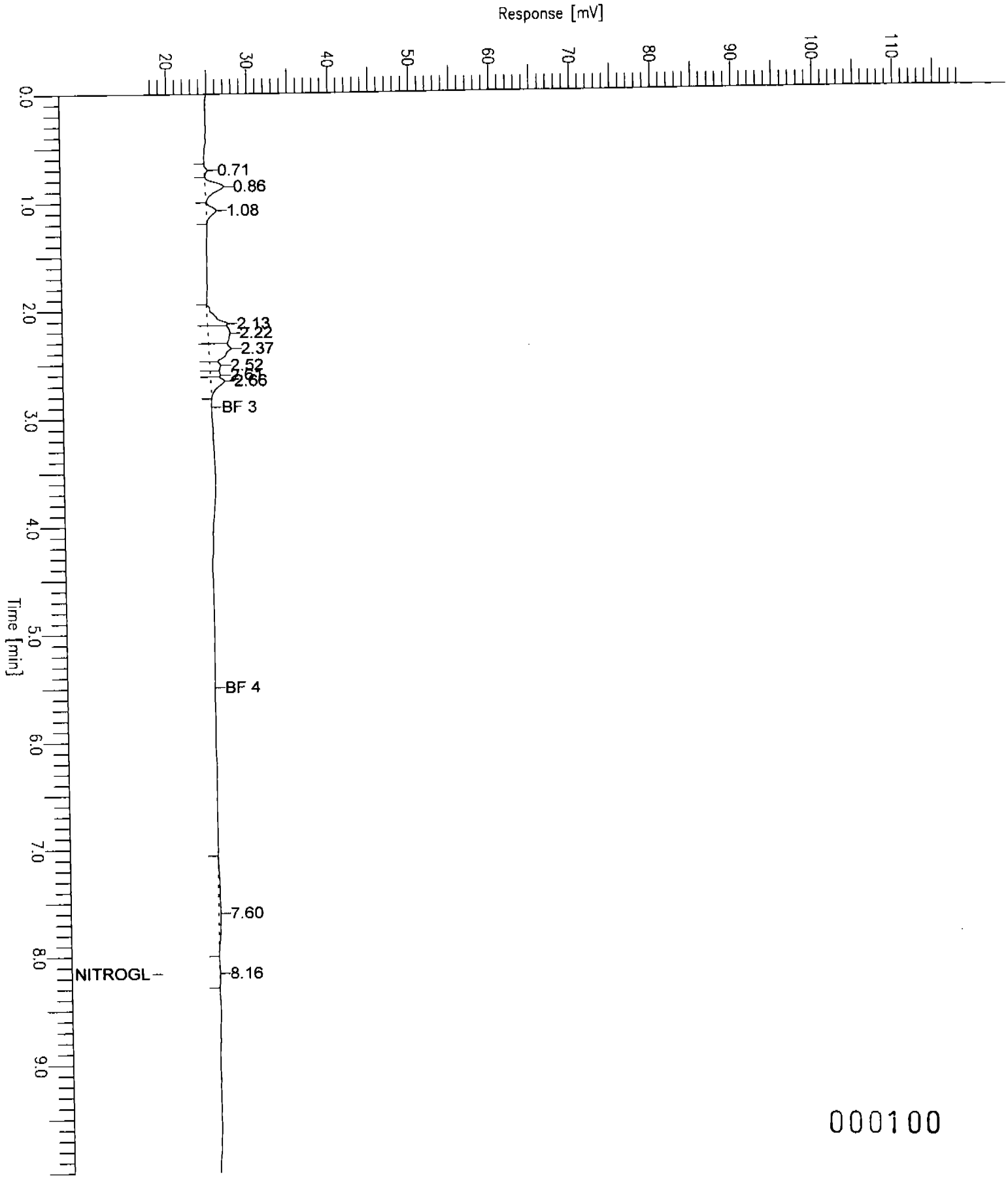
Chromatogram

Sample Name : 305317
FileName : C:\TC4\LC151\A31_020.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 20
Date : 5/21/02 21:17
Time of Injection: 5/21/02 18:29
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305317
Sample Number: 20
Operator :

Time : 5/21/02 21:17
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 18:29
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_020.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.9700

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
8.158	NITROGLYCERIN	0.2714	1085.00	106.31	2.00	10.0	1.3989	LMSC
		0.2714	1085.00	106.31	2.00	10.0	1.3989	

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 3CWP01003		LOD	LOQ	Units
	Lab Sample No:	305318				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	12		2.0	6.5	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	7440		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.8		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.0		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:43
Date Received:	05/14/02
Time Received:	08:43

000102

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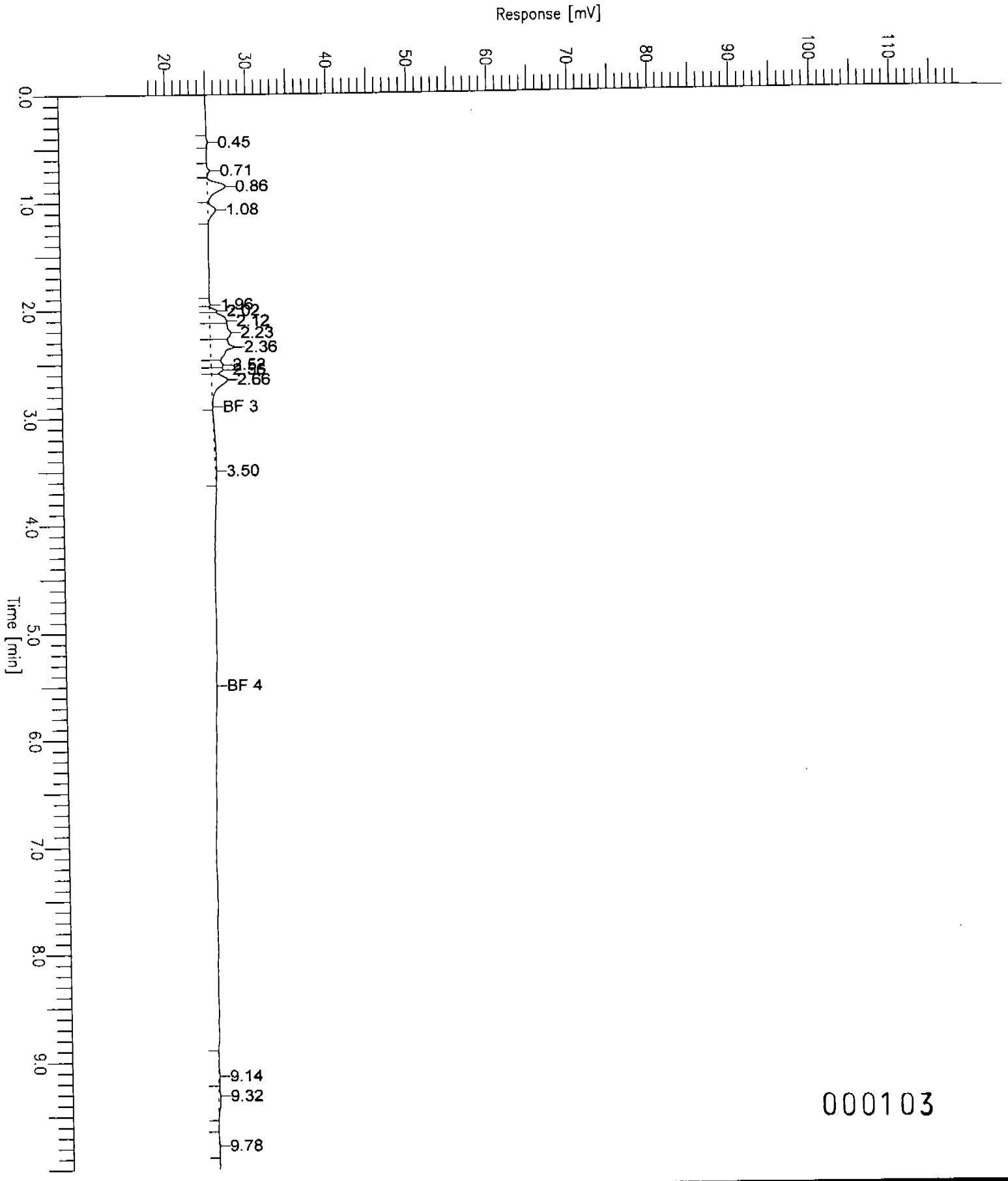
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305318
FileName : C:\TC4\LC151\A31_021.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 21 Page 1 of 1
Date : 5/21/02 21:17
Time of Injection: 5/21/02 18:44
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000103

Software Version: 4.1<2F12>
Sample Name : 305318
Sample Number: 21
Operator :

Time : 5/21/02 21:17
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 18:44
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_021.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.9800

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 3CAWP01003		LOD	LOQ	Units
	Lab Sample No:	305319				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	9.5		1.9	6.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	10600		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	7.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	9.2		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:47
Date Received:	05/14/02
Time Received:	08:43

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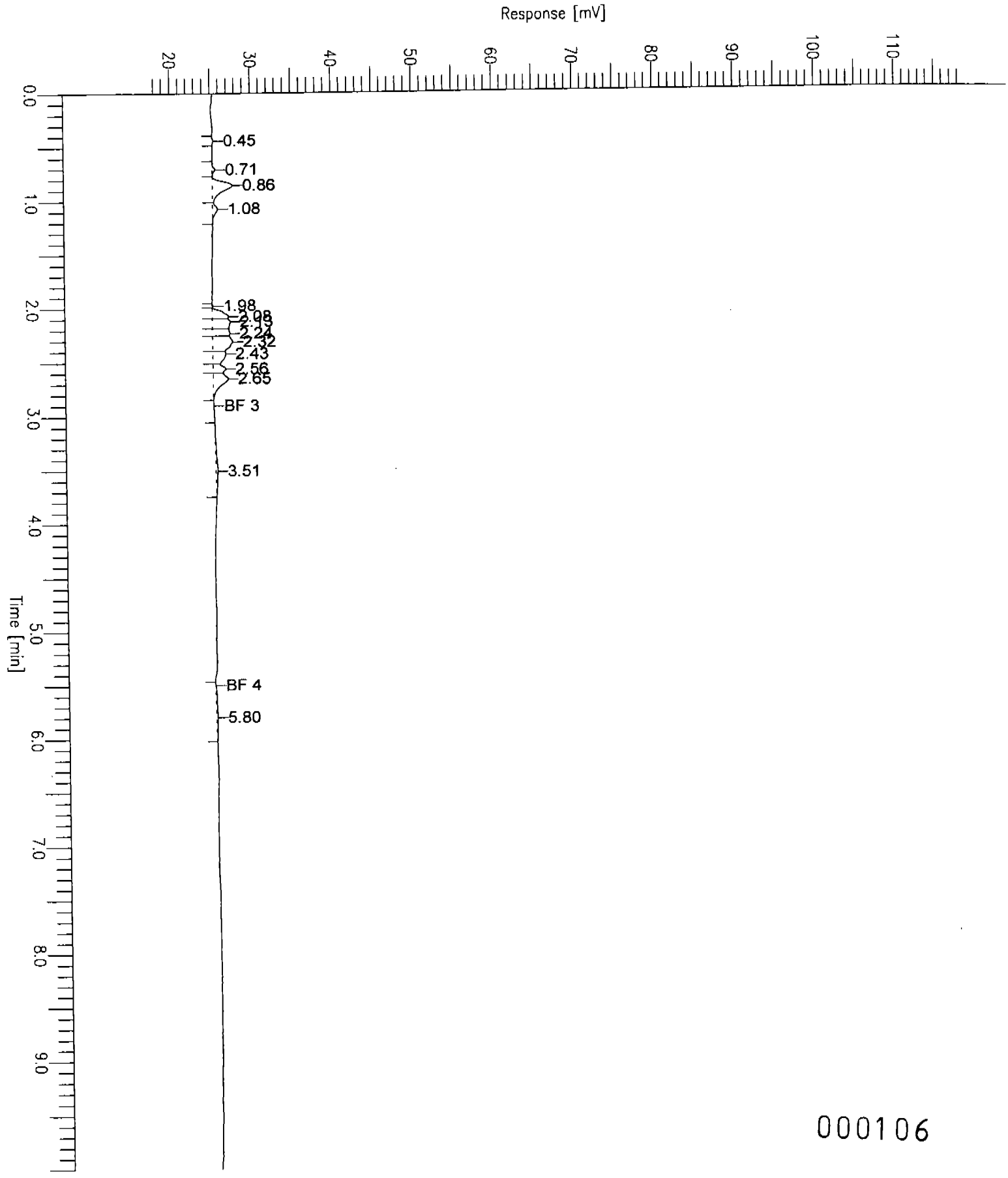
Chromatogram

Sample Name : 305319
FileName : C:\TC4\LC151\A31_022.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 22
Date : 5/21/02 21:17
Time of Injection: 5/21/02 19:03
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305319
Sample Number: 22
Operator :

Time : 5/21/02 21:17
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 19:03
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_022.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.9800

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2		LOD	LOQ	Units
		2BWP01004				
	Lab Sample No:	305320				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	8.5		2.0	6.8	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	12400		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	12		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:52
Date Received:	05/14/02
Time Received:	08:43

000108

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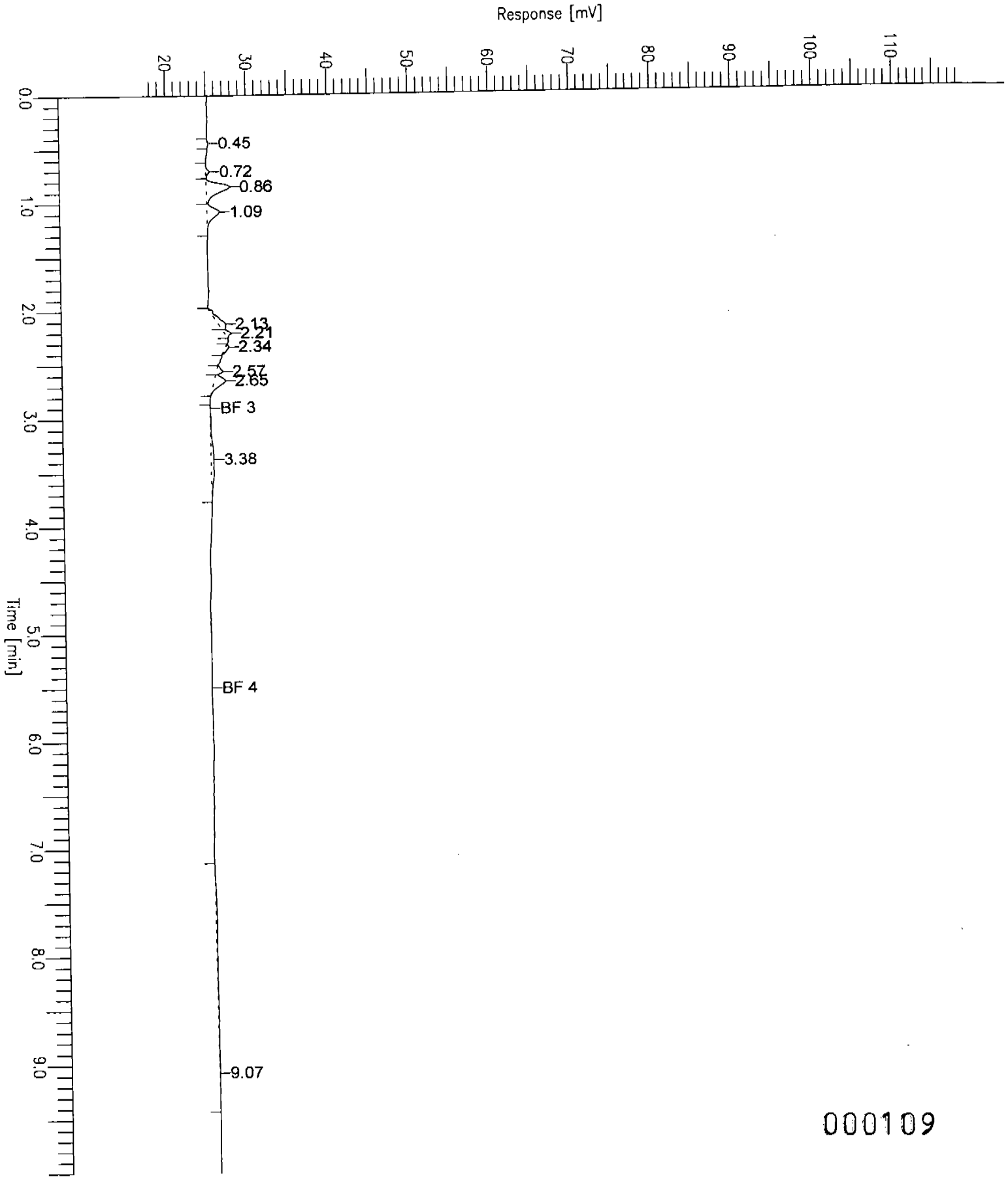
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305320
FileName : C:\TC4\LC151\A31_024B.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 24
Date : 5/21/02 21:19
Time of Injection: 5/21/02 20:25
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305320
Sample Number: 24
Operator :

Time : 5/21/02 21:19
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 20:25
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_024B.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.9700

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2		LOD	LOQ	Units
		1DWP01005				
	Lab Sample No:	305321				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	21		2.0	6.6	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	13300		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	16		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	30		0.04	0.13	mg/kg dry
Sampled by:		C. Bursich				
Date Sampled:		05/13/02				
Time Sampled:		10:55				
Date Received:		05/14/02				
Time Received:		08:43				

000111

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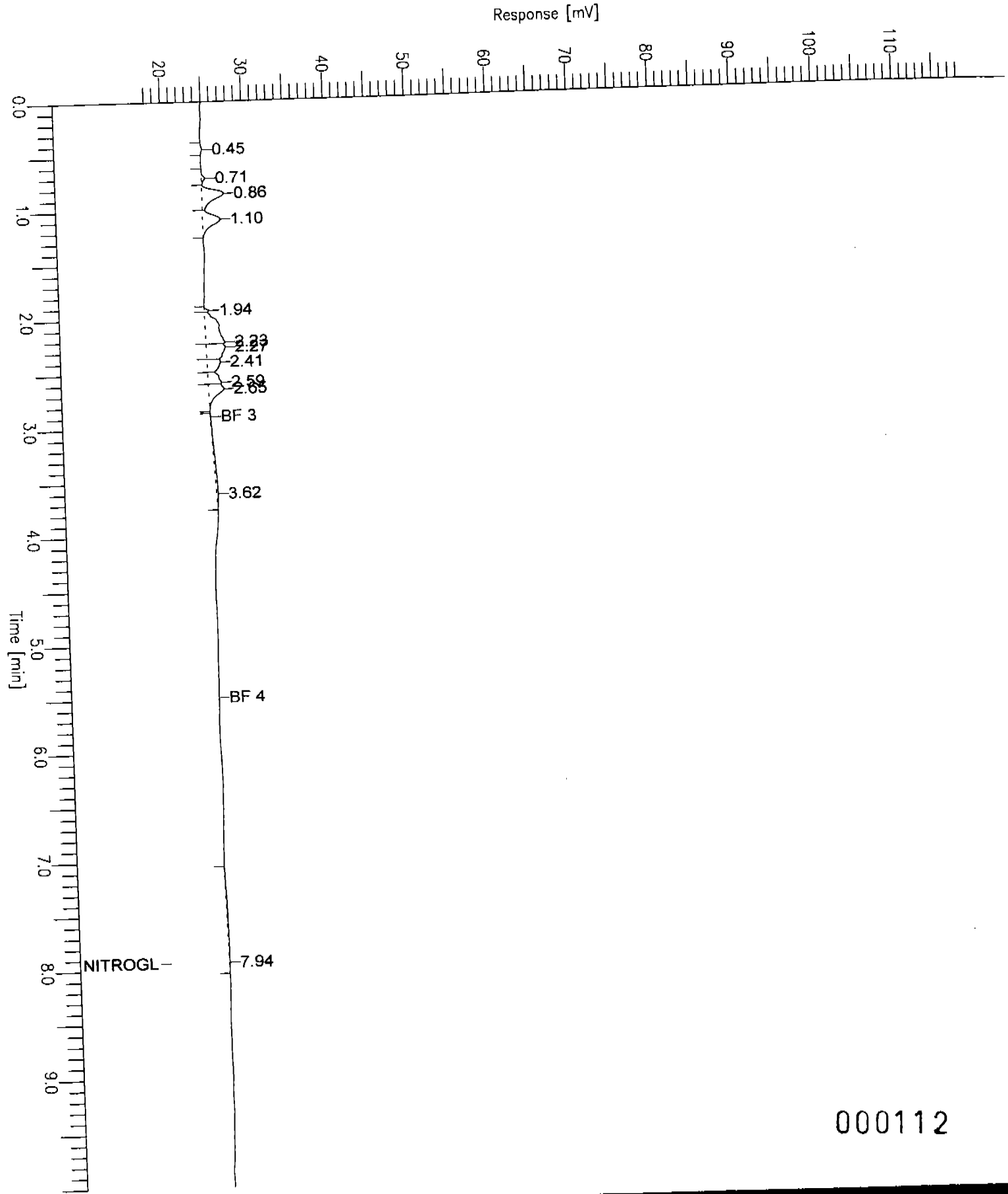
Chromatogram

Sample Name : 305321
FileName : C:\TC4\LC151\A31_025.RAW
Method : 8332_05.MTH
Start Time : 0.00 min
End Time : 10.00 min
Scale Factor: 0.0
Plot Offset: 18 mV

Sample #: 25
Date : 5/21/02 21:19
Time of Injection: 5/21/02 20:40
Low Point : 18.00 mV
High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305321
Sample Number: 25
Operator :

Time : 5/21/02 21:19
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 20:40
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_025.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.9700

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
7.941	NITROGLYCERIN	0.1870	4140.00	73.25	2.00	10.0	0.9638	LMAL
		0.1870	4140.00	73.25	2.00	10.0	0.9638	

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2		LOD	LOQ	Units
		3DNS01006				
	Lab Sample No:	305322				
E-1047	Percent Solids	93		N/A	0.1	%
9004-70-0	Nitrocellulose	12		2.1	6.9	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	10700		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	15		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	12		0.04	0.13	mg/kg dry
Sampled by:		C. Bursich				
Date Sampled:		05/13/02				
Time Sampled:		11:00				
Date Received:		05/14/02				
Time Received:		08:43				

000114

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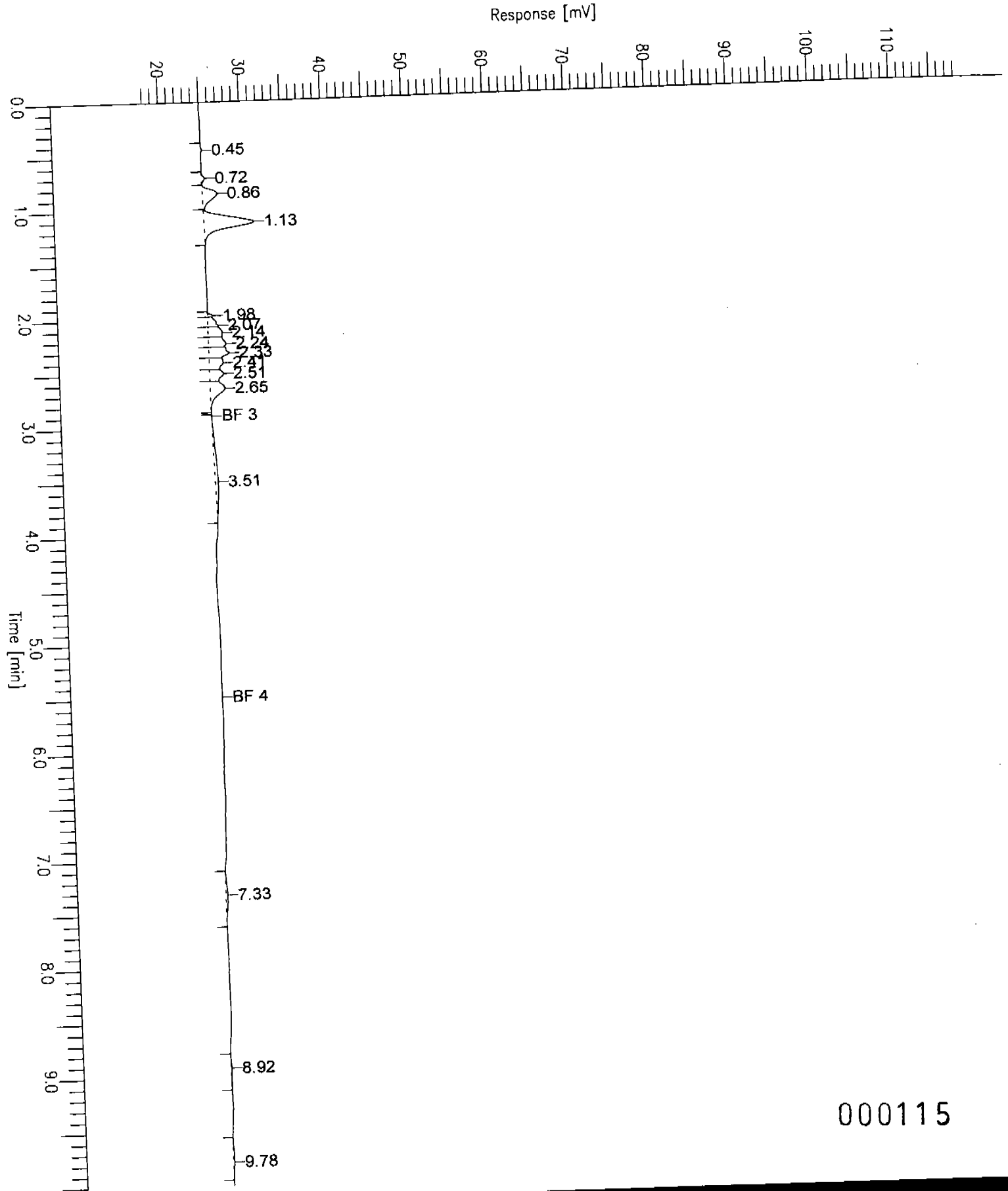
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305322
FileName : C:\TC4\LC151\A31_026.RAW
Method : 8332_05.MTH
Start Time : 0.00 min
End Time : 10.00 min
Scale Factor: 0.0
Plot Offset: 18 mV

Sample #: 26
Date : 5/21/02 21:20
Time of Injection: 5/21/02 20:54
Low Point : 18.00 mV
High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305322
Sample Number: 26
Operator :

Time : 5/21/02 21:20
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 20:54
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_026.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.9300

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 5CNS01007		LOD	LOQ	Units
	Lab Sample No:	305323				
E-1047	Percent Solids	88		N/A	0.1	%
9004-70-0	Nitrocellulose	8.3		2.1	6.9	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	17300		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	22		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	24		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:07
Date Received:	05/14/02
Time Received:	08:43

000117

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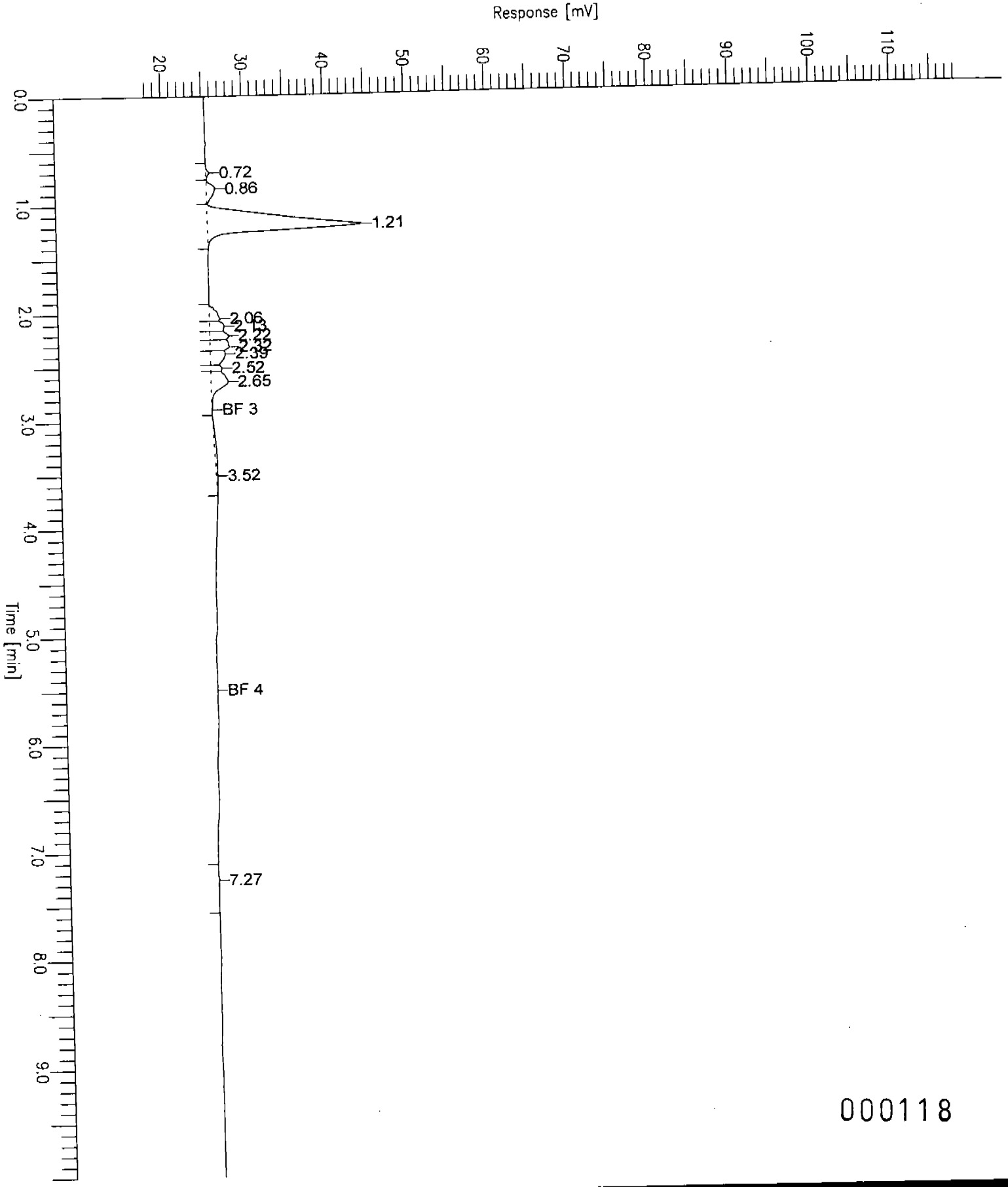
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305323
FileName : C:\TC4\LC151\A31_027.RAW
Method : 8332_05.MTH
Start Time : 0.00 min
End Time : 10.00 min
Scale Factor: 0.0
Plot Offset: 18 mV

Sample #: 27
Date : 5/21/02 21:20
Time of Injection: 5/21/02 21:09
Low Point : 18.00 mV
High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305323
Sample Number: 27
Operator :

Time : 5/21/02 21:20
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 21:09
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_027.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.8800

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 2AWP01001		LOD	LOQ	Units
	Lab Sample No:	305324				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.5	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2570		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.6		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.7		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:30
Date Received:	05/14/02
Time Received:	08:43

000120

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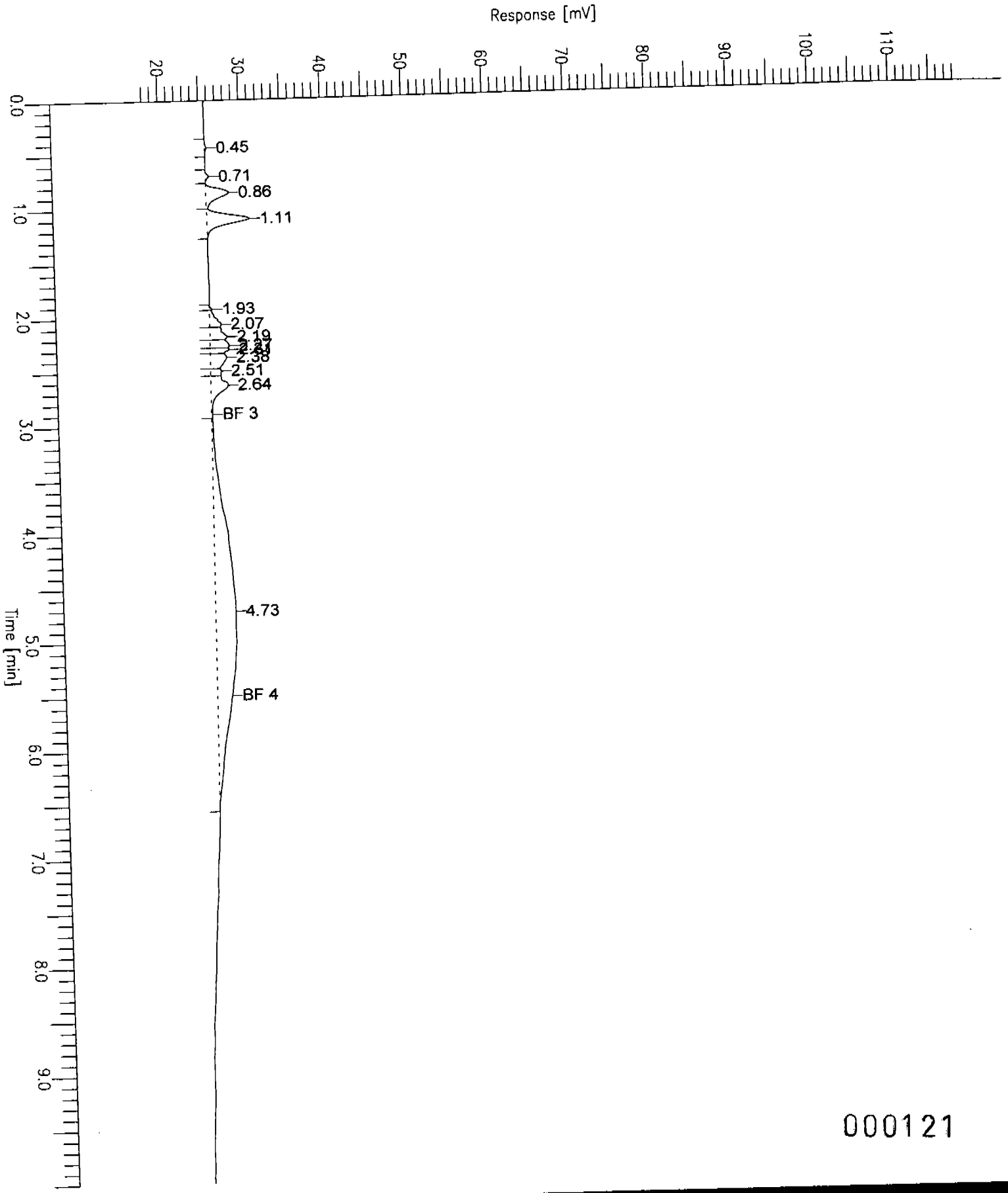
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305324
FileName : C:\TC4\LC151\A31_028.RAW
Method : 8332_05.MTH
Start Time : 0.00 min
Scale Factor: 0.0
End Time : 10.00 min
Plot Offset: 18 mV

Sample #: 28
Date : 5/22/02 06:39
Time of Injection: 5/21/02 21:23
Low Point : 18.00 mV
High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305324
Sample Number: 28
Operator :

Time : 5/22/02 06:39
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 21:23
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_028.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 4AWP01002		LOD	LOQ	Units
	Lab Sample No:	305325				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	4.9	J	1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 2780		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.0		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	4.5		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 11:33
Date Received: 05/14/02
Time Received: 08:43

* See attached Statement of Data Qualifications.

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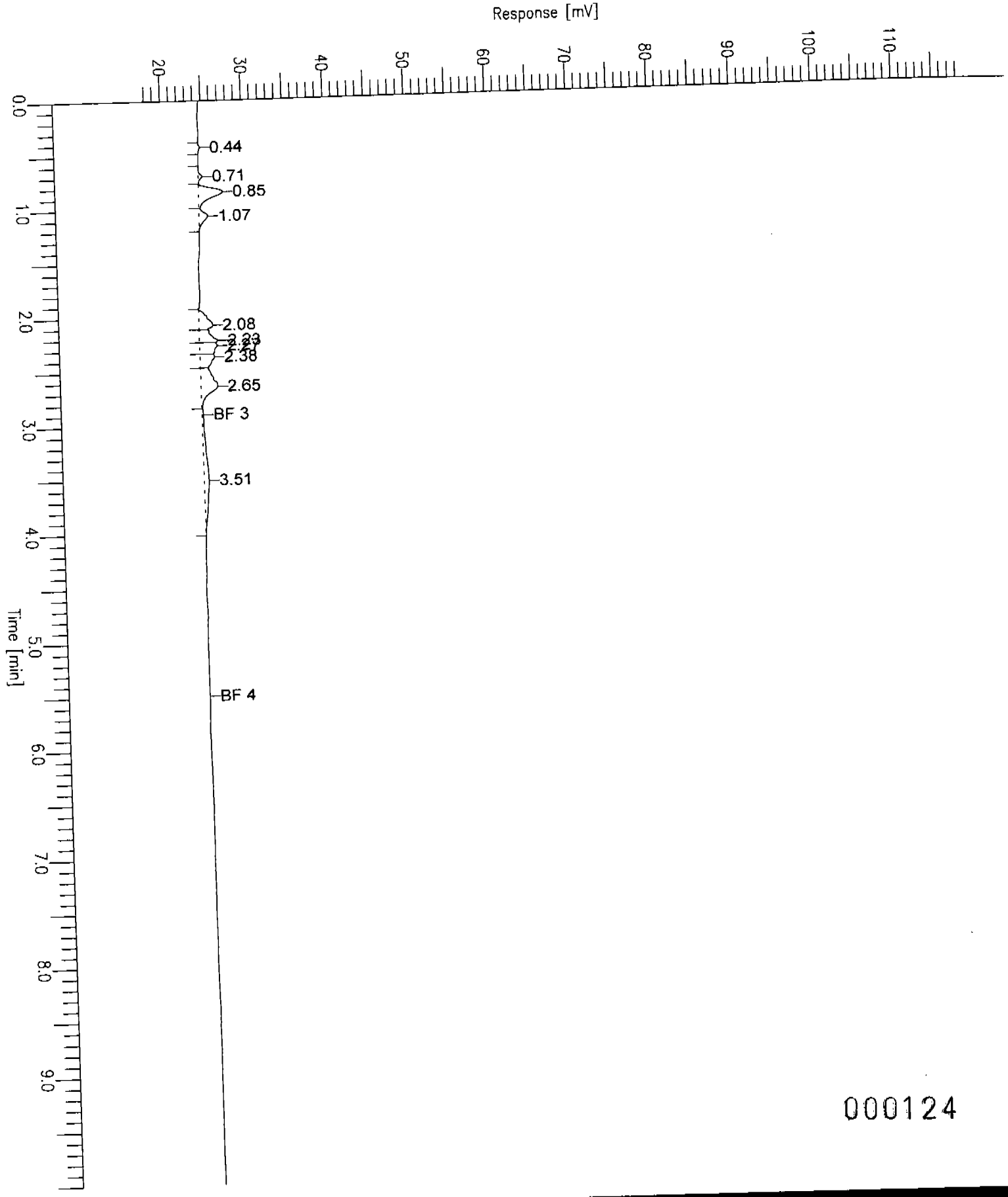
Chromatogram

Sample Name : 305325
FileName : C:\TC4\LC151\A31_029.RAW
Method : 8332_05.MTH
Start Time : 0.00 min
Scale Factor: 0.0

End Time : 10.00 min
Plot Offset: 18 mV

Sample #: 29
Date : 5/22/02 06:39
Time of Injection: 5/21/02 21:38
Low Point : 18.00 mV
High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305325
Sample Number: 29
Operator :

Time : 5/22/02 06:39
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 21:38
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_029.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 4BNP01003		LOD	LOQ	Units
	Lab Sample No:	305326				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	4.7	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2960		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.7		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 11:37
Date Received: 05/14/02
Time Received: 08:43

000126

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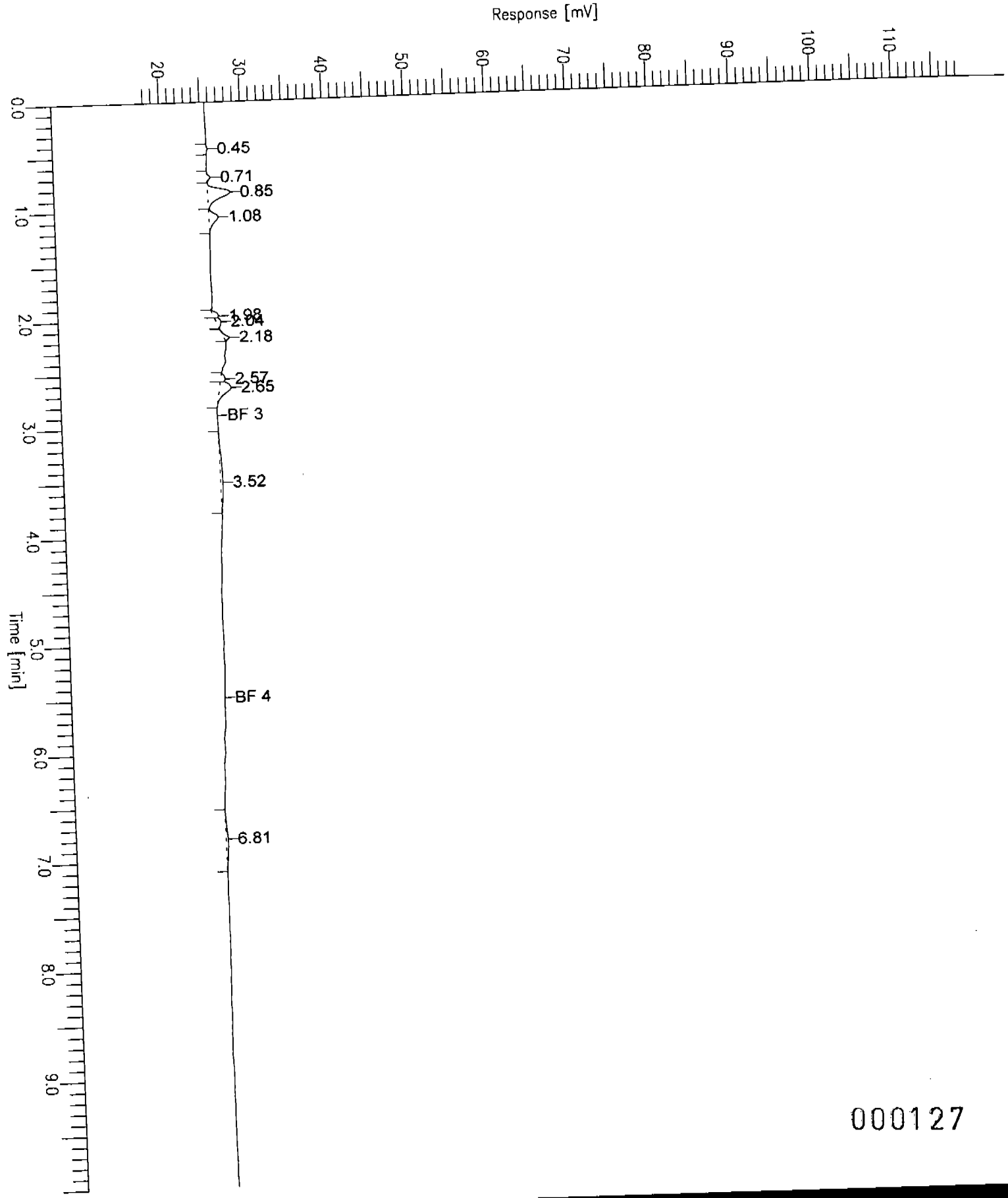
Chromatogram

Sample Name : 305326
FileName : C:\TC4\LC151\A31_032.RAW
Method : 8332_05.MTH
Start Time : 0.00 min
End Time : 10.00 min
Scale Factor: 0.0
Plot Offset: 18 mV

Sample #: 32
Date : 5/22/02 06:41
Time of Injection: 5/21/02 22:22
Low Point : 18.00 mV
High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305326
Sample Number: 32
Operator :

Time : 5/22/02 06:41
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 22:22
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_032.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.9900

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 5CWP01004		LOD	LOQ	Units
	Lab Sample No:	305327				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.1	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1140		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.3		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.1		0.04	0.13	mg/kg dry
Sampled by:		C. Bursich				
Date Sampled:		05/13/02				
Time Sampled:		11:42				
Date Received:		05/14/02				
Time Received:		08:43				

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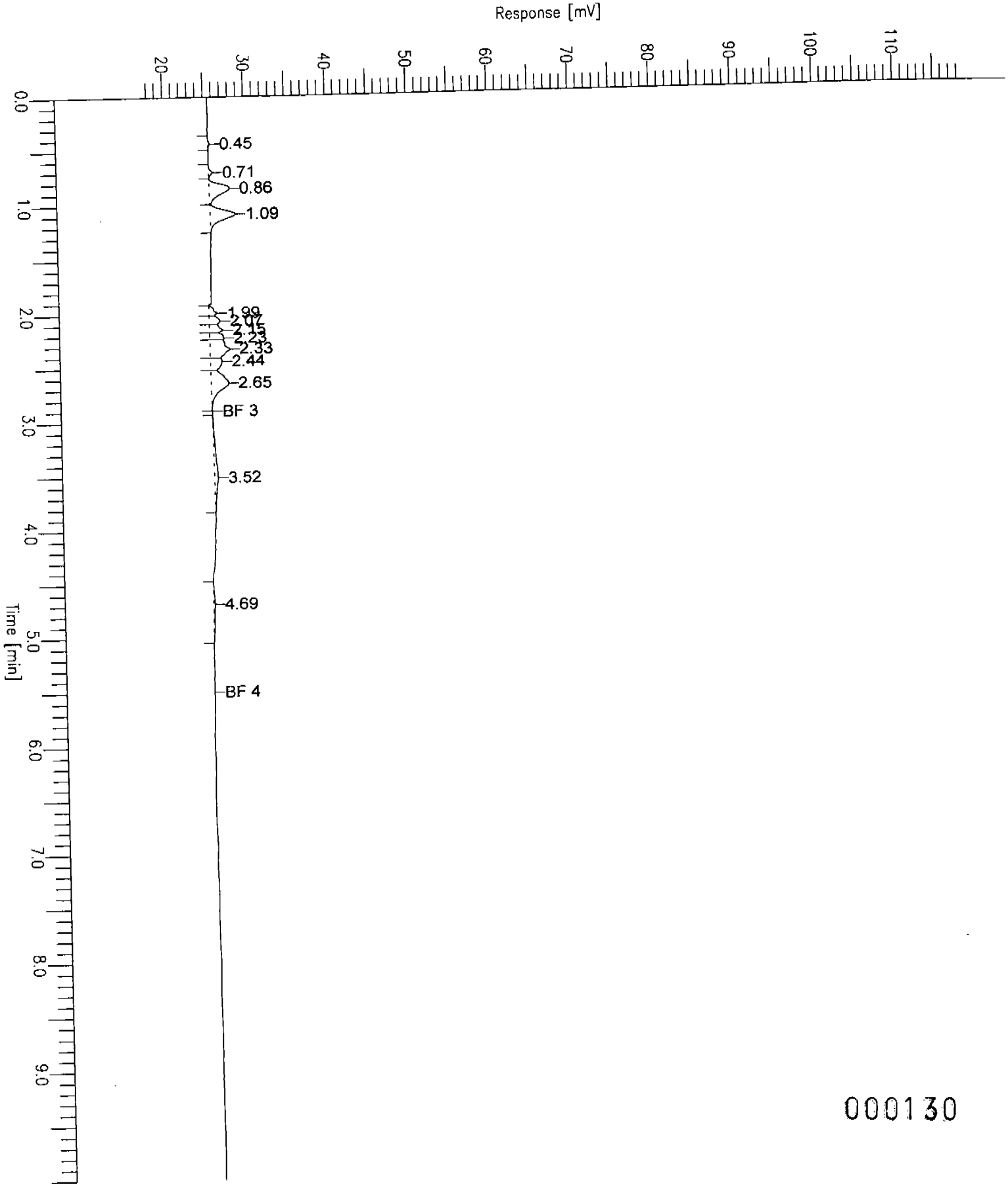
Chromatogram

Sample Name : 305327
FileName : C:\TC4\LC151\A31_033.RAW
Method : 8332_05.MTH
Start Time : 0.00 min
End Time : 10.00 min
Scale Factor: 0.0
Plot Offset: 18 mV

Sample #: 33
Date : 5/22/02 06:41
Time of Injection: 5/21/02 22:36
Low Point : 18.00 mV
High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305327
Sample Number: 33
Operator :

Time : 5/22/02 06:41
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 22:36
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_033.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 5CAWP01004		LOD	LOQ	Units
	Lab Sample No:	305328				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	5.1	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2160		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.7		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:45
Date Received:	05/14/02
Time Received:	08:43

000132

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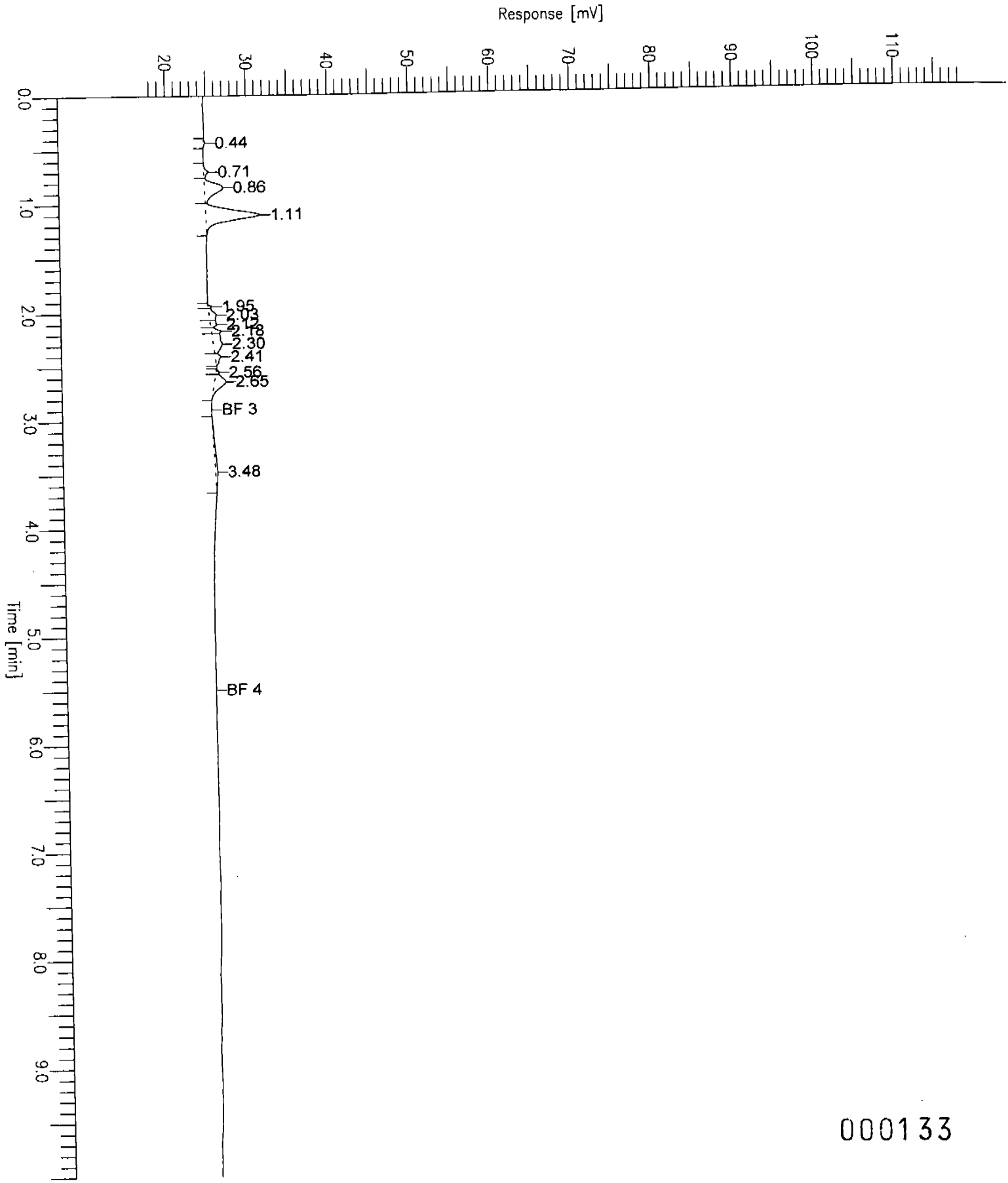
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305328
FileName : C:\TC4\LC151\A31_035.RAW
Method : 8332_05.MTH
Start Time : 0.00 min
End Time : 10.00 min
Scale Factor: 0.0
Plot Offset: 18 mV

Sample #: 35
Date : 5/22/02 06:44
Time of Injection: 5/21/02 23:20
Low Point : 18.00 mV
High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305328
Sample Number: 35
Operator :

Time : 5/22/02 06:57
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 23:20
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_035.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 6AWP01005		LOD	LOQ	Units
	Lab Sample No:	305329				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.1	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1940		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.1		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.6		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:47
Date Received:	05/14/02
Time Received:	08:43

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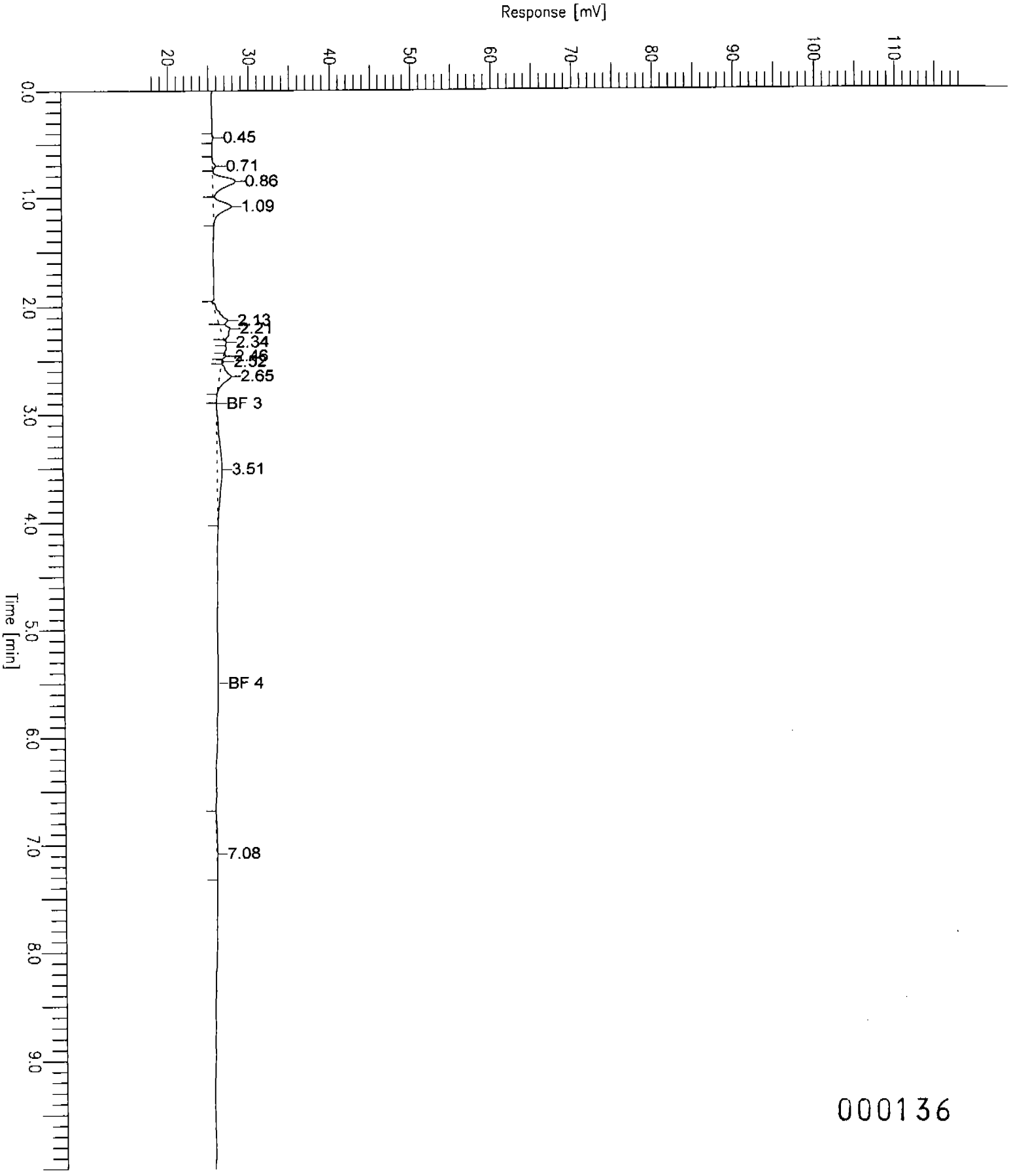
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305329
FileName : C:\TC4\LC151\A31_036.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 36
Date : 5/22/02 06:44
Time of Injection: 5/21/02 23:35
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305329 Time : 5/22/02 06:44
Sample Number: 36 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 23:35
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_036.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 6BWP01006		LOD	LOQ	Units
	Lab Sample No:	305330				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	9.8		1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5120		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.9		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.1		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:52
Date Received:	05/14/02
Time Received:	08:43

000138

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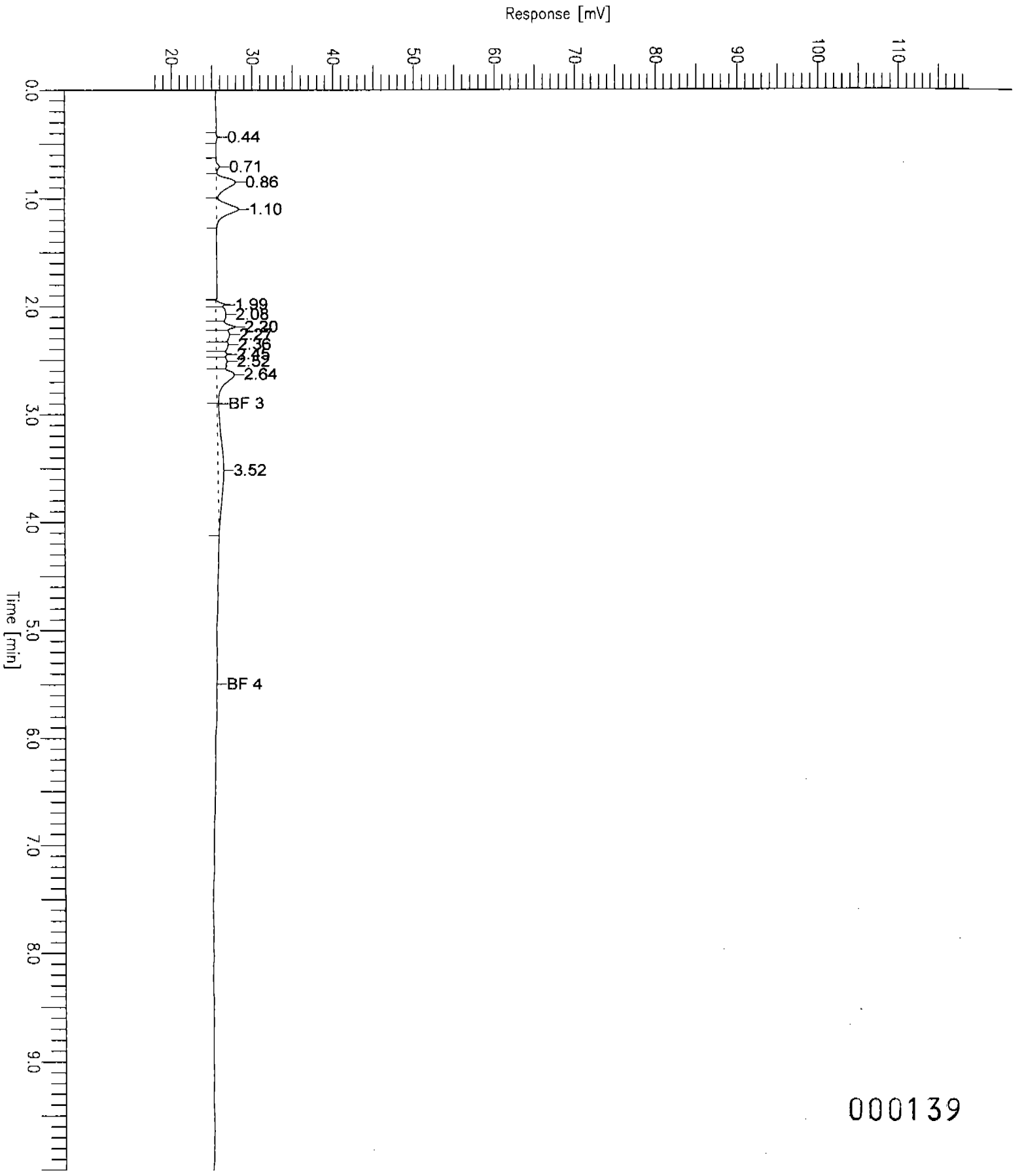
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305330
FileName : C:\TC4\LC151\A31_037.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 37 Page 1 of 1
Date : 5/22/02 06:44
Time of Injection: 5/21/02 23:49
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305330 Time : 5/22/02 06:44
Sample Number: 37 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 23:49
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_037.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9900 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 8AWP01007		LOD	LOQ	Units
	Lab Sample No:	305331				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	2.8	J	2.1	7.0	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	4200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	10		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.4		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:55
Date Received:	05/14/02
Time Received:	08:43

000141

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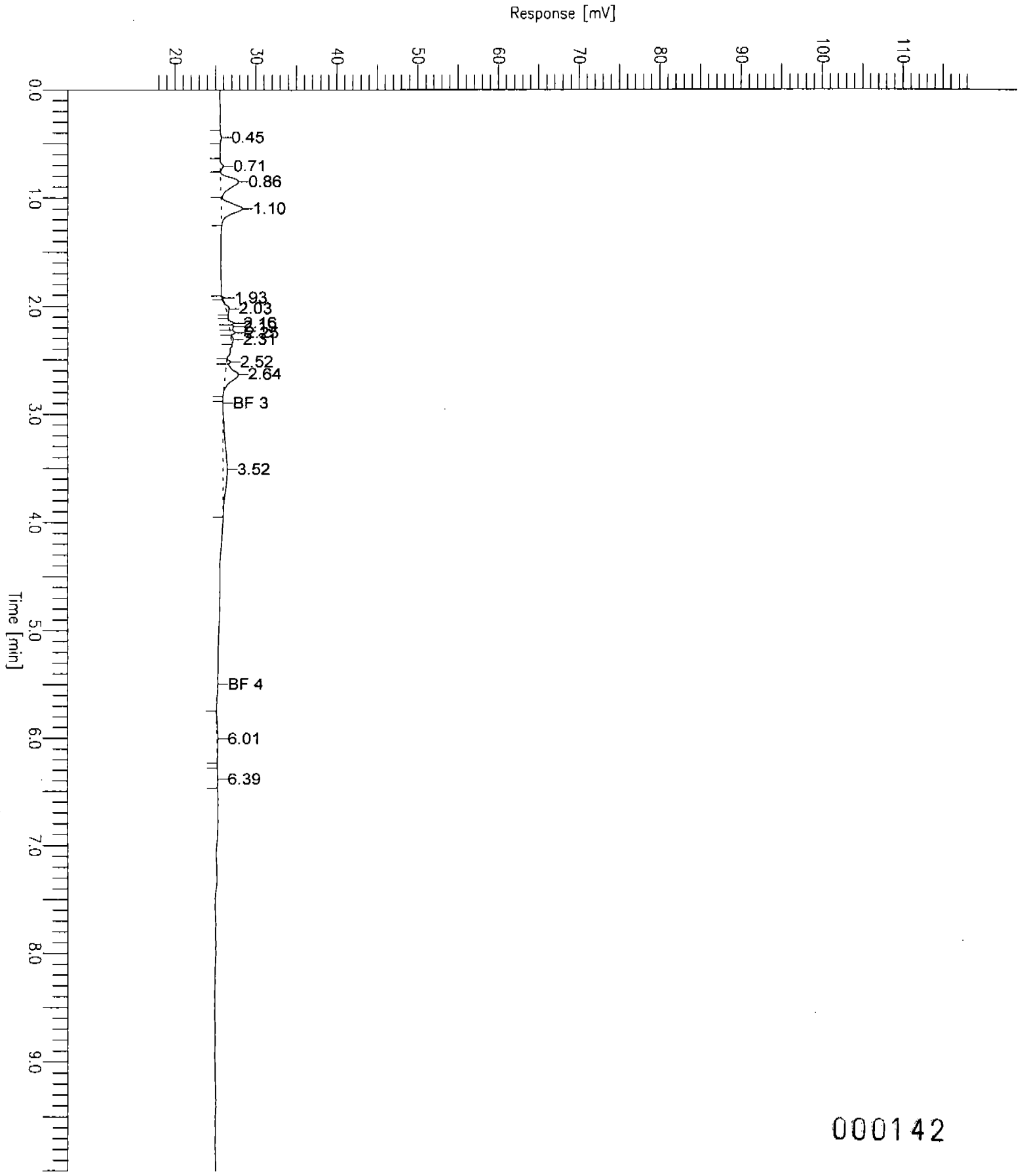
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305331
FileName : C:\TC4\LC151\A31_038.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 38 Page 1 of 1
Date : 5/22/02 06:45
Time of Injection: 5/22/02 00:04
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305331 Time : 5/22/02 06:45
Sample Number: 38 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 00:04
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_038.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9900 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 9BWP01008		LOD	LOQ	Units
	Lab Sample No:	305332				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.7	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.9		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.9		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 11:59
Date Received: 05/14/02
Time Received: 08:43

000144

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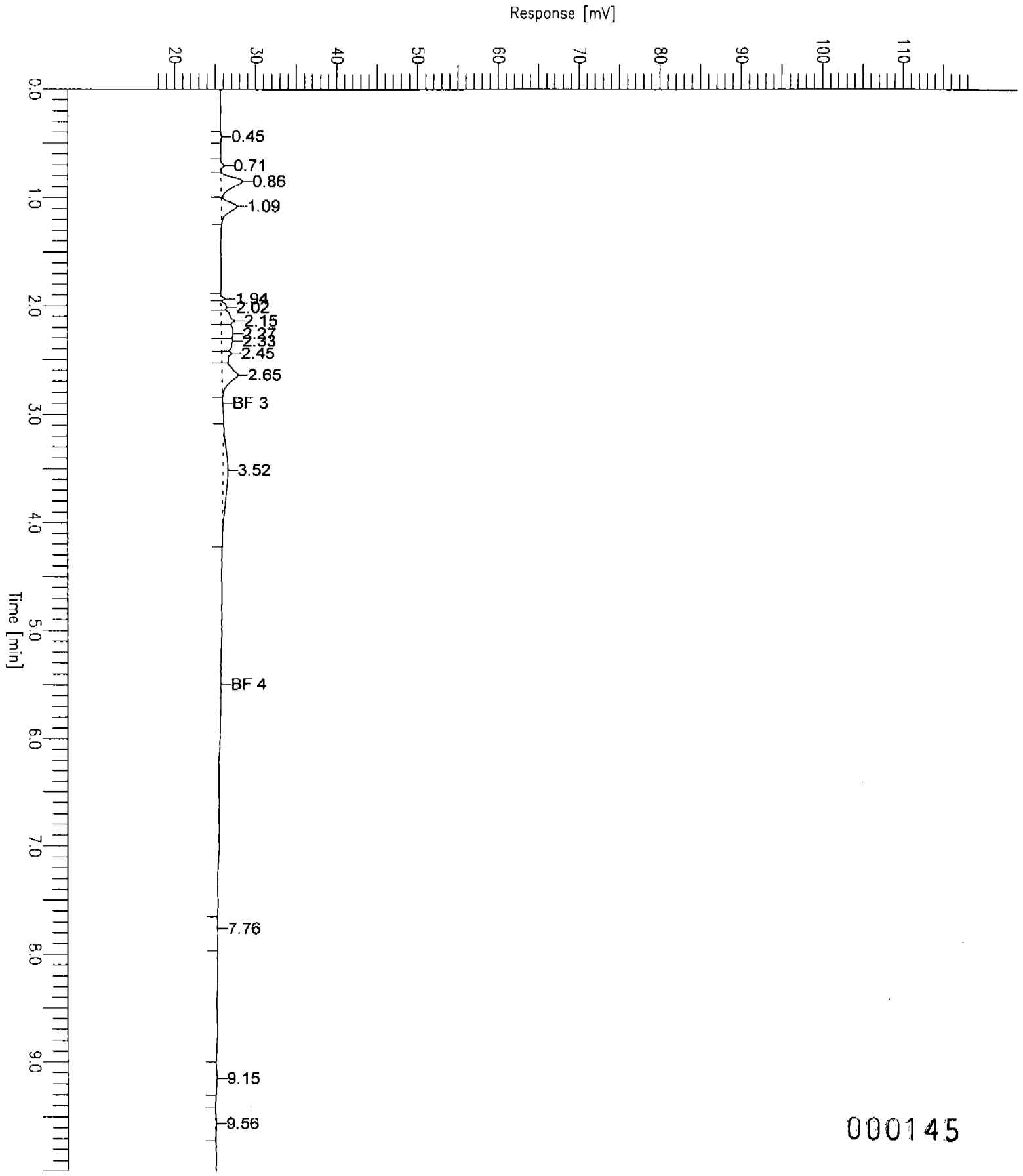
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305332
FileName : C:\TC4\LC151\A31_039.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 39 Page 1 of 1
Date : 5/22/02 06:45
Time of Injection: 5/22/02 00:18
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000145

Software Version: 4.1<2F12>
Sample Name : 305332 Time : 5/22/02 06:45
Sample Number: 39 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 00:18
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_039.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 1ANS01001		LOD	LOQ	Units
	Lab Sample No:	305333				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.3	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2620		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	10		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	7.7		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:15
Date Received:	05/14/02
Time Received:	08:43

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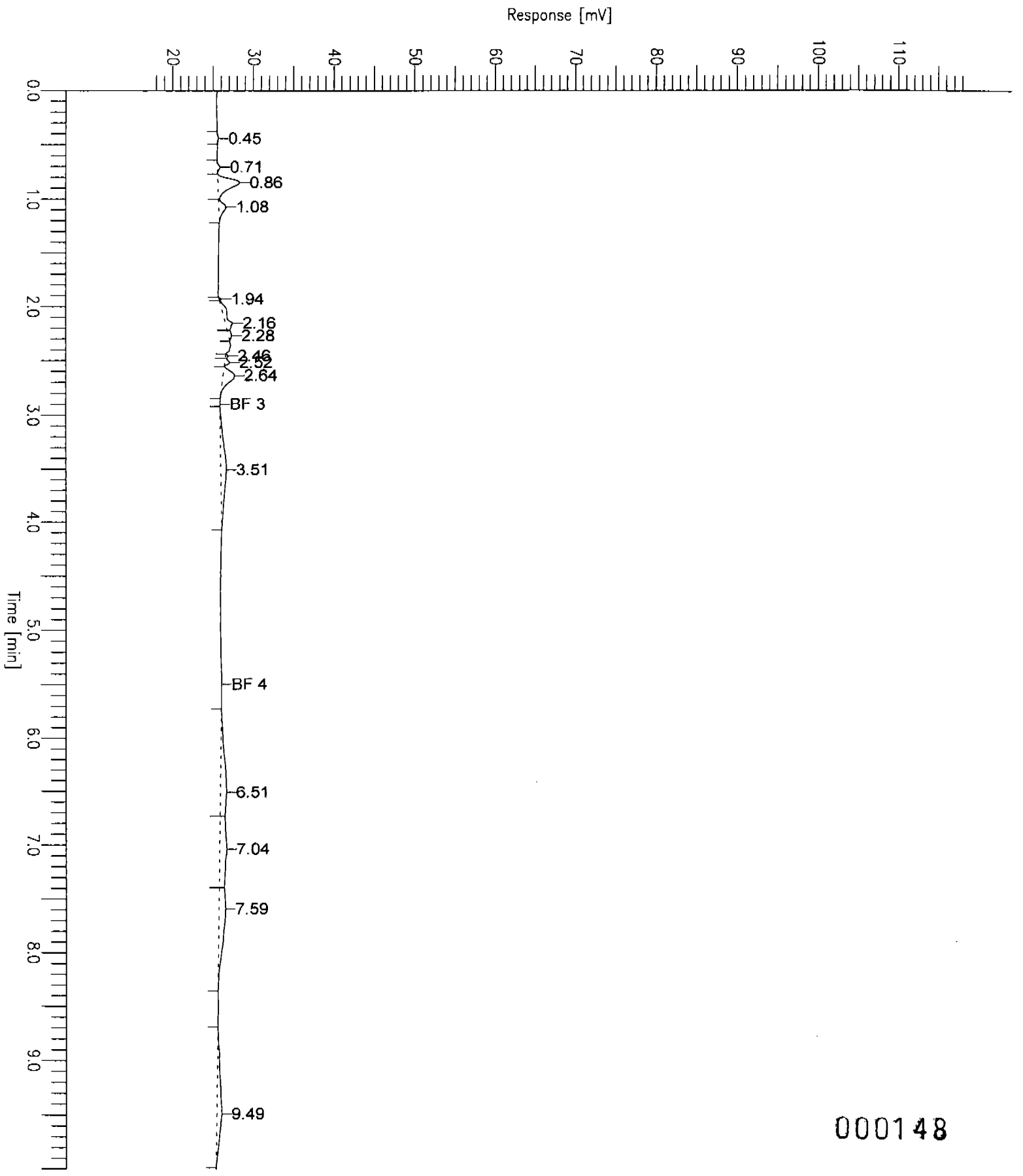
Chromatogram

Sample Name : 305333
FileName : C:\TC4\LC151\A31_040.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 40 Page 1 of 1
Date : 5/22/02 06:45
Time of Injection: 5/22/02 00:33
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000148

Software Version: 4.1<2F12>
Sample Name : 305333 Time : 5/22/02 06:45
Sample Number: 40 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 00:33
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_040.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9600 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 2CNS01002		LOD	LOQ	Units
	Lab Sample No:	305334				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	2.4	J	1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	4590		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	15		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	8.6		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:19
Date Received:	05/14/02
Time Received:	08:43

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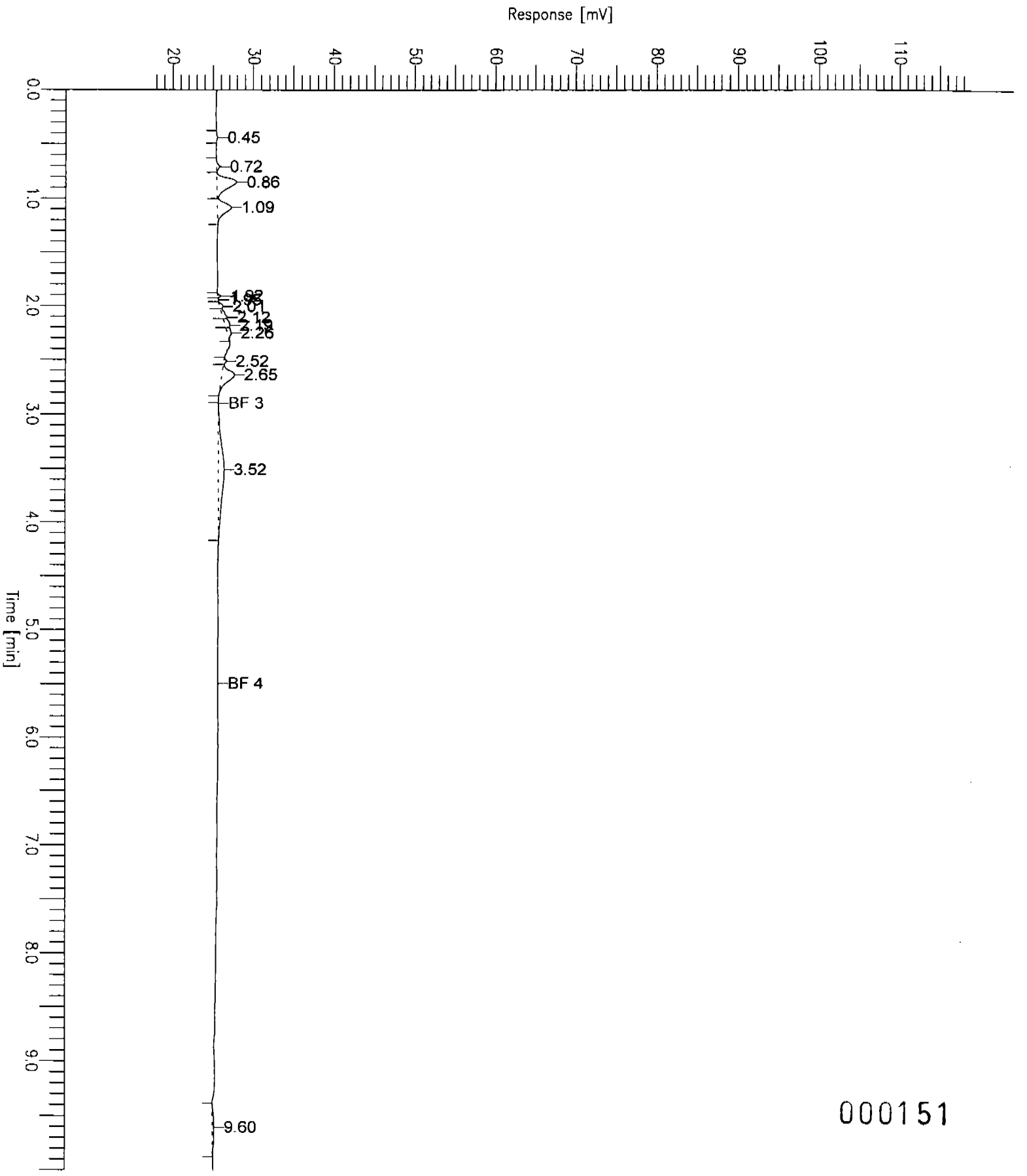
Chromatogram

Sample Name : 305334
FileName : C:\TC4\LC151\A31_041.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 41 Page 1 of 1
Date : 5/22/02 06:45
Time of Injection: 5/22/02 00:48
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305334 Time : 5/22/02 06:45
Sample Number: 41 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 00:48
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_041.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9600 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 2CANS01002		LOD	LOQ	Units
	Lab Sample No:	305335				
E-1047	Percent Solids	94		N/A	0.1	%
9004-70-0	Nitrocellulose	4.9	J	2.1	6.9	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 3480		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	* 14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.1		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 12:22
Date Received: 05/14/02
Time Received: 08:43

* See attached Statement of Data Qualifications.

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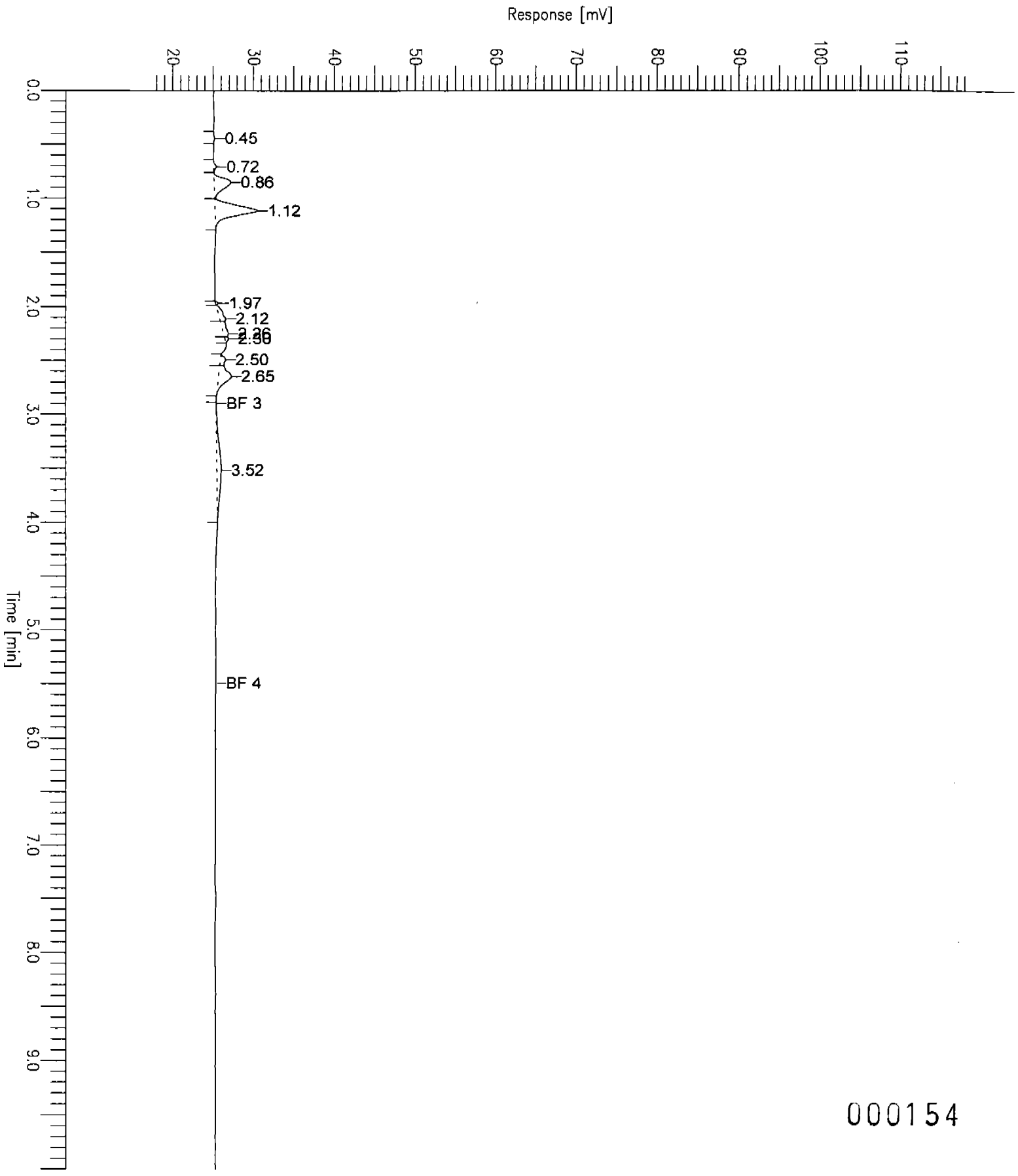
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305335
FileName : C:\TC4\LC151\A31_042.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 42 Page 1 of 1
Date : 5/22/02 06:46
Time of Injection: 5/22/02 01:02
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305335 Time : 5/22/02 06:46
Sample Number: 42 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 01:02
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_042.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9400 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 2DNS01003		LOD	LOQ	Units
	Lab Sample No:	305336				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	11		2.0	6.6	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	7940		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	13		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	10		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 12:27
Date Received: 05/14/02
Time Received: 08:43

000156

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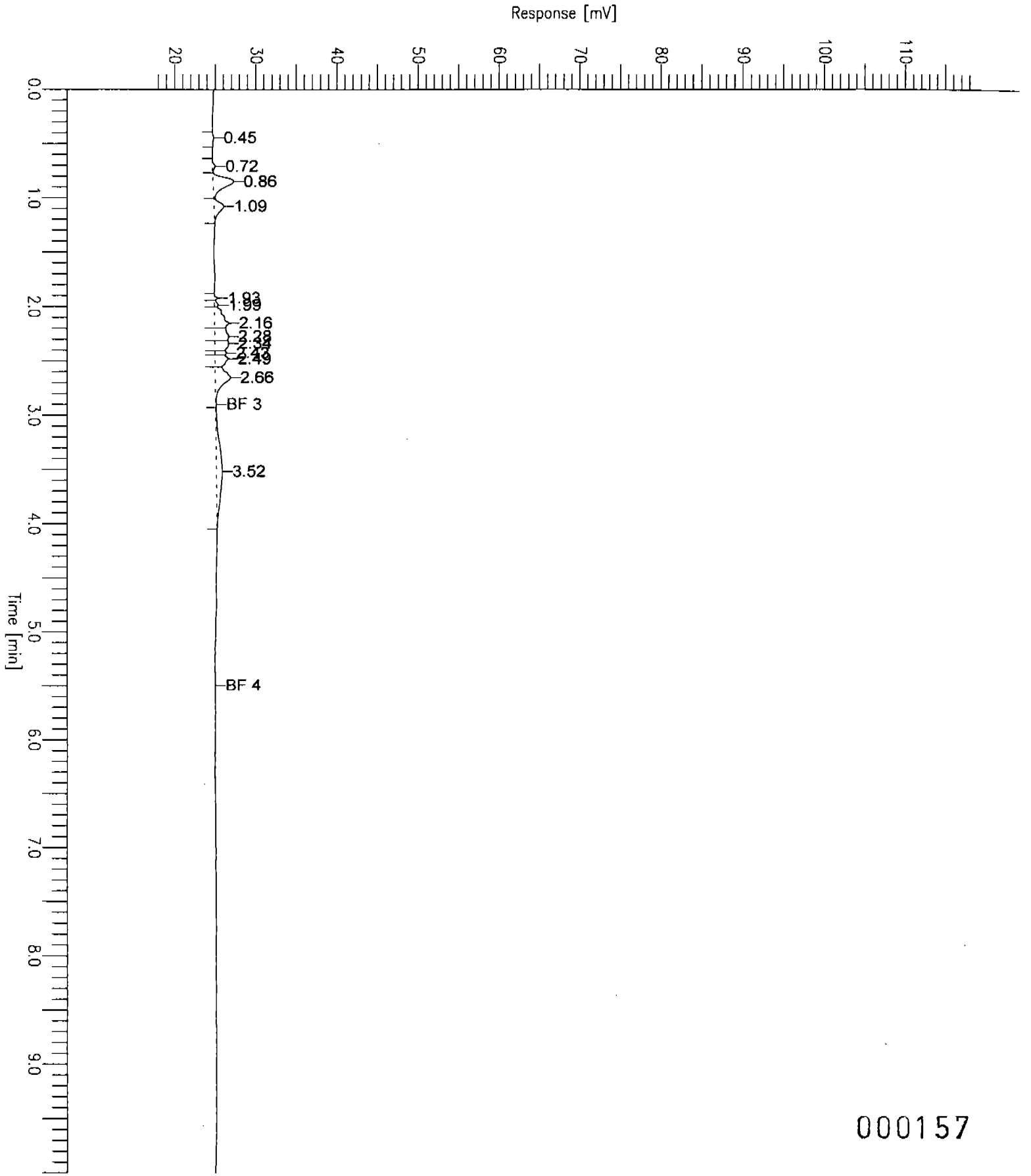
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305336
FileName : C:\TC4\LC151\A31_043.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 43 Page 1 of 1
Date : 5/22/02 06:46
Time of Injection: 5/22/02 01:17
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000157

Software Version: 4.1<2F12>
Sample Name : 305336 Time : 5/22/02 06:46
Sample Number: 43 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 01:17
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_043.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9800 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 1ENS01004		LOD	LOQ	Units
	Lab Sample No:	305337				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	4.9	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	16		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	7.1		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:29
Date Received:	05/14/02
Time Received:	08:43

000159

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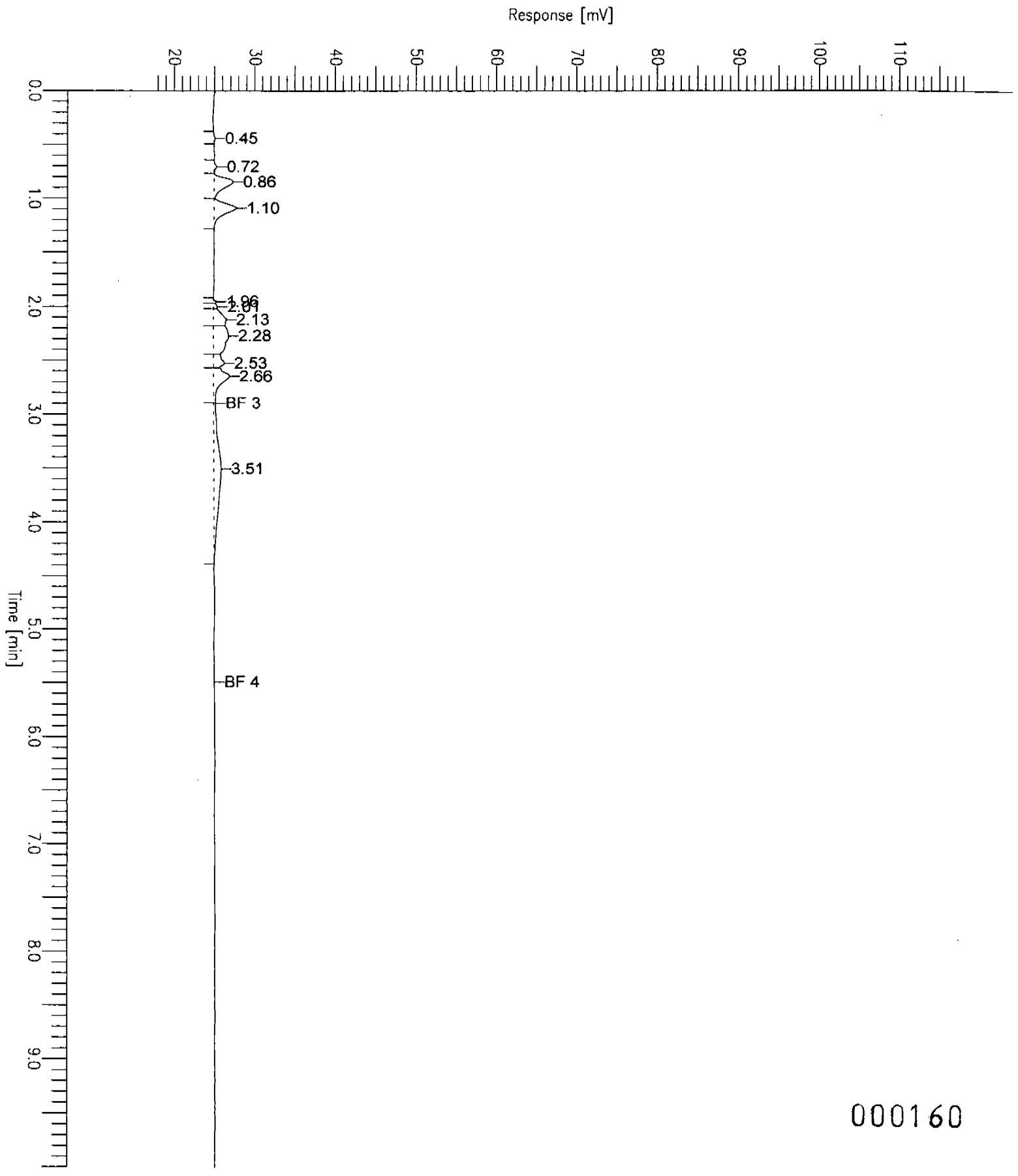
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305337
FileName : C:\TC4\LC151\A31_044.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 44 Page 1 of 1
Date : 5/22/02 06:46
Time of Injection: 5/22/02 01:31
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305337 Time : 5/22/02 06:46
Sample Number: 44 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 01:31
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_044.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9900 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 1CNP01001		LOD	LOQ	Units
	Lab Sample No:	305338				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	2.4	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5300		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	11		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.3		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:48
Date Received:	05/14/02
Time Received:	08:43

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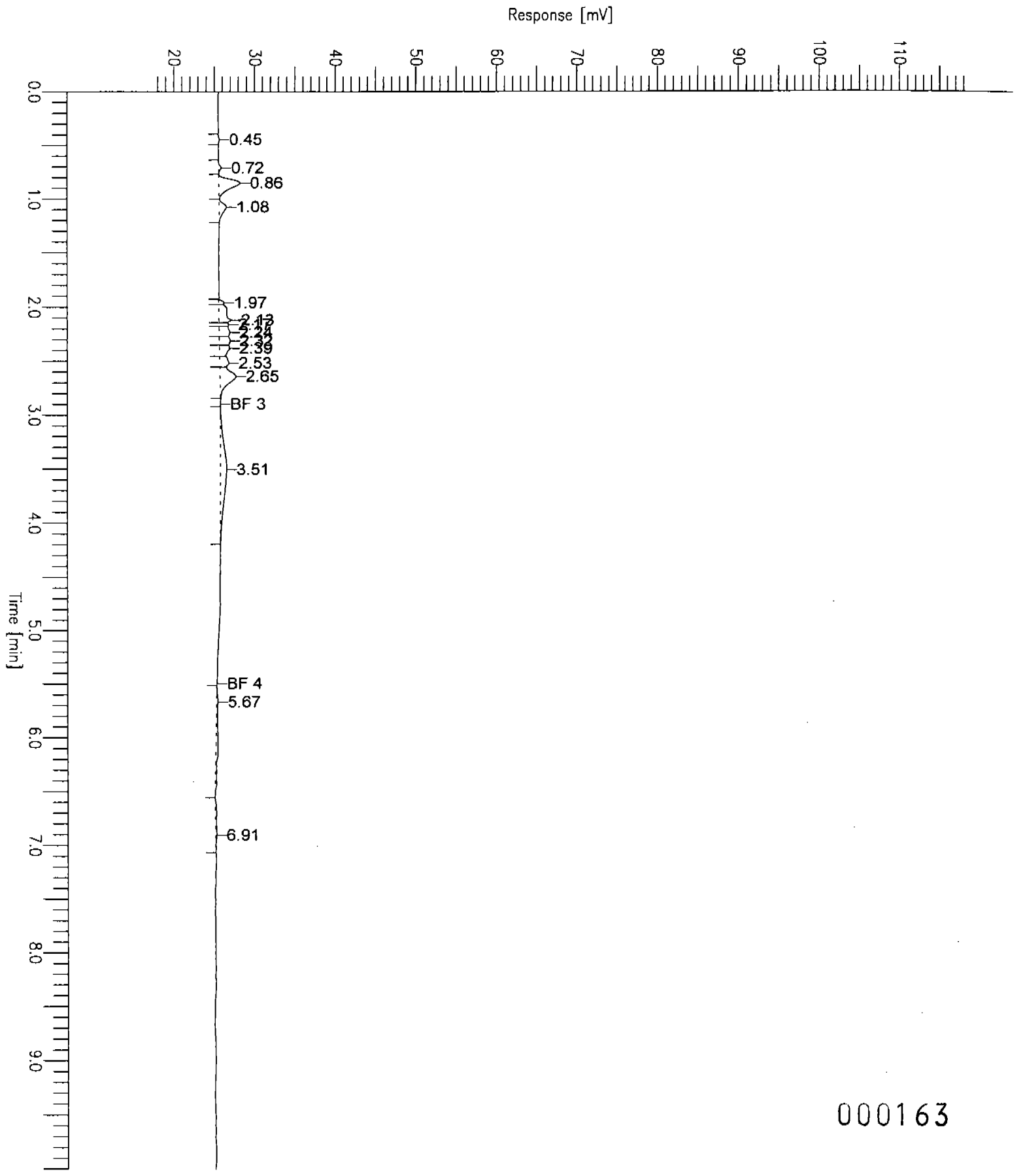
Chromatogram

Sample Name : 305338
FileName : C:\TC4\LC151\A31_047.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 47 Page 1 of 1
Date : 5/22/02 06:47
Time of Injection: 5/22/02 02:15
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000163

Software Version: 4.1<2F12>
Sample Name : 305338 Time : 5/22/02 06:47
Sample Number: 47 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 02:15
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_047.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9900 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Report

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No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 1CANP01001		LOD	LOQ	Units
	Lab Sample No:	305339				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	3.3	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5380		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	10		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	5.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:52
Date Received:	05/14/02
Time Received:	08:43

000165

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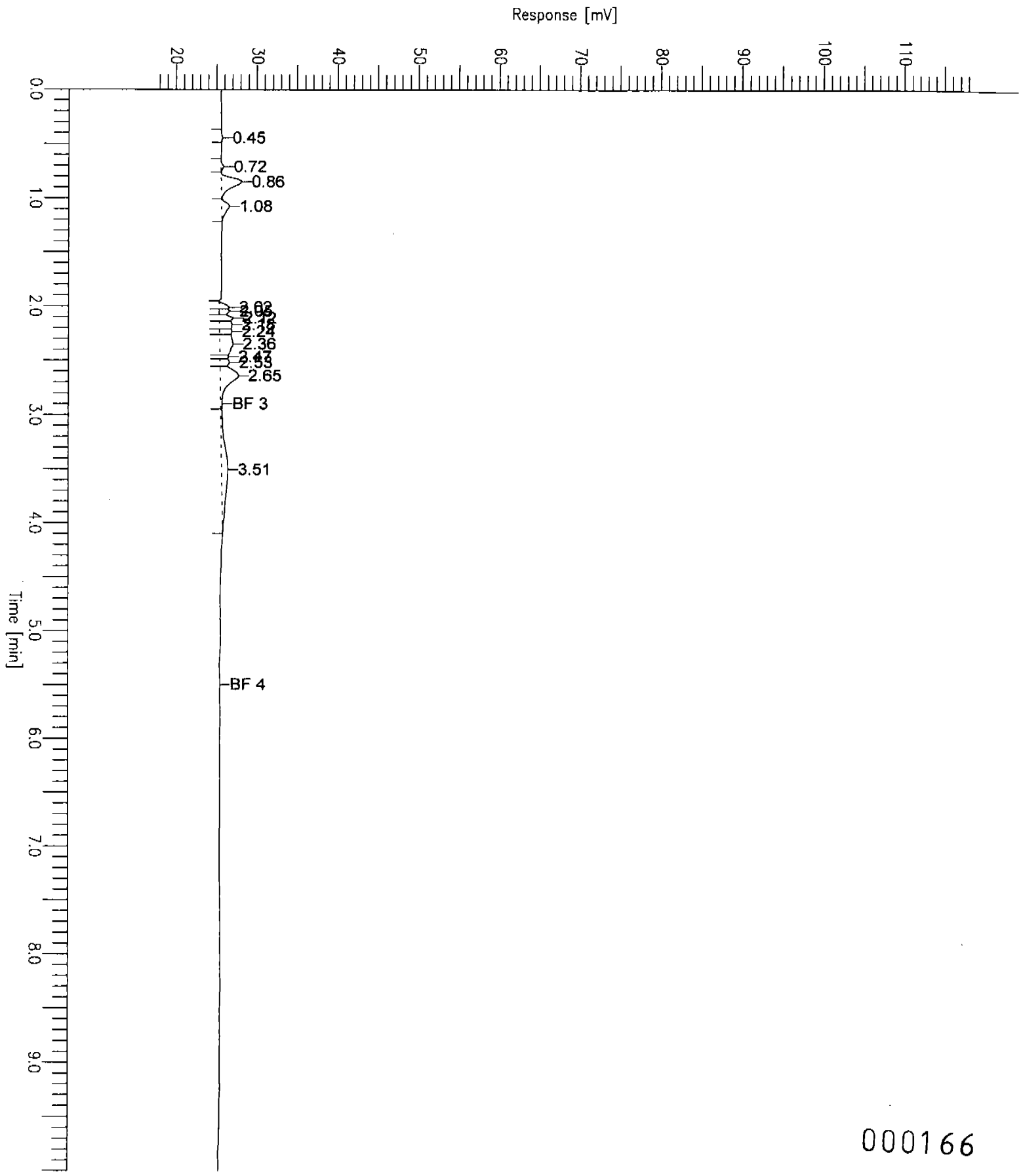
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305339
FileName : C:\TC4\LC151\A31_048.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 48 Page 1 of 1
Date : 5/22/02 06:48
Time of Injection: 5/22/02 02:30
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305339 Time : 5/22/02 06:48
Sample Number: 48 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 02:30
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_048.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9800 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Report

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 2DNP01002		LOD	LOQ	Units
	Lab Sample No:	305340				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	6.8		1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	3540		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	41		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2140		4.0	13.3	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:59
Date Received:	05/14/02
Time Received:	08:43

000168

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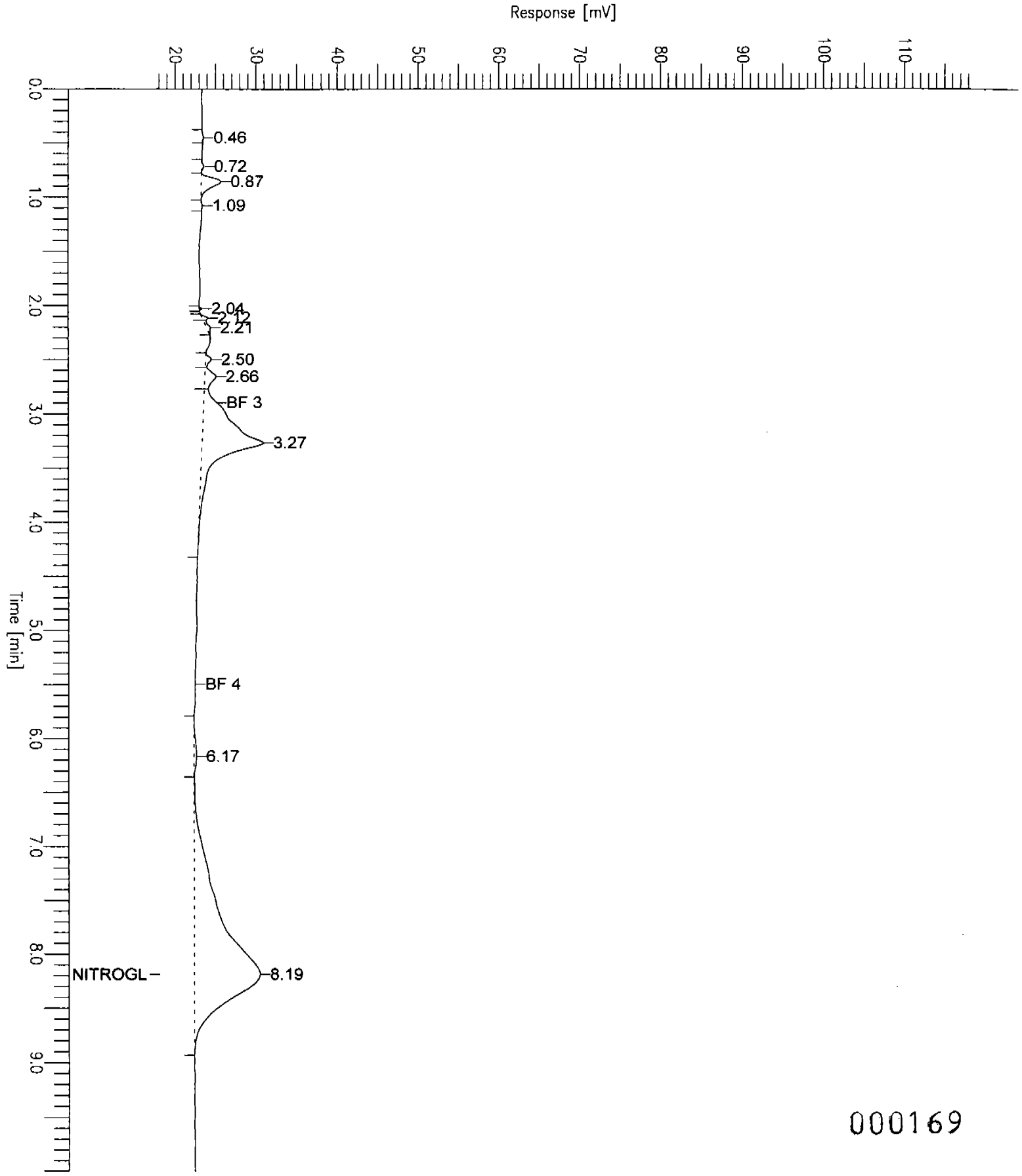
Individual sample results relate only to the sample tested.

CN-Column

Chromatogram

Sample Name : 305340d3
FileName : C:\TC4\LC151\A31_076.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 76 Page 1 of 1
Date : 5/22/02 23:11
Time of Injection: 5/22/02 11:12
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000169

Software Version: 4.1<2F12>
Sample Name : 305340d3 Time : 5/22/02 23:11
Sample Number: 76 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 11:12
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_076.RAW
Result File : C:\WINDOWS\TEMP\~RST0C41.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0C41.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9900 Dilution Factor : 400.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
8.193	NITROGLYCERIN	20.7846	405705.52	8142.49	2.00	10.0	41989.1401	- no diode array spectra
		20.7846	405705.52	8142.49	2.00	10.0	41989.1401	different than STD.

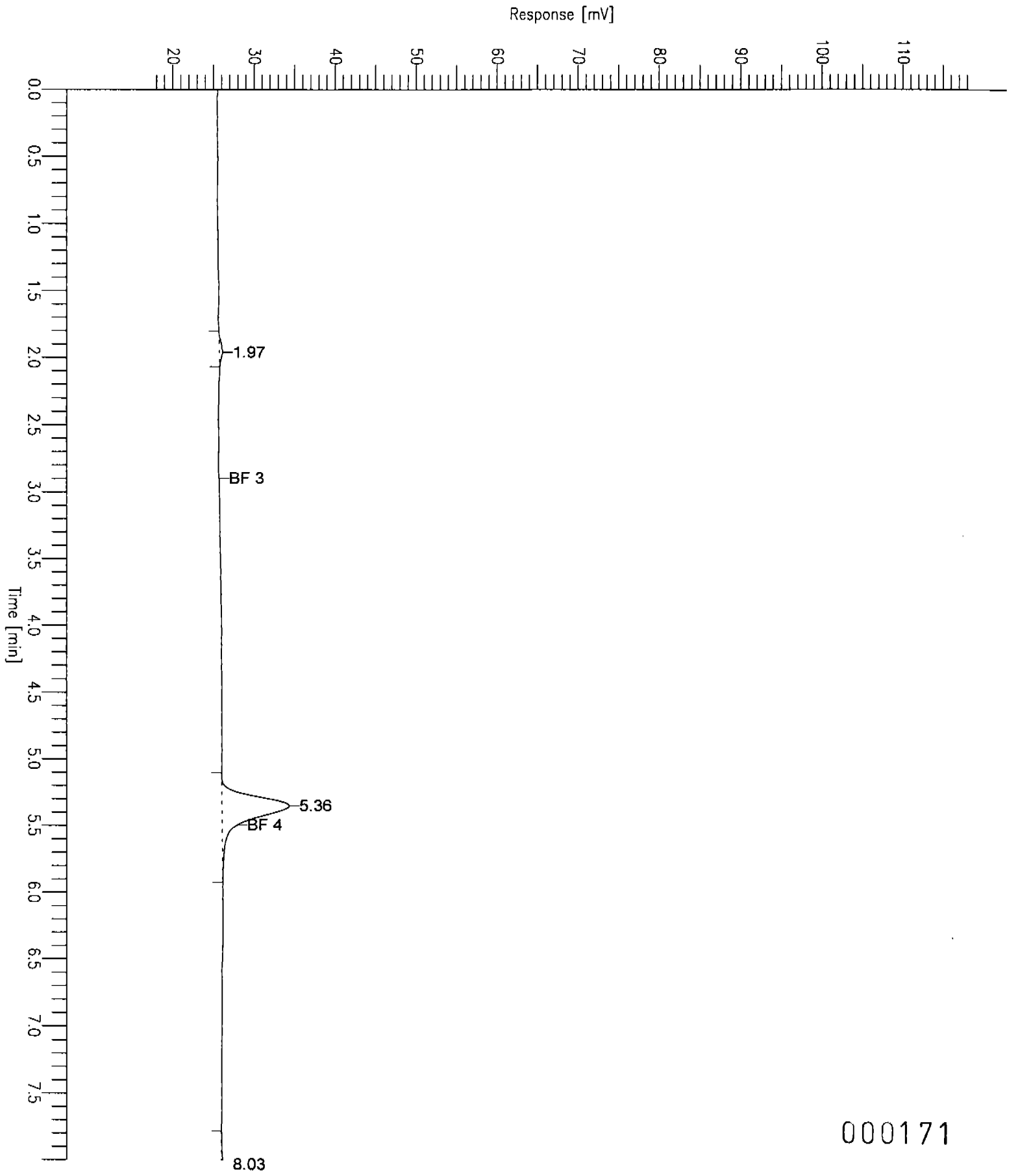
2nd column - N.D

C-18 - Column Confirmation

Chromatogram

Sample Name : 305340d3
FileName : C:\TC4\LC151\A31_081.RAW
Method : 8332_04.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 81 Page 1 of 1
Date : 5/22/02 22:28
Time of Injection: 5/22/02 15:23
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000171

Software Version: 4.1<2F12>
Sample Name : 305340d3 Time : 5/22/02 22:28
Sample Number: 81 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 15:23
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_081.RAW
Result File : C:\WINDOWS\TEMP\~RST237B.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST237B.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9900 Dilution Factor : 1.00

C : B - column

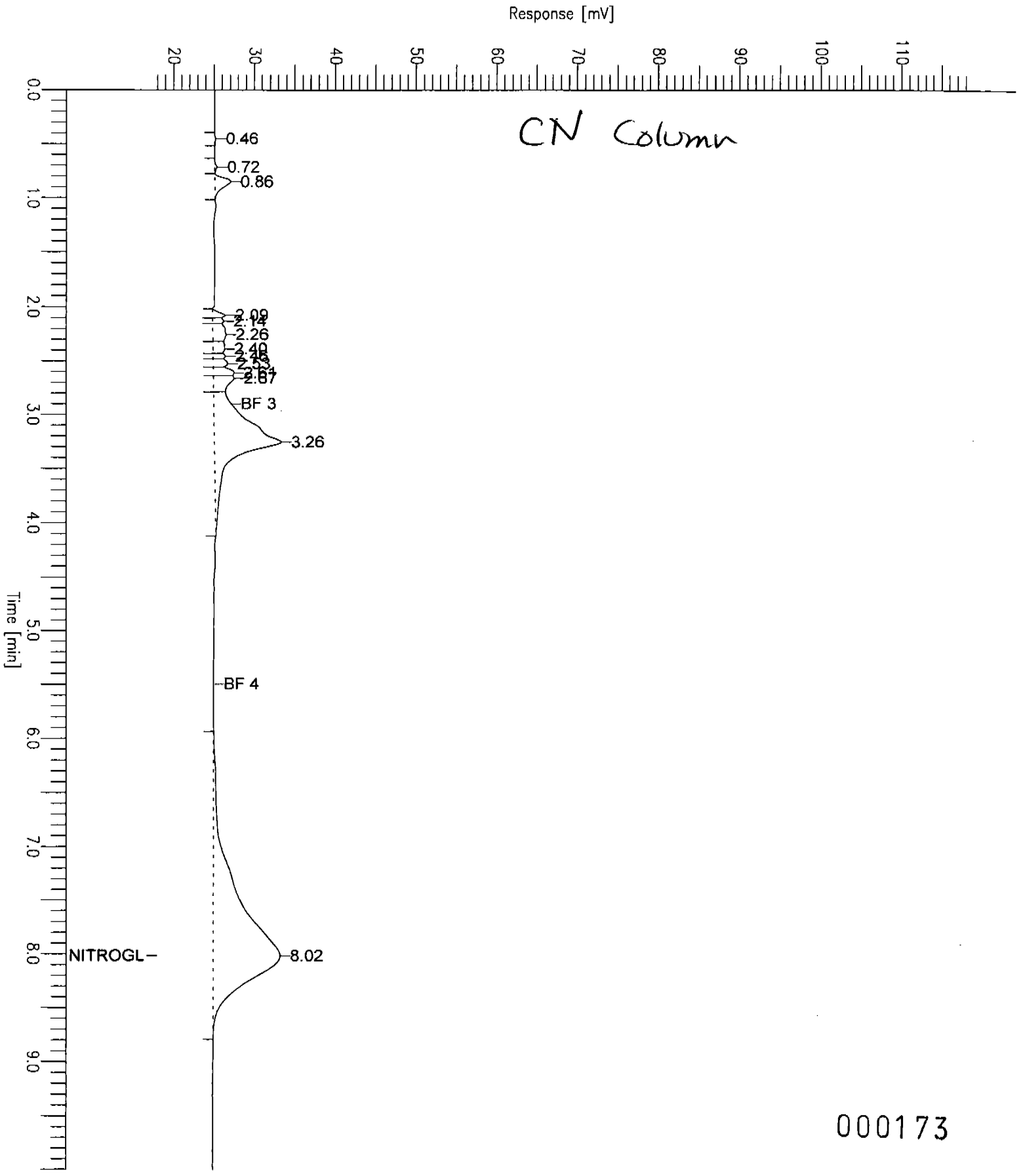
Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

Chromatogram

Sample Name : 305340d3
FileName : C:\TC4\LC151\A31_070.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 70 Page 1 of 1
Date : 5/22/02 08:23
Time of Injection: 5/22/02 08:07
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000173

Software Version: 4.1<2F12>
Sample Name : 305340d3 Time : 5/22/02 08:23
Sample Number: 70 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 08:07
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_070.RAW
Result File : C:\WINDOWS\TEMP\~RST0B3D.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0B3D.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9900 Dilution Factor : 400.00

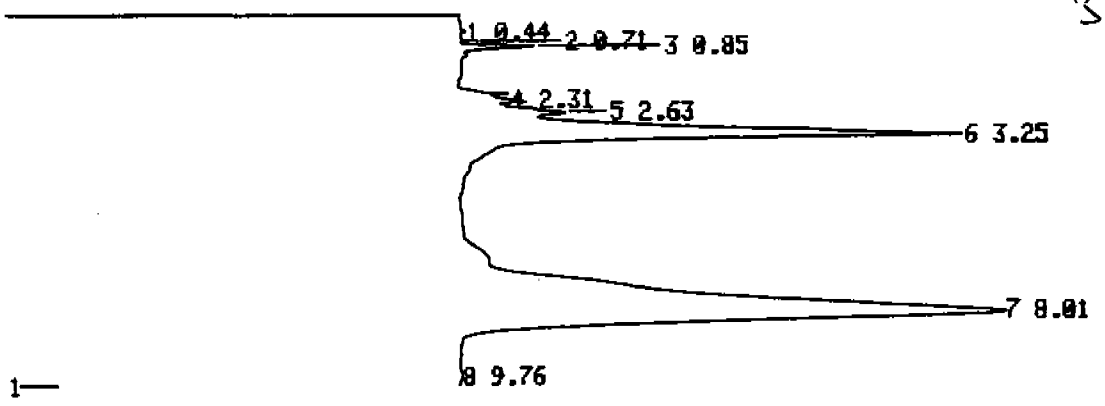
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
8.019	NITROGLYCERIN	21.1185	394279.25	8273.30	2.00	10.0	42663.7095
		21.1185	394279.25	8273.30	2.00	10.0	42663.7095

low CCV –
Not used for reporting

METHOD #7
RUN 215nm 0.1AU

3053405

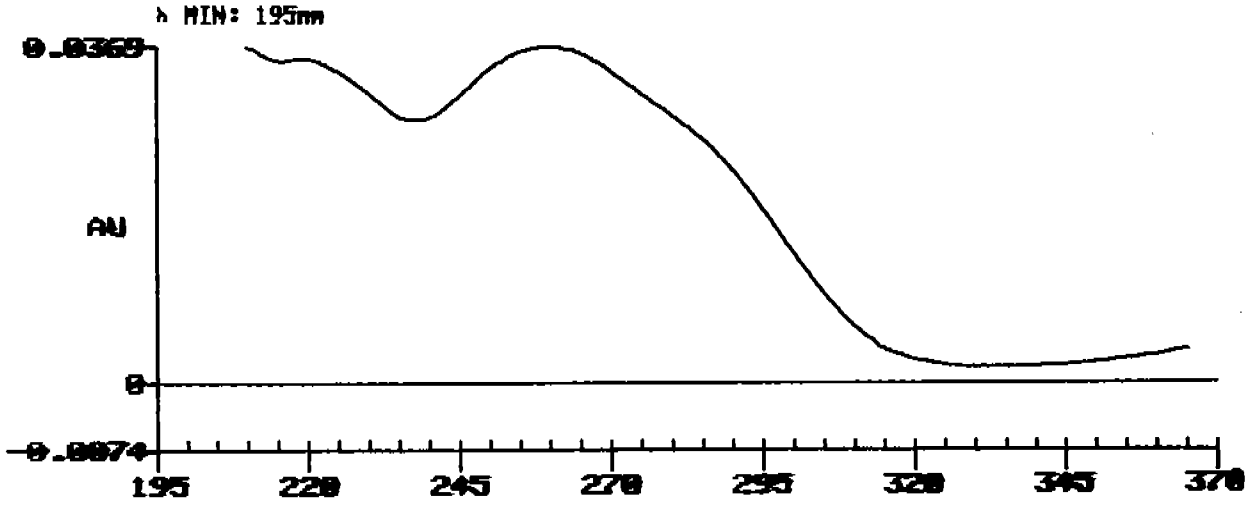


METHOD #7 CHANGED

		A				B		
STEP	TIME	λ	BW	SENS	PW	λ	BW	SENS
1	10.01	215	15	.1	8	195	15	.5

λMIN:195 CHART:.5 UPLOAD:OFF MAP:NO OFFSET:30% MODE:APEX

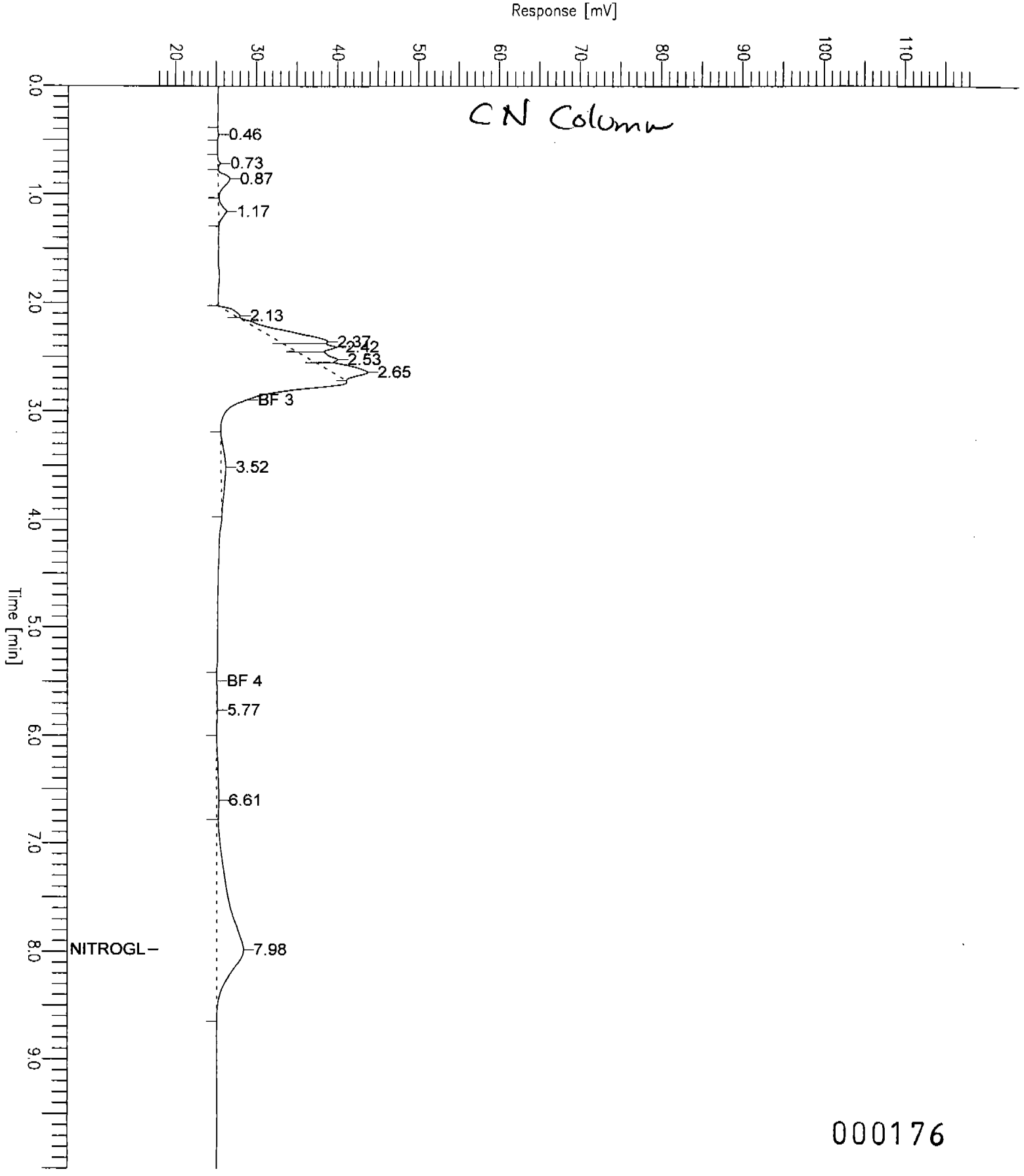
SPECTRUM #7 8.01 Min.



Chromatogram

Sample Name : 10mg/1std
FileName : C:\TC4\LC151\A31_072.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 72 Page 1 of 1
Date : 5/22/02 08:47
Time of Injection: 5/22/02 08:36
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000176

Software Version: 4.1<2F12>
Sample Name : 10mg/1std
Sample Number: 72
Operator :

Time : 5/22/02 08:47
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 08:36
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_072.RAW
Result File : C:\WINDOWS\TEMP\~RST0066.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0066.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

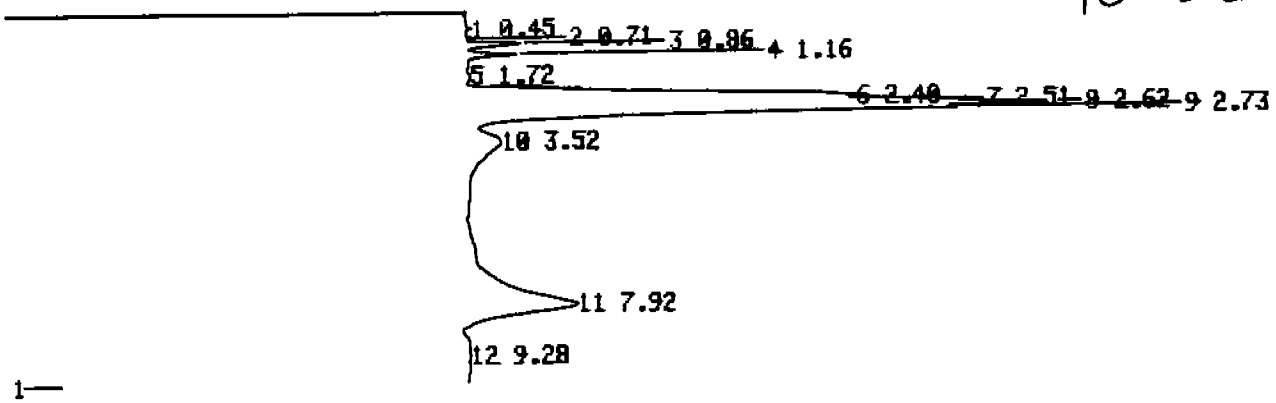
Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.981	NITROGLYCERIN	8.4883	146534.58	3325.35	10.00	84.88
			146534.58	3325.35	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0066.TX0

METHOD #7
RUN 215nm 0.1AU

10mg/L STD

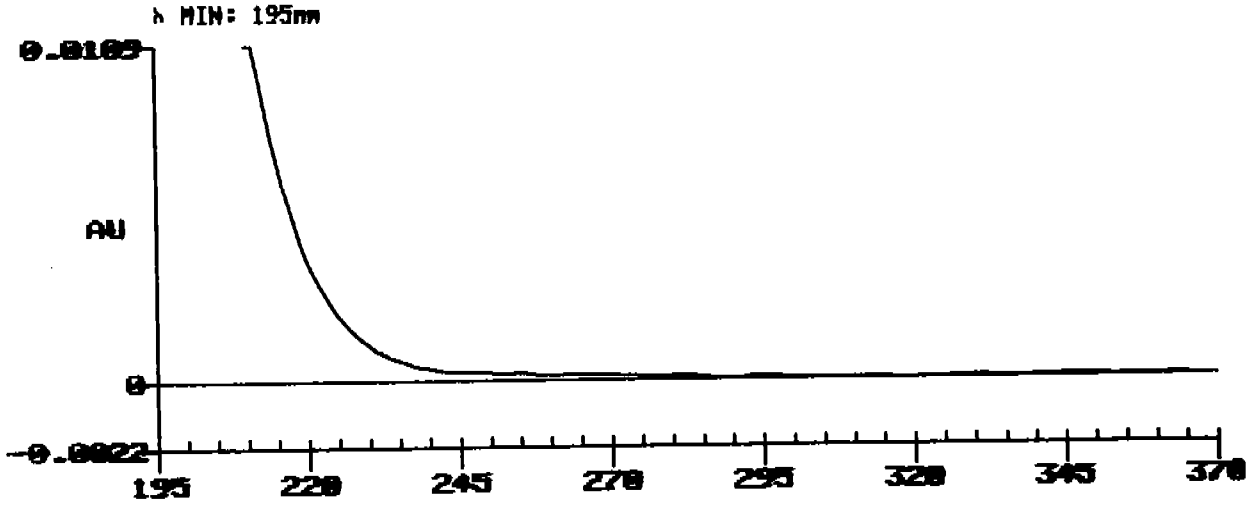


METHOD #7 CHANGED

		A				B		
STEP	TIME	λ	BW	SENS	PW	λ	BW	SENS
1	10.01	215	15	.1	8	195	15	.5

λMIN:195 CHART:.5 UPLOAD:OFF MAP:NO OFFSET:382 MODE:APEX

SPECTRUM #11 7.91 Min.



000178

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 2ANP01003		LOD	LOQ	Units
	Lab Sample No:	305341				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.4	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2380		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	19		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:10
Date Received:	05/14/02
Time Received:	08:43

000179

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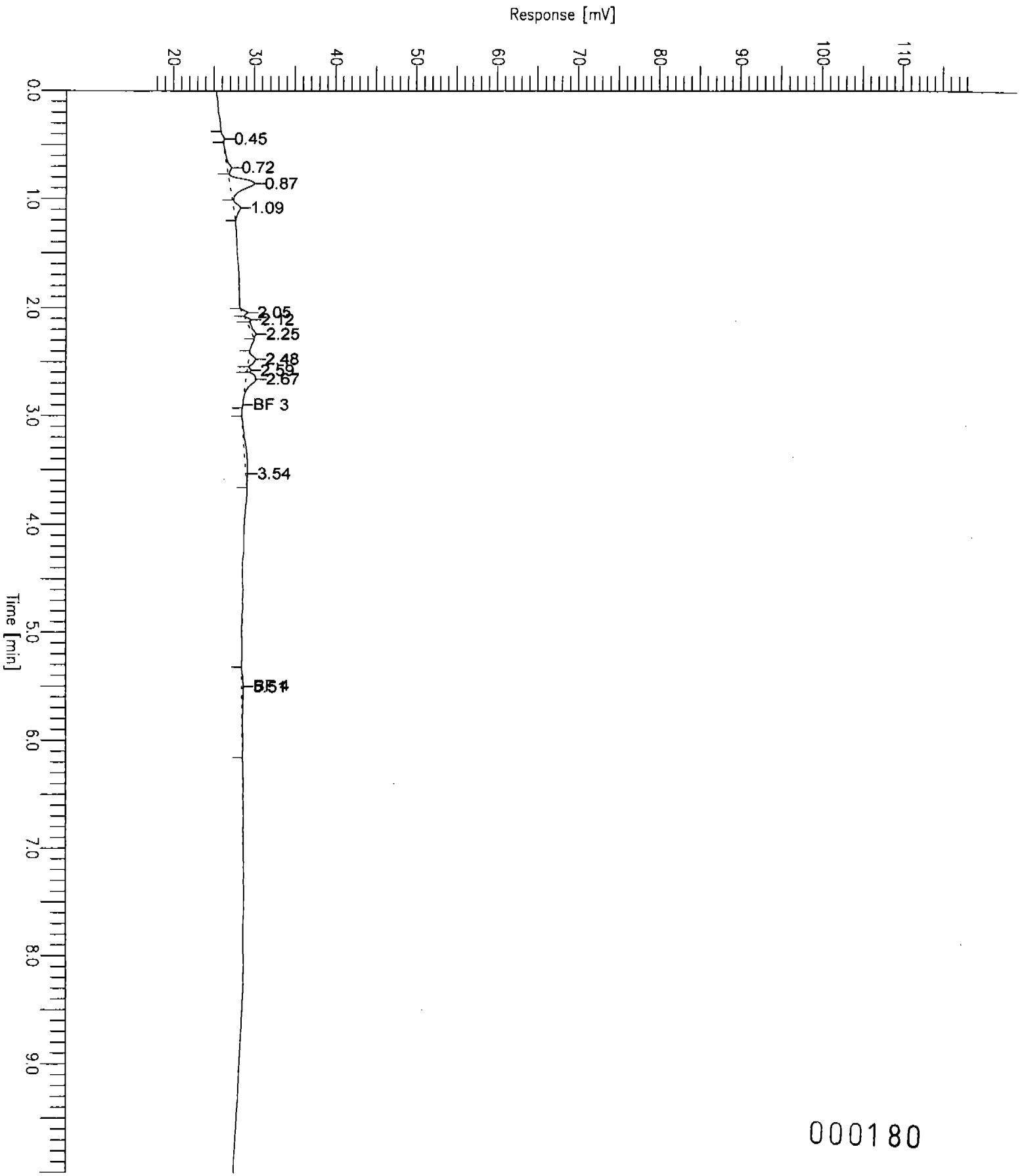
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305341r
FileName : C:\TC4\LC151\A31_075.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 75 Page 1 of 1
Date : 5/22/02 23:11
Time of Injection: 5/22/02 10:58
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000180

Software Version: 4.1<2F12>
Sample Name : 305341r
Sample Number: 75
Operator :

Time : 5/22/02 23:11
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 10:58
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_075.RAW
Result File : C:\WINDOWS\TEMP\~RST0C41.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0C41.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4BNP01004		LOD	LOQ	Units
	Lab Sample No:	305342				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.9	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 1780		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.8		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	5.1		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 13:13
Date Received: 05/14/02
Time Received: 08:43

* See attached Statement of Data Qualifications.

000182

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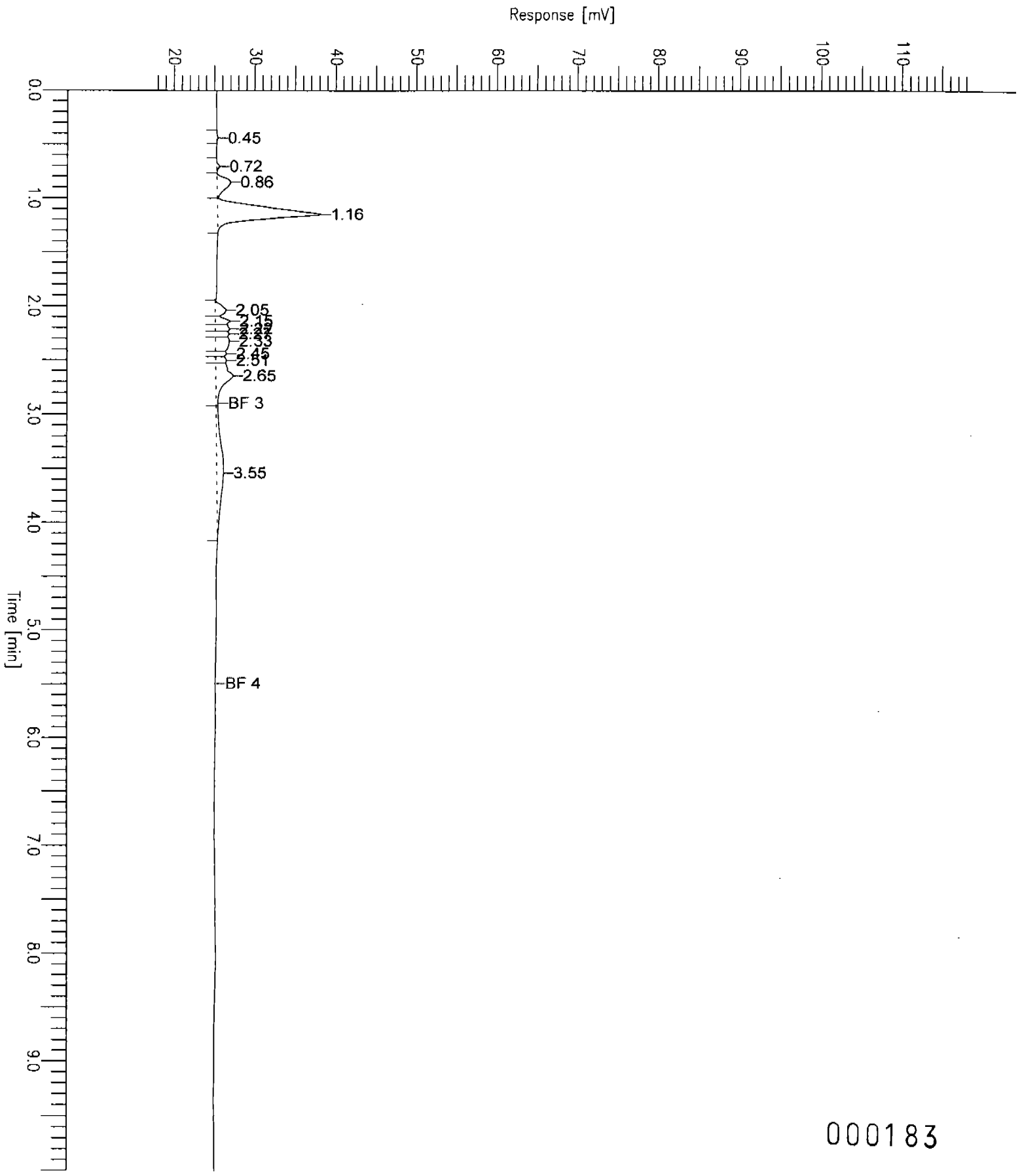
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305342
FileName : C:\TC4\LC151\A31_051.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 51 Page 1 of 1
Date : 5/22/02 06:50
Time of Injection: 5/22/02 03:14
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000183

Software Version: 4.1<2F12>
Sample Name : 305342 Time : 5/22/02 06:50
Sample Number: 51 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 03:14
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_051.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4DNP01005		LOD	LOQ	Units
	Lab Sample No:	305343				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.9	J	1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2210		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.6		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.4		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:18
Date Received:	05/14/02
Time Received:	08:43

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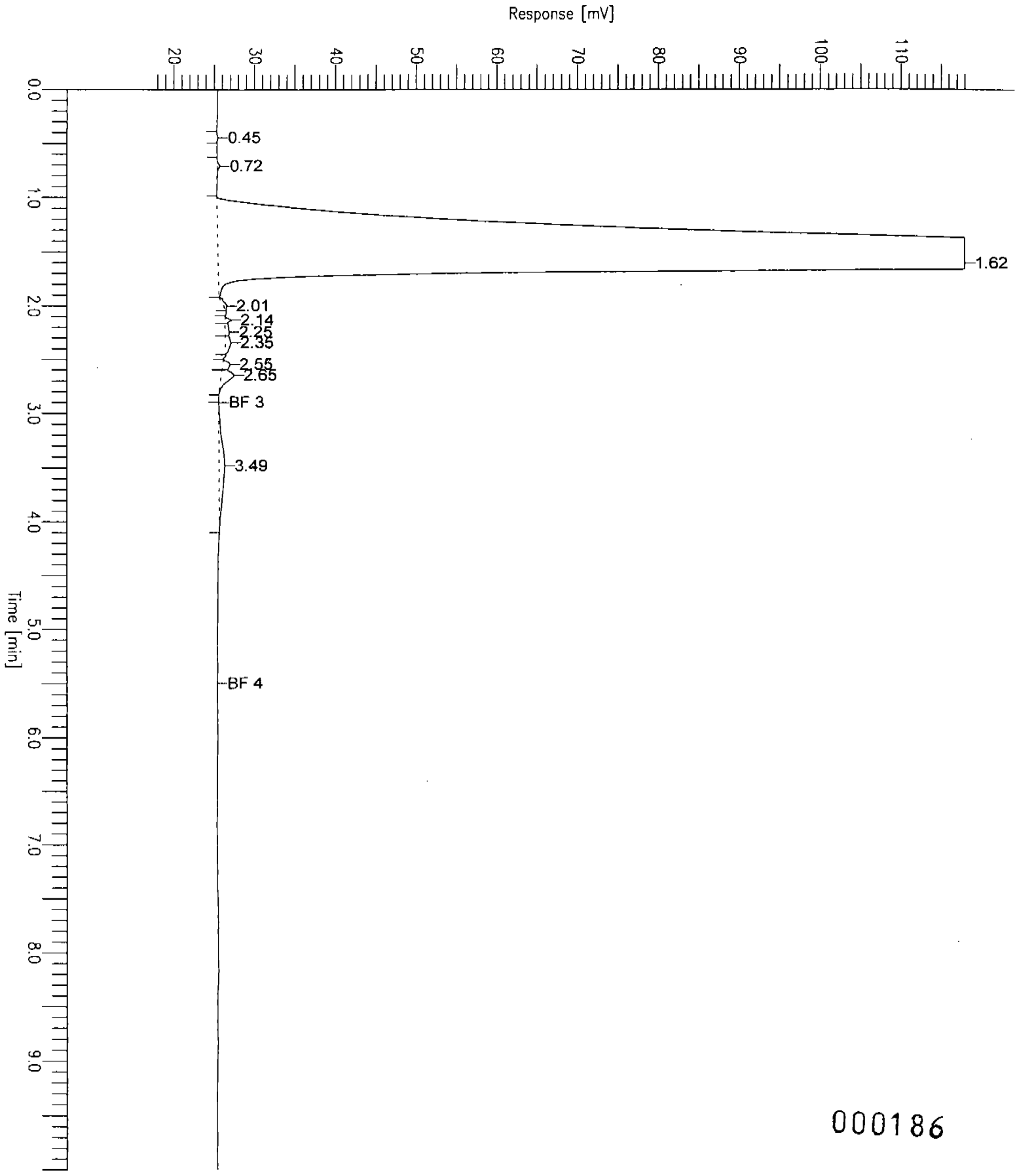
Chromatogram

Sample Name : 305343
FileName : C:\TC4\LC151\A31_052.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 52 Page 1 of 1
Date : 5/22/02 06:50
Time of Injection: 5/22/02 03:28
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000186

Software Version: 4.1<2F12>
Sample Name : 305343 Time : 5/22/02 06:50
Sample Number: 52 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 03:28
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_052.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix
Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4ANP01006		LOD	LOQ	Units
	Lab Sample No:	305344				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	4.6	J	2.0	6.6	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2210		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.5		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:21
Date Received:	05/14/02
Time Received:	08:43

000188

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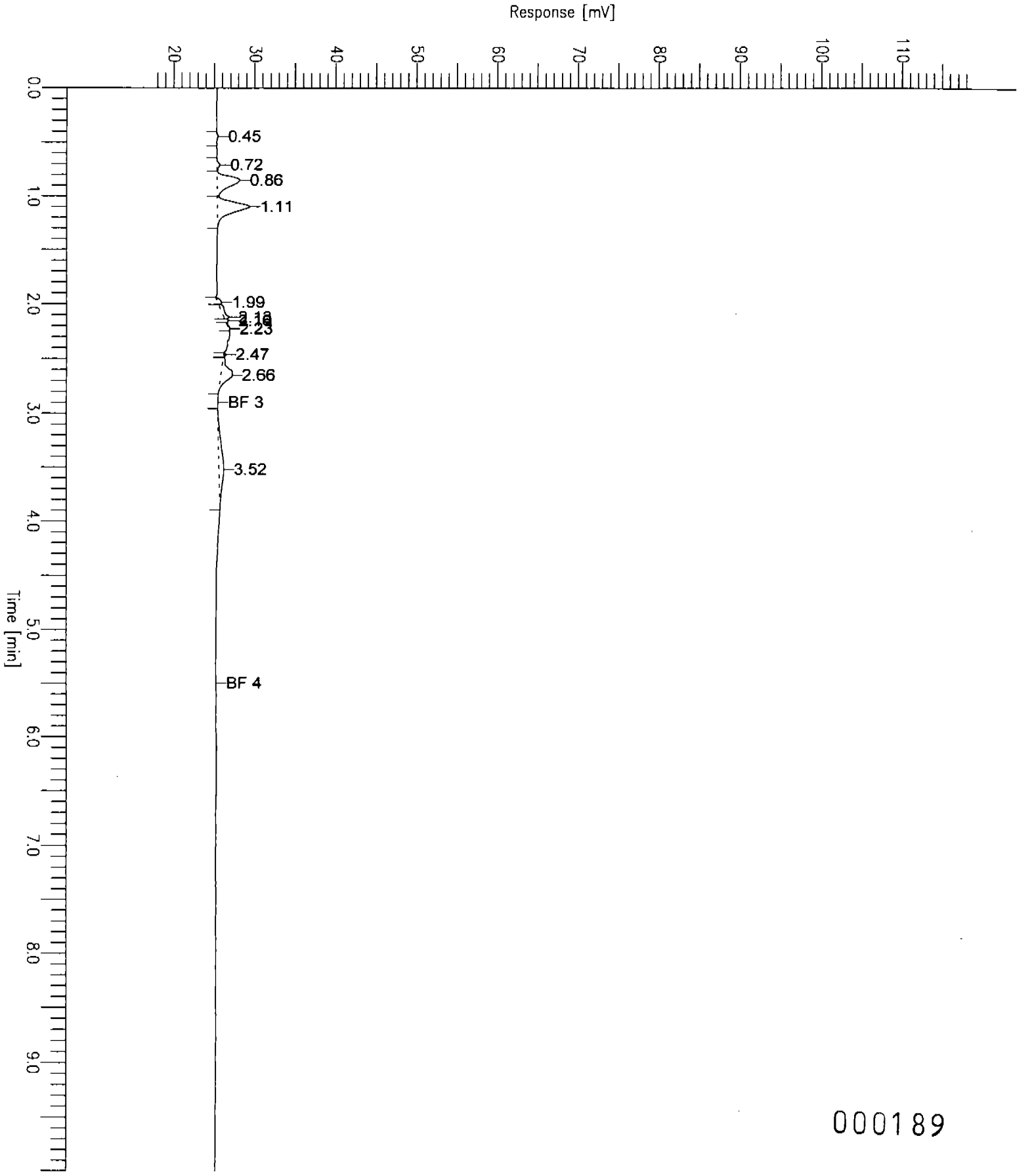
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305344
FileName : C:\TC4\LC151\A31_053.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 53 Page 1 of 1
Date : 5/22/02 06:51
Time of Injection: 5/22/02 03:43
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000189

Software Version: 4.1<2F12>
Sample Name : 305344 Time : 5/22/02 06:51
Sample Number: 53 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 03:43
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_053.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 7BNP01007		LOD	LOQ	Units
	Lab Sample No:	305345				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.7	J	2.0	6.7	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1350		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	5.3		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.2		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:28
Date Received:	05/14/02
Time Received:	08:43

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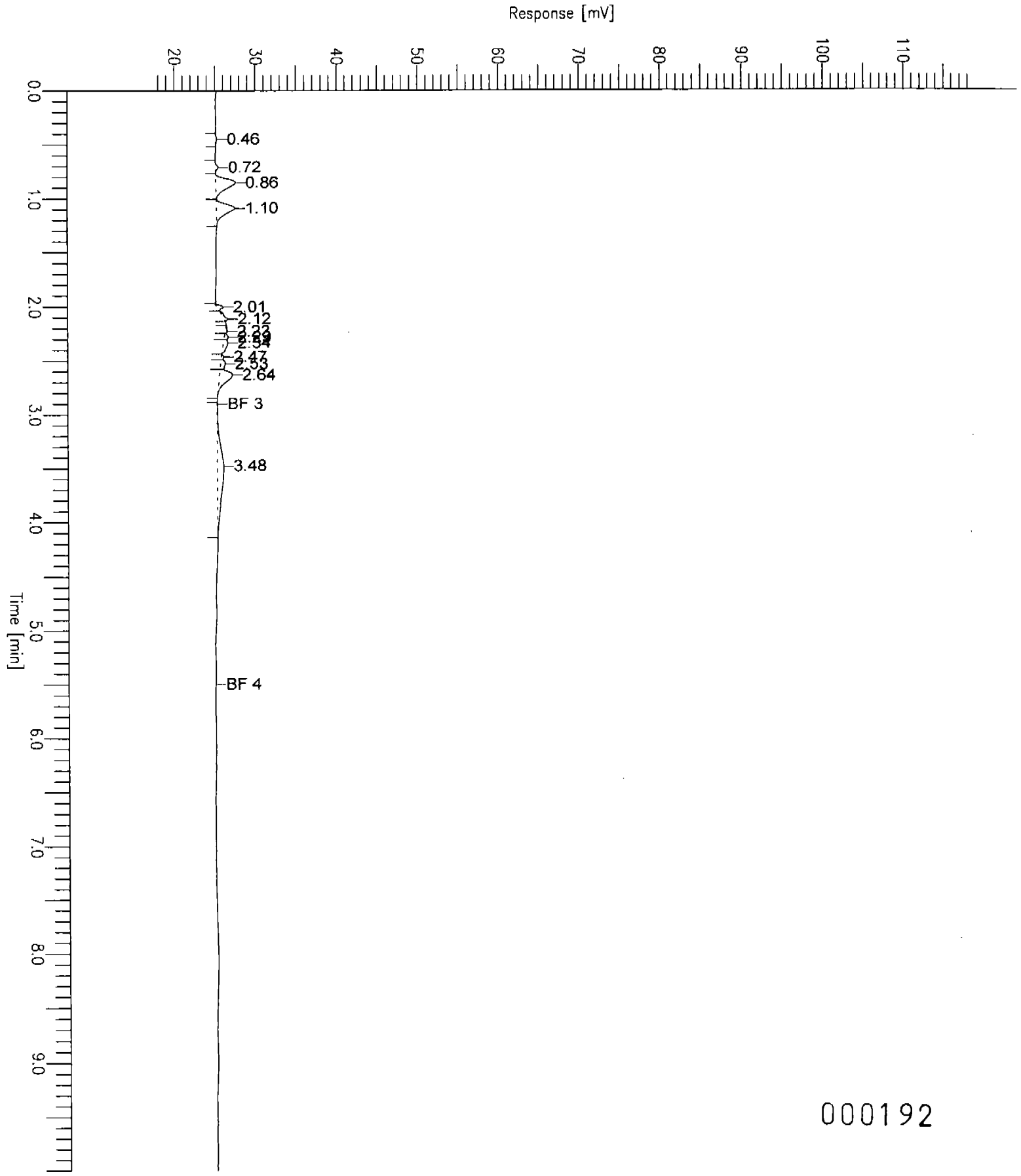
Chromatogram

Sample Name : 305345
FileName : C:\TC4\LC151\A31_054.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 54 Page 1 of 1
Date : 5/22/02 06:51
Time of Injection: 5/22/02 03:57
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000192

Software Version: 4.1<2F12>
Sample Name : 305345 Time : 5/22/02 06:51
Sample Number: 54 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 03:57
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_054.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4DANP01008		LOD	LOQ	Units
	Lab Sample No:	305346				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.5	J	2.0	6.7	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 14:00
Date Received: 05/14/02
Time Received: 08:43

000194

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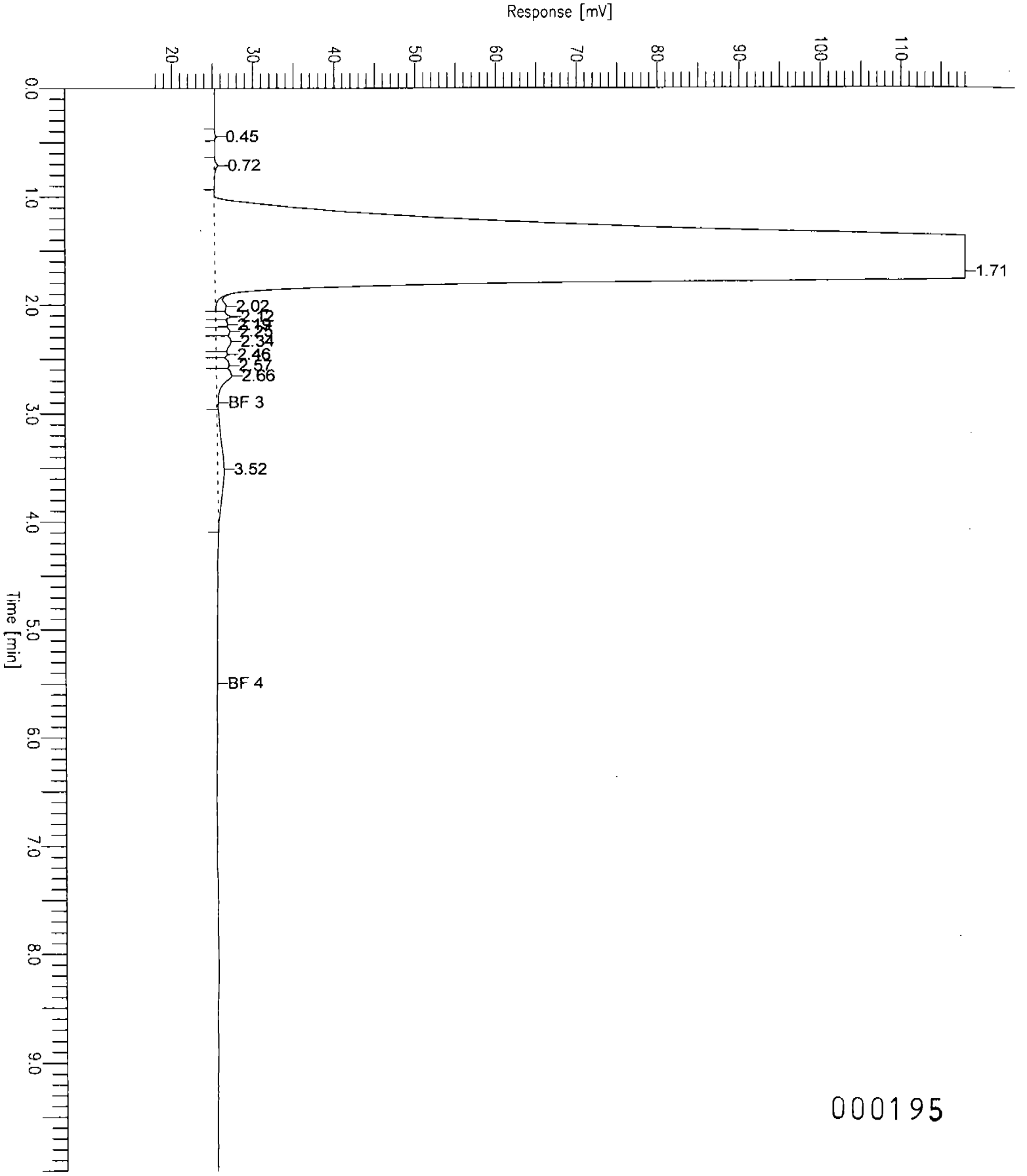
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 305346
FileName : C:\TC4\LC151\A31_055.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 55 Page 1 of 1
Date : 5/22/02 06:51
Time of Injection: 5/22/02 04:12
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305346 Time : 5/22/02 06:51
Sample Number: 55 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 04:12
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_055.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

SECTION - C

STANDARDS DATA

NITROGLYCERINE DATA

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5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

INITIAL CALIBRATION OF SINGLE-COMPONENT ANALYTES

Inst. ID: LC 151 Column: CN Date(s) Analyzed: 05/21/02 Curve: 8332_05.mth

STD. AMT. (ug)	1.0	2.5	5.0	10	20	40	MEAN	RT WINDOW	
COMPOUND	RT OF STANDARDS						RT	FROM	TO
Nitroglycerine	7.617	7.691	7.644	7.640	7.665	7.694	7.651	7.601	7.701

Note: used default RT Windows of +/- 0.05 minutes.

STD. AMT. (ug)	1.0	2.5	5.0	10	20	40	MEAN	%
COMPOUND	CALIBRATION FACTORS						CF	RSD
Nitroglycerine	388.73	354.94	377.36	382.09	404.22	443.20	391.76	7.63

CF= Peak Height/Amount
Note: %RSD should be <20% for an acceptable curve

Turbochrom Method File : C:\TC4\LC151\8332_05.MTH <Modified>
Created by : DLV on : 5/21/02 11:27
Edited by : JMK1 on : 5/21/02 13:55
Description :

Number of Times Edited : 4
Number of Times Calibrated : 89

Instrument Conditions :

Liquid Chromatography -

Instrument	: 151
Column	: CN
Column Length	: 250
Particle Size	: 5
Column Diameter:	
Mobile Phase	: 50:50 MEOH:H2O
Flow Rate	: 1.5 ML/MIN
Back Pressure	: 2500
Temperature	: AMBIENT
Detector 1	: 214
Detector 2	:
Notes	: 50 UL INJECTION

Instrument Control Method:

Instrument name : LC151

Interface Parameters :

Delay Time	: 0.00 min.
Run Time	: 10.00 min.
Sampling Rate	: 2.0000 pts/s
Interface Type	: 900
Analog Voltage Input	: 1000 mV

Data will be collected from channel A

Timed Events:

There are no timed events in the method

Real Time Plot Parameters :

Channel A -- Pages: 1 Offset: 20.000 mV Scale: 40.000 mV
Channel B -- Pages: 1 Offset: 0.000 mV Scale: 1000.000 mV

Processing Parameters :

Bunch Factor	: 1 points
Noise Threshold	: 20 µV
Area Threshold	: 100.00 µV

Peak Separation Criteria

Width Ratio	: 0.200
Valley-to-Peak Ratio	: 0.010

Exponential Skim Criteria

Peak Height Ratio : 5.000
Adjusted Height Ratio : 4.000
Valley Height Ratio : 3.000

Baseline Timed Events :
Event #1 - BF 3.000 at 2.904
Event #2 - BF 4.000 at 5.500

Annotated Replot Parameters :
Offset & Scale set to absolute values
Plot Offset : 18.000 mV
Plot Scale : 100.000 mV

Number of Pages : 1
Plot Title : Chromatogram
X-Axis Label : Time [min]
Y-Axis Label : Response [mV]
Orientation : Landscape
Retention Labels : Peak Crests
Component Labels : Actual Time
Start Time : 0.00
End Time : 10.00

Report Format files :
No report format files given

User Programs :
No user programs will be executed

Global Information :
Default Sample Volume : 1.000 UG
Quantitation Units : ML
Void Time : 0.000 min
Correct amounts during calibration : YES
Reject outliers during calibration : NO
An External Standard calibration will be used
Unknown peaks will be quantitated using a response factor of 1.000000e+06

Component Information :
NITROGLYCERIN
Component Type : Single Peak Component
Retention Time : 7.617 min Search Window: 10.00 s, 0.00 %
Reference Component:
Find peak closest to expected RT in window
Use Average Calibration Factor (Height / Amount)
User Values:
Label :
Value 1: 0.000000
Value 2: 0.000000
Value 3: 0.000000
Value 4: 0.000000
Value 5: 0.000000
Calibration Levels:

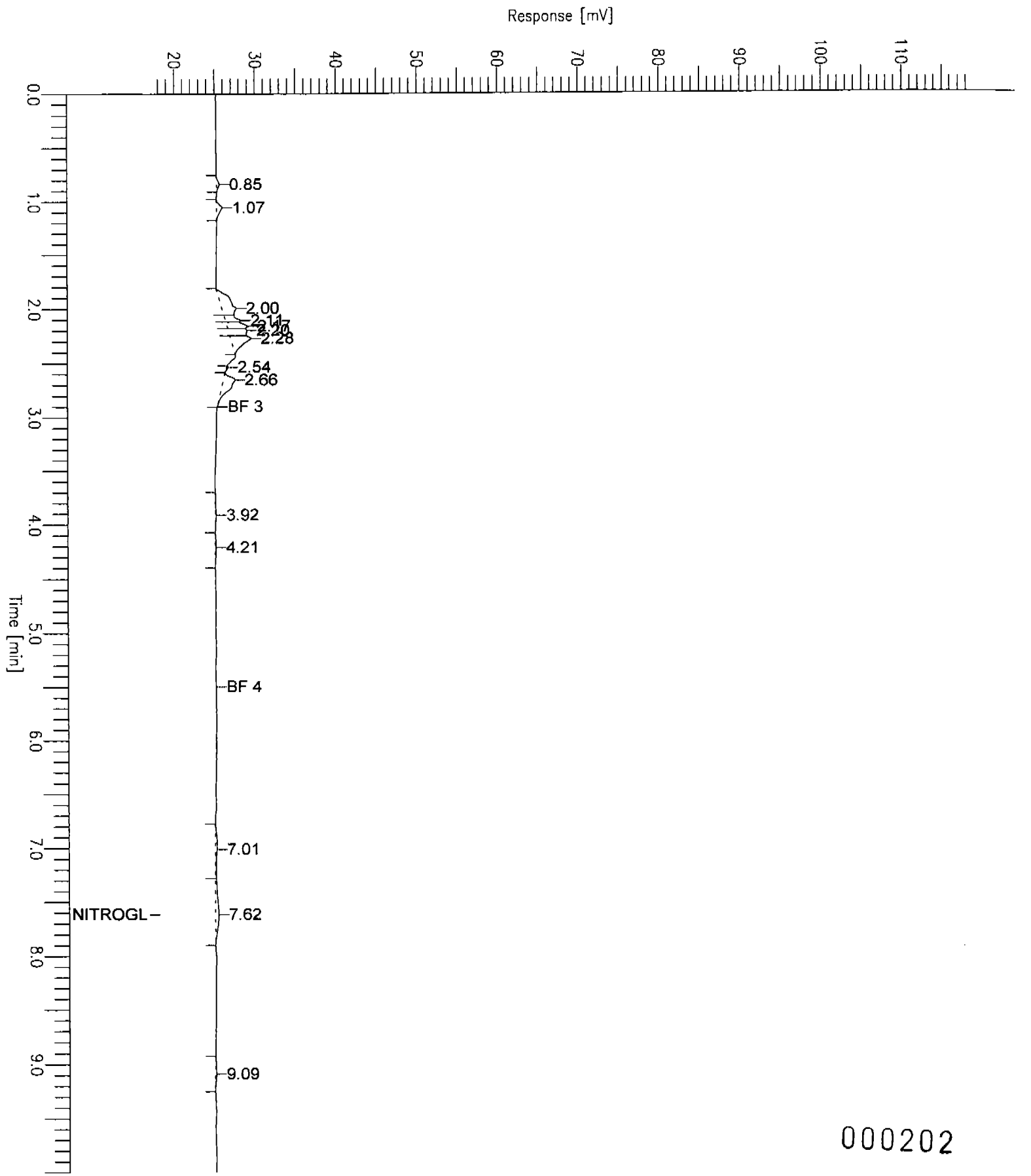
Level Name	Amount	Area	Height	ISTD Resp.	ISTD Amt.	# Replicates
1	1.0000	8587.04	388.73	----------	----------	0
2	2.5000	19755.60	887.36	----------	----------	0
3	5.0000	59235.50	1886.78	----------	----------	0
4	10.0000	111833.30	3820.87	----------	----------	0
5	20.0000	294721.50	8084.35	----------	----------	0
6	40.0000	609516.91	17727.87	----------	----------	0

Average Calibration Factor = 391.755605 (%RSD = 7.63)

Chromatogram

Sample Name : 1mg/l std
FileName : C:\TC4\LC151\A30_189.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 189
Date : 5/21/02 13:53
Time of Injection: 5/21/02 09:43
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 1mg/l std
Sample Number: 189
Operator :

Time : 5/21/02 13:53
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 09:43
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_189.RAW
Result File : C:\WINDOWS\TEMP\~RST1F6B.RST
Inst Method : C:\TC4\LC151\8332_03 from C:\WINDOWS\TEMP\~RST1F6B.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.8000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

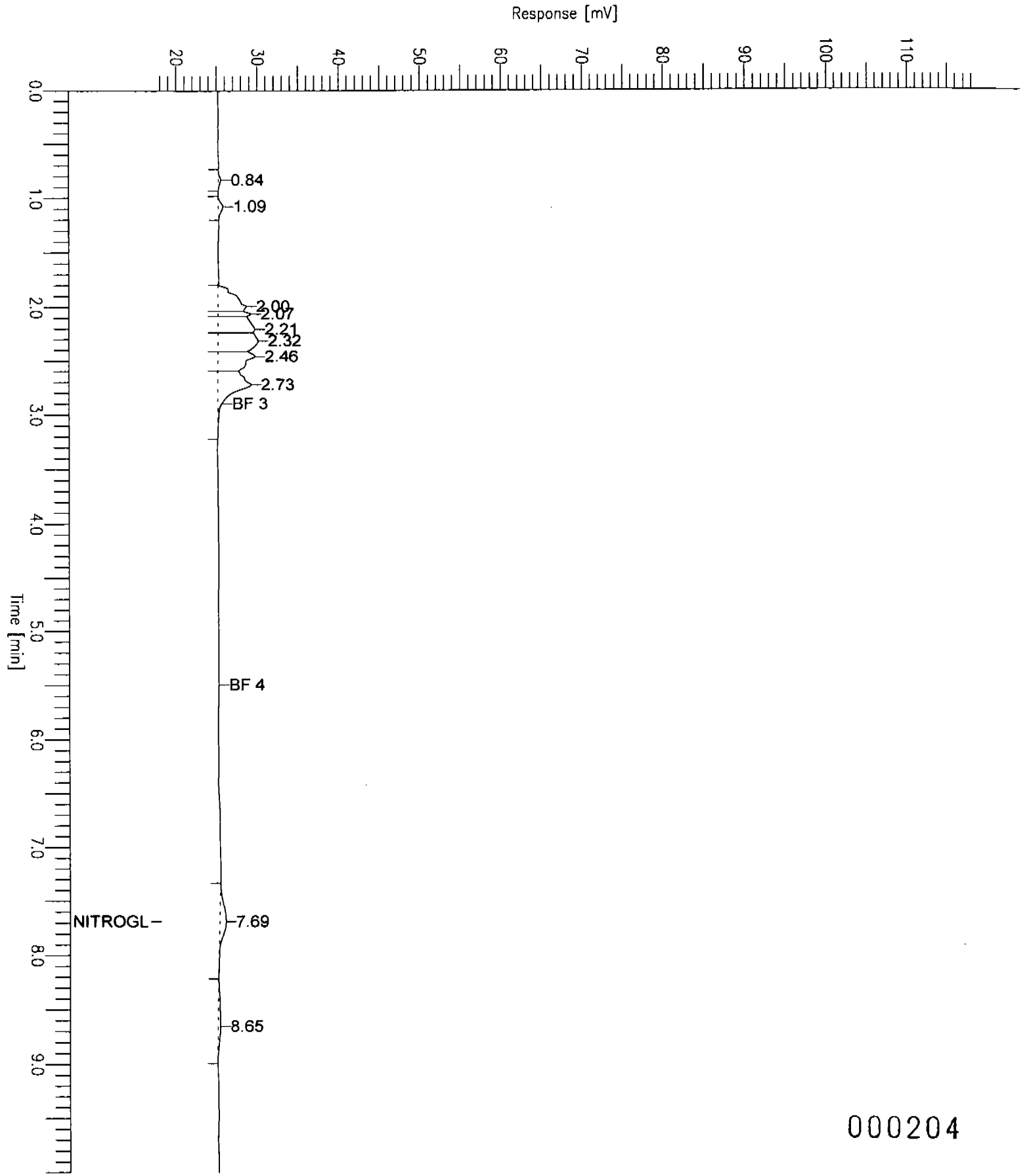
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.617	NITROGLYCERIN	0.9923	8587.04	388.73	0.00	----------
			8587.04	388.73	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST1F6B.TX0

Chromatogram

Sample Name : 2.5mg/l std
FileName : C:\TC4\LC151\A30_190.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 190
Date : 5/21/02 13:53
Time of Injection: 5/21/02 09:57
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 2.5mg/l std
Sample Number: 190
Operator :

Time : 5/21/02 13:53
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 09:57
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_190.RAW
Result File : C:\WINDOWS\TEMP\~RST1F6B.RST
Inst Method : C:\TC4\LC151\8332_03 from C:\WINDOWS\TEMP\~RST1F6B.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.8200

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

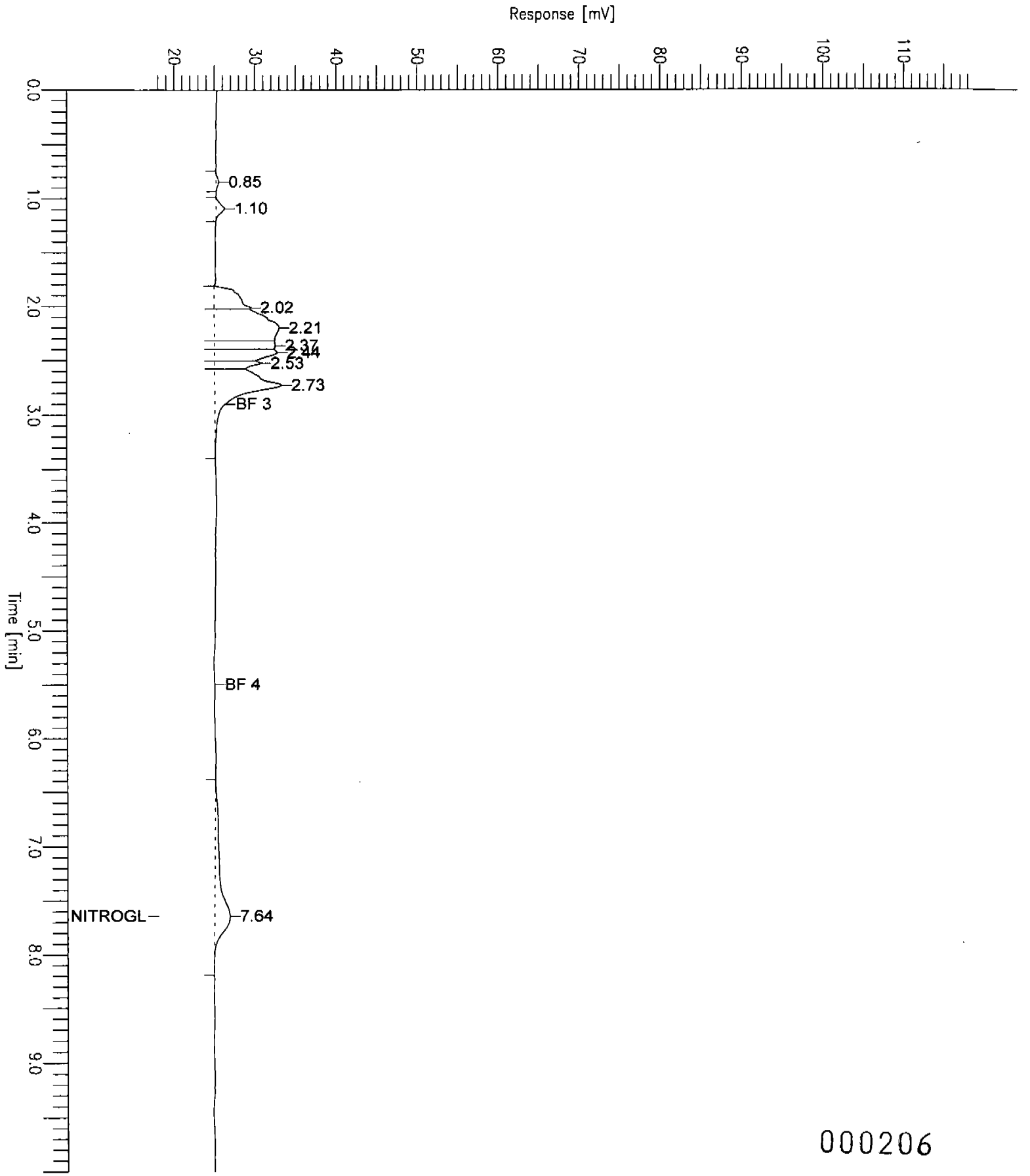
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.691	NITROGLYCERIN	1.9548	14640.50	765.81	0.00	----------
			14640.50	765.81	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST1F6B.TX0

Chromatogram

Sample Name : 5mg/1std
FileName : C:\TC4\LC151\A30_191.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 191 Page 1 of 1
Date : 5/21/02 13:54
Time of Injection: 5/21/02 10:12
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000206

Software Version: 4.1<2F12>
Sample Name : 5mg/1std Time : 5/21/02 13:54
Sample Number: 191 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 10:12
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_191.RAW
Result File : C:\WINDOWS\TEMP\~RST1F6B.RST
Inst Method : C:\TC4\LC151\8332_03 from C:\WINDOWS\TEMP\~RST1F6B.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.8100 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

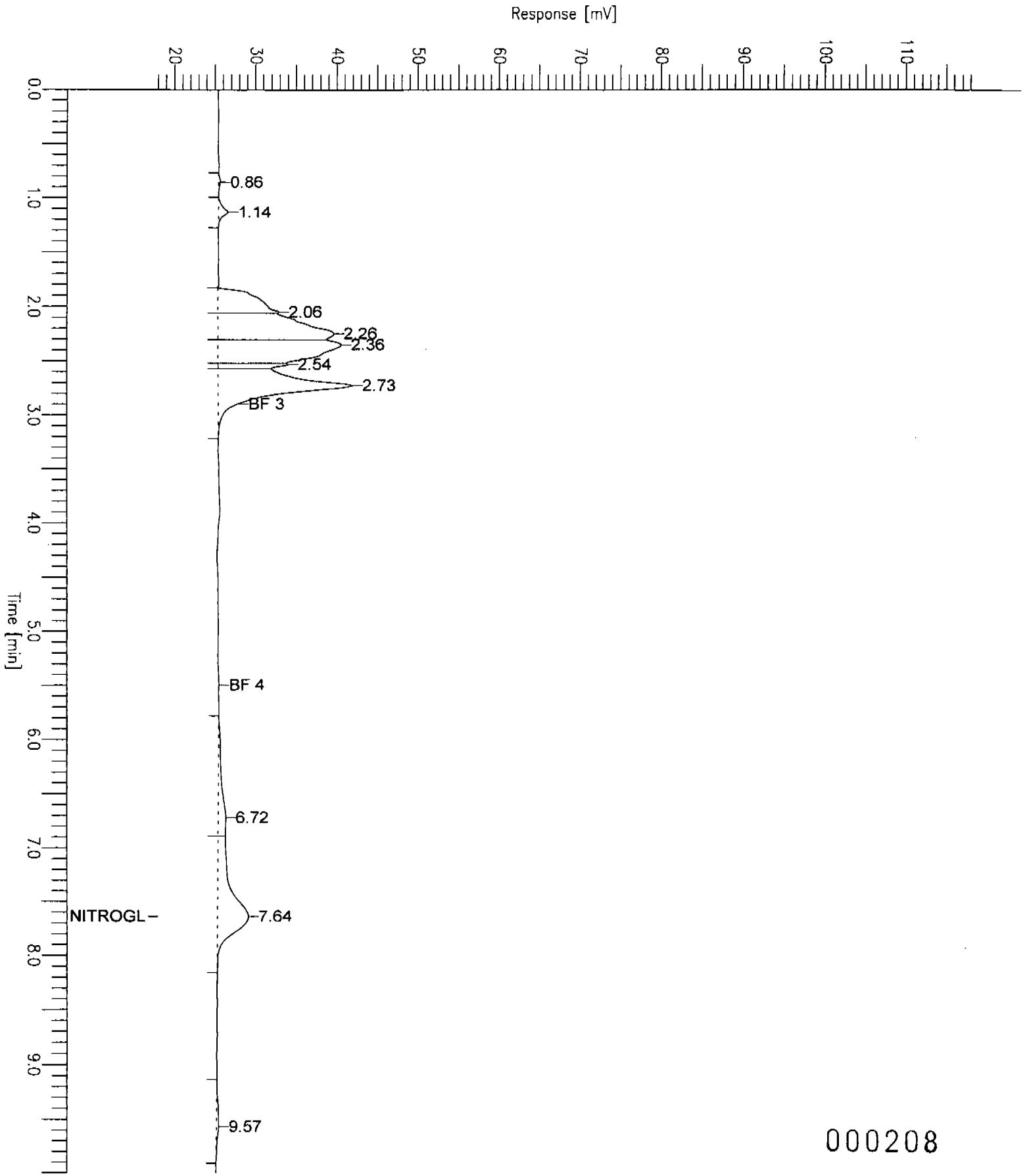
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.644	NITROGLYCERIN	4.8162	59235.50	1886.78	0.00	----------
			59235.50	1886.78	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST1F6B.TX0

Chromatogram

Sample Name : 10mg/l std
FileName : C:\TC4\LC151\A30_192.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 192 Page 1 of 1
Date : 5/21/02 13:54
Time of Injection: 5/21/02 10:26
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000208

Software Version: 4.1<2F12>
Sample Name : 10mg/l std
Sample Number: 192
Operator :

Time : 5/21/02 13:54
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 10:26
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_192.RAW
Result File : C:\WINDOWS\TEMP\~RST1F6B.RST
Inst Method : C:\TC4\LC151\8332_03 from C:\WINDOWS\TEMP\~RST1F6B.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.8000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

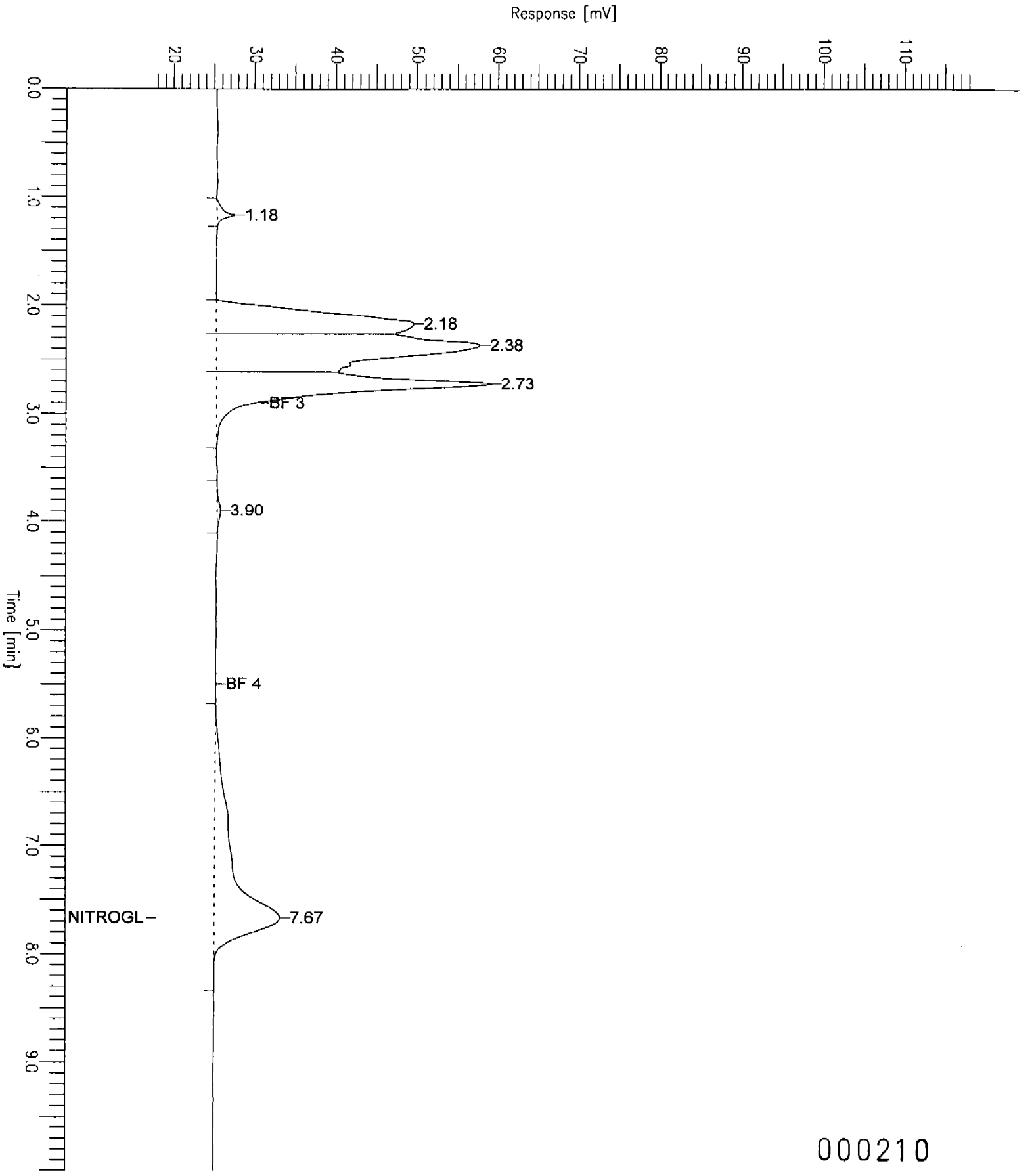
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.640	NITROGLYCERIN	9.7532	111833.30	3820.87	0.00	----------
			111833.30	3820.87	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST1F6B.TX0

Chromatogram

Sample Name : 20mg/1std
FileName : C:\TC4\LC151\A30_193.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 193 Page 1 of 1
Date : 5/21/02 13:54
Time of Injection: 5/21/02 10:41
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 20mg/1std
Sample Number: 193
Operator :

Time : 5/21/02 13:54
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 10:41
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_193.RAW
Result File : C:\WINDOWS\TEMP\~RST1F6B.RST
Inst Method : C:\TC4\LC151\8332_03 from C:\WINDOWS\TEMP\~RST1F6B.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.8000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

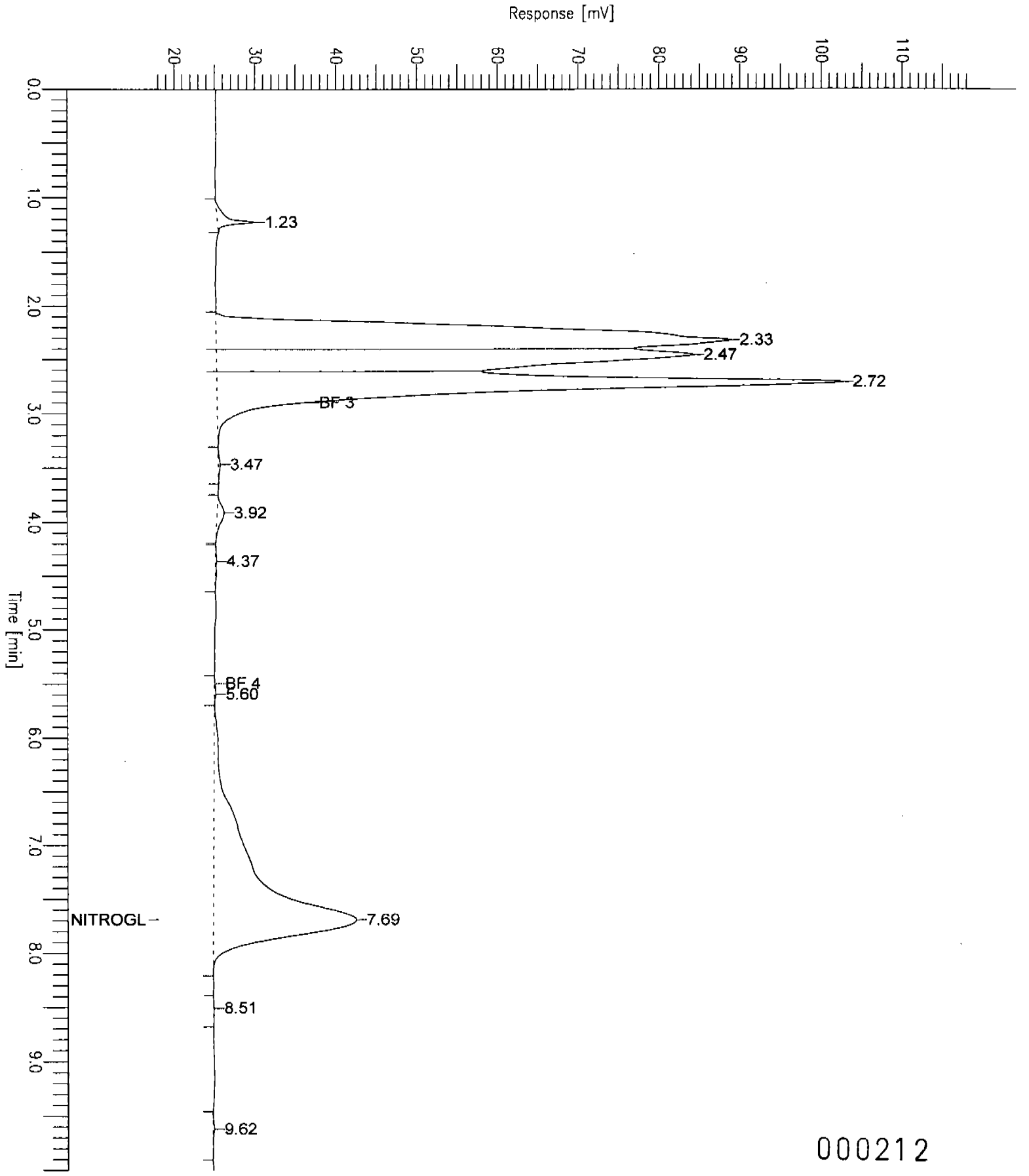
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.665	NITROGLYCERIN	20.6362	294721.50	8084.35	0.00	----------
			294721.50	8084.35	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST1F6B.TX0

Chromatogram

Sample Name : 40mg/l std
FileName : C:\TC4\LC151\A30_194.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 194
Date : 5/21/02 13:54
Time of Injection: 5/21/02 10:56
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 40mg/l std
Sample Number: 194
Operator :

Time : 5/21/02 13:54
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 10:56
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_194.RAW
Result File : C:\WINDOWS\TEMP\~RST1F6B.RST
Inst Method : C:\TC4\LC151\8332_03 from C:\WINDOWS\TEMP\~RST1F6B.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.7900

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.694	NITROGLYCERIN	45.2524	609516.91	17727.87	0.00	----------
			609516.91	17727.87	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST1F6B.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_05.mth Date: 5/21/02
Std. Level: Std. 4 CCV Filename: A31_001 Time: 13:36

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	8.16	368.49	391.76	5.94%	YES

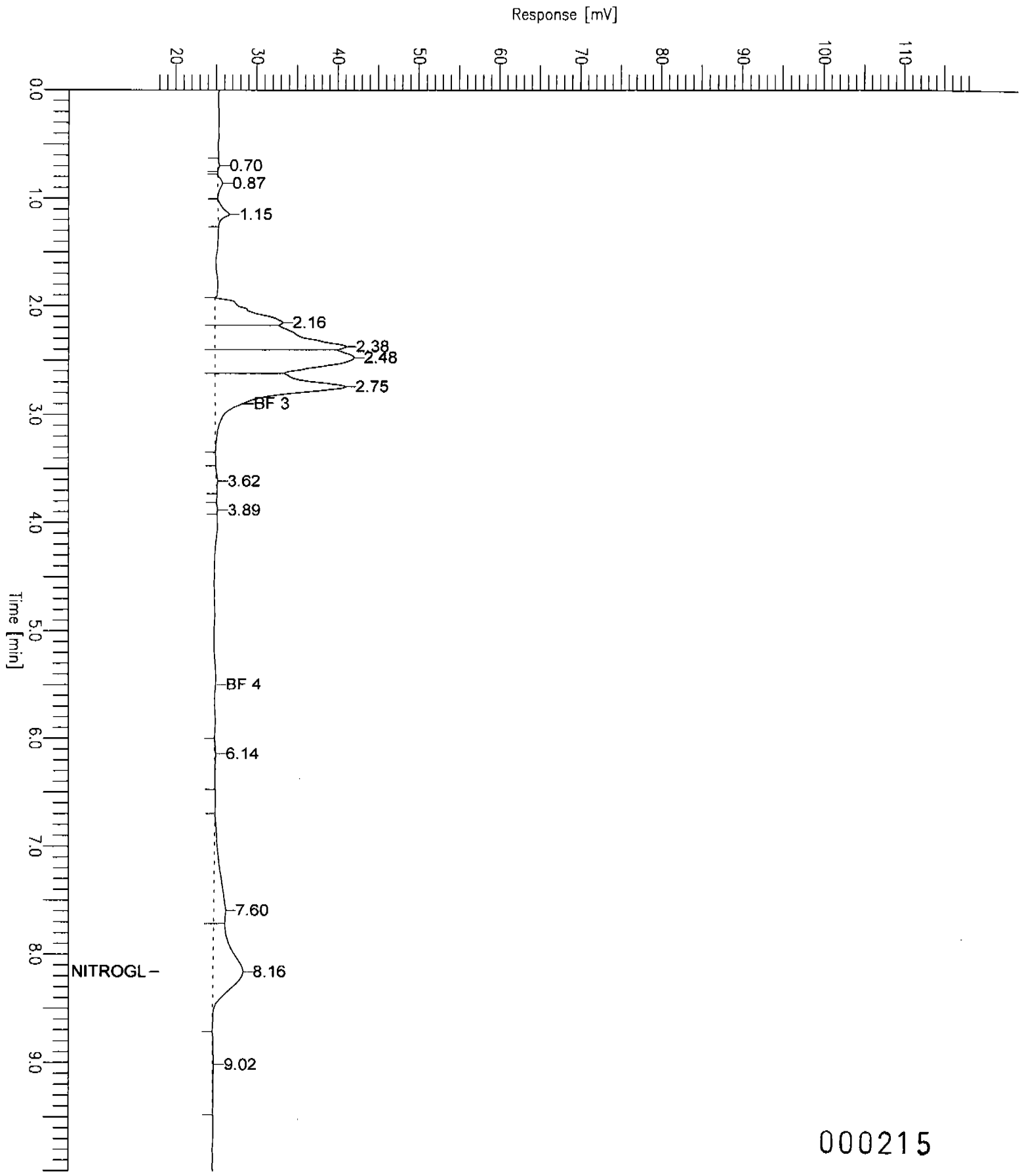
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10MG/LSTD
FileName : C:\TC4\LC151\A31_001.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 1 Page 1 of 1
Date : 5/21/02 14:05
Time of Injection: 5/21/02 13:36
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000215

Software Version: 4.1<2F12>
Sample Name : 10MG/LSTD Time : 5/21/02 14:05
Sample Number: 1 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 13:36
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_001.RAW
Result File : C:\WINDOWS\TEMP\~RST0838.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0838.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
8.161	NITROGLYCERIN	9.4060	101932.64	3684.86	0.00	----------
			101932.64	3684.86	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0838.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_05.mth Date: 5/21/02
Std. Level: Std. 4 CCV Filename: A31_012 Time: 16:17

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	8.21	360.67	391.76	7.93%	YES

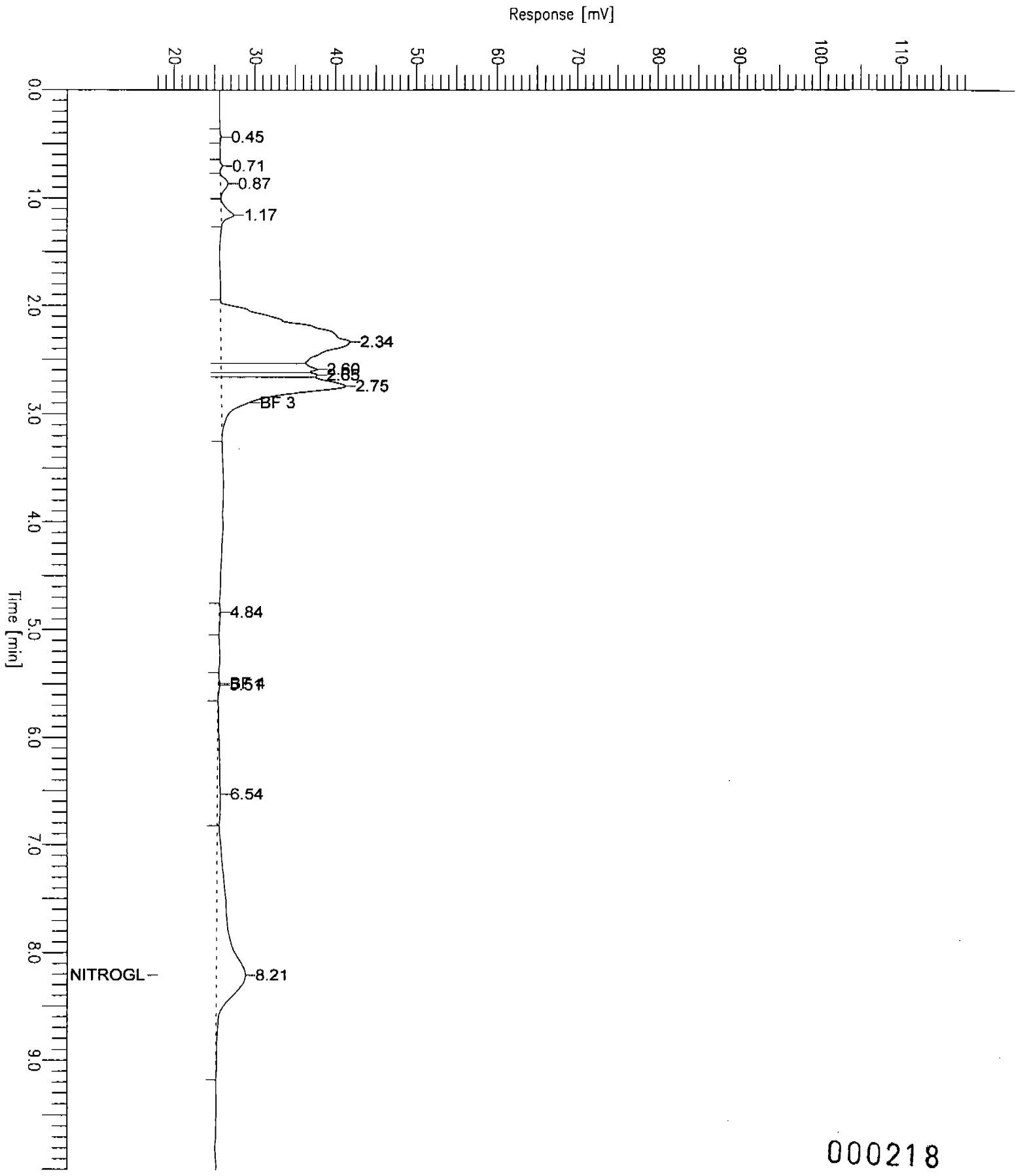
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10MG/LSTD
FileName : C:\TC4\LC151\A31_012.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 12 Page 1 of 1
Date : 5/21/02 16:31
Time of Injection: 5/21/02 16:17
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000218

Software Version: 4.1<2F12>
Sample Name : 10MG/LSTD Time : 5/21/02 16:31
Sample Number: 12 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 16:17
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_012.RAW
Result File : C:\WINDOWS\TEMP\~RST2A2F.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2A2F.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
8.211	NITROGLYCERIN	9.2065	156868.88	3606.71	10.00	92.07
			156868.88	3606.71	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST2A2F.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_05.mth Date: 5/21/02
Std. Level: Std. 4 CCV Filename: A31_024A Time: 19:59

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	8.13	424.06	391.76	8.24%	YES

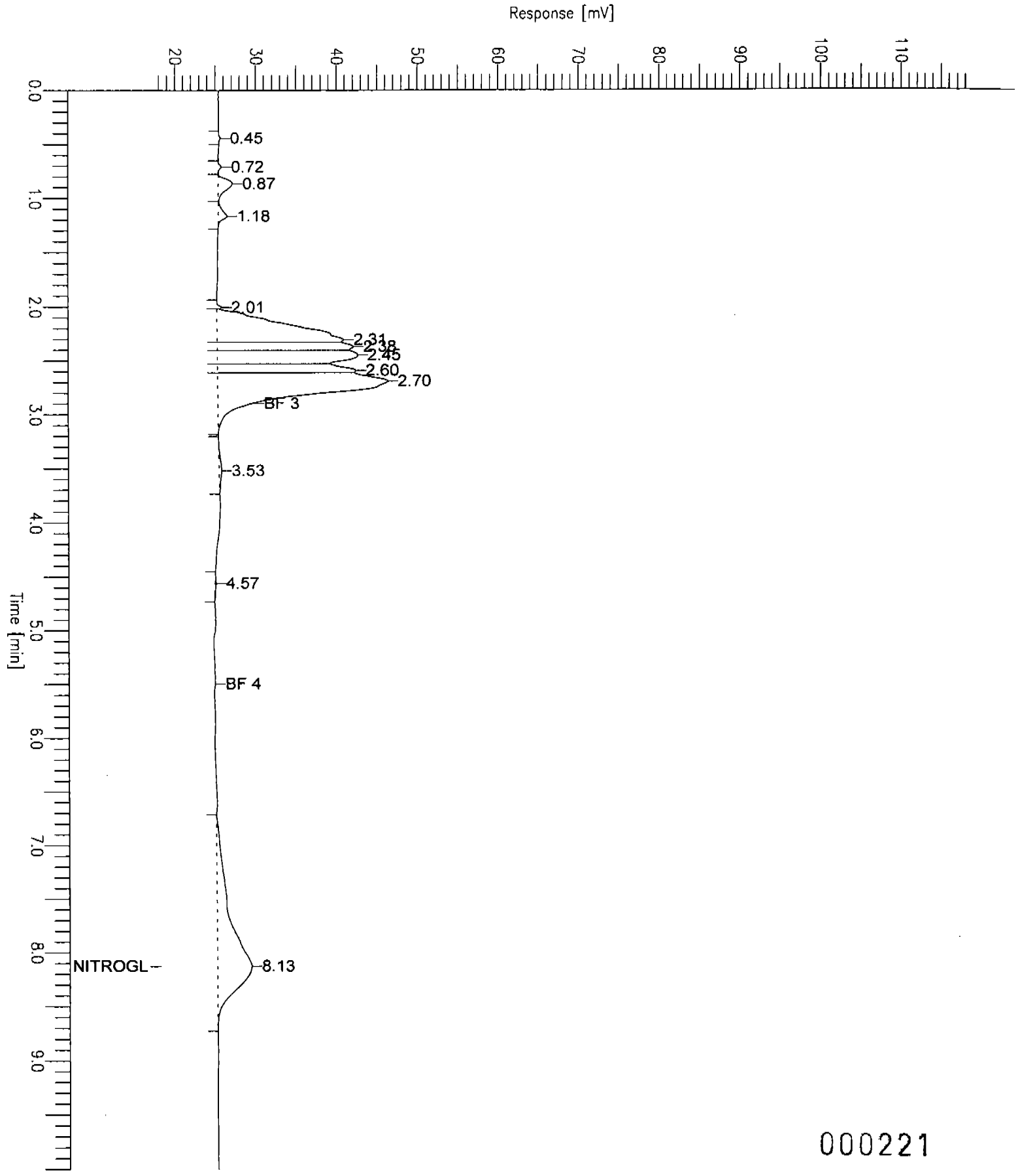
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10mg/l std
FileName : C:\TC4\LC151\A31_024A.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 24 Page 1 of 1
Date : 5/21/02 21:19
Time of Injection: 5/21/02 19:59
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000221

Software Version: 4.1<2F12>
Sample Name : 10mg/l std
Sample Number: 24
Operator :

Time : 5/21/02 21:19
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 19:59
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_024A.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
8.127	NITROGLYCERIN	10.8245	176554.75	4240.55	10.00	108.24
			176554.75	4240.55	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0200.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_05.mth Date: 5/21/02
Std. Level: Std. 4 CCV Filename: A31_034 Time: 22:51

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	8.05	348.83	391.76	10.96%	YES

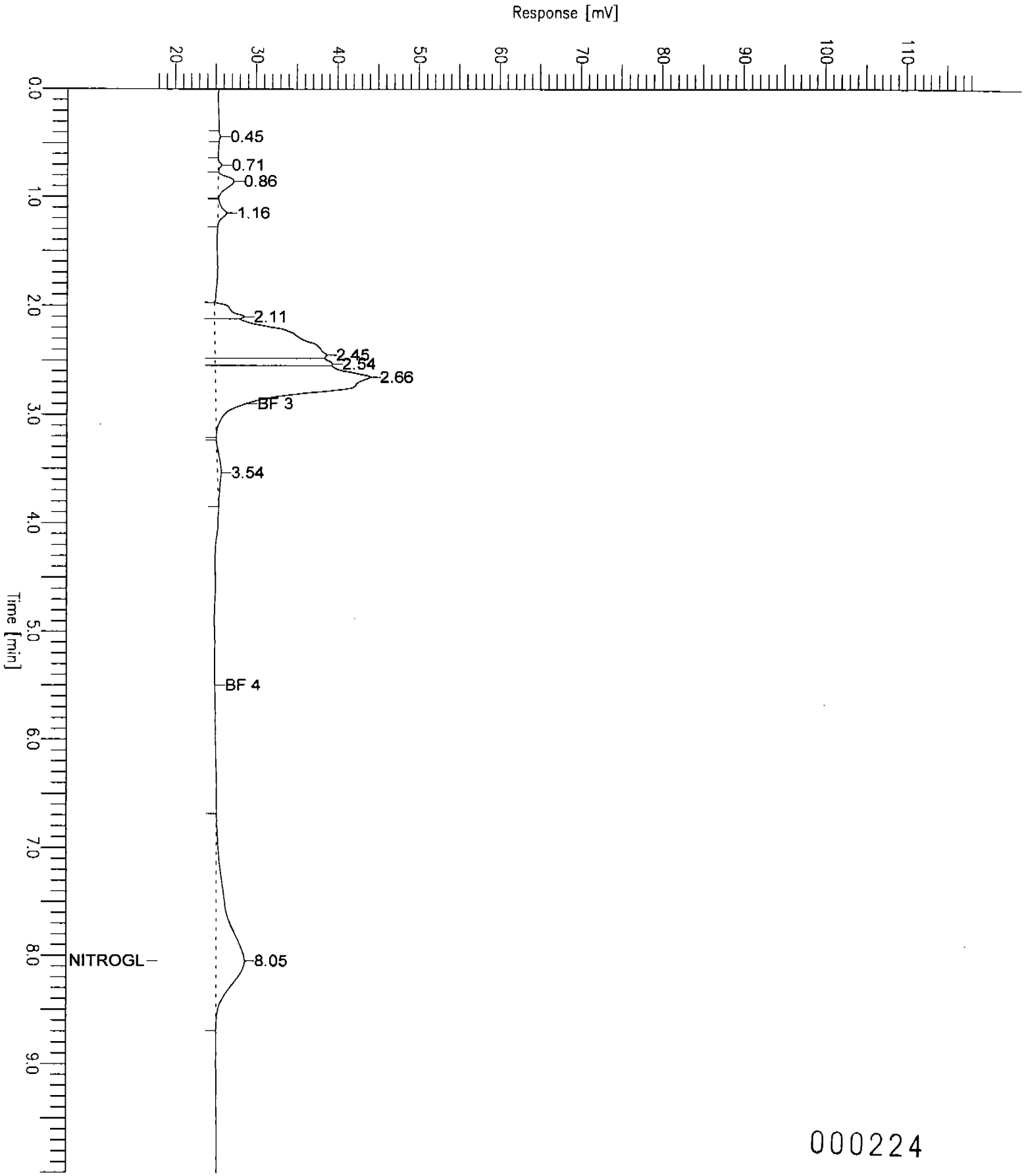
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10mg/lstd
FileName : C:\TC4\LC151\A31_034.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 34 Page 1 of 1
Date : 5/22/02 06:42
Time of Injection: 5/21/02 22:51
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000224

Software Version: 4.1<2F12>
Sample Name : 10mg/lstd Time : 5/22/02 06:42
Sample Number: 34 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 22:51
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_034.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
8.051	NITROGLYCERIN	8.9043	143784.25	3488.32	0.00	----------
			143784.25	3488.32	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0200.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_05.mth Date: 5/22/02
Std. Level: Std. 4 CCV Filename: A31_045 Time: 1:46

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	8.02	391.79	391.76	0.01%	YES

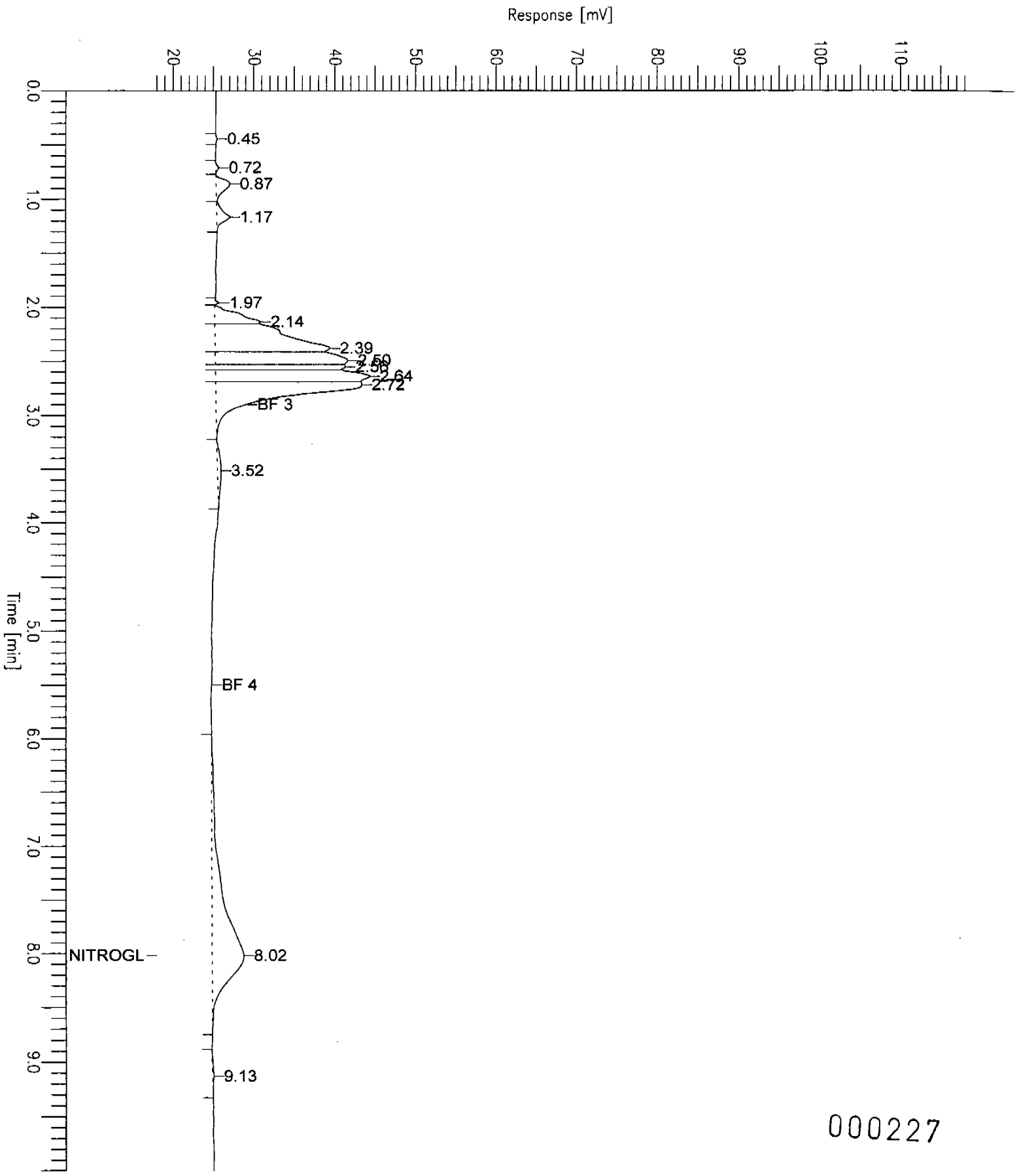
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10mg/lstd
FileName : C:\TC4\LC151\A31_045.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 45 Page 1 of 1
Date : 5/22/02 06:47
Time of Injection: 5/22/02 01:46
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000227

Software Version: 4.1<2F12>
Sample Name : 10mg/lstd
Sample Number: 45
Operator :

Time : 5/22/02 06:47
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 01:46
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_045.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
8.019	NITROGLYCERIN	10.0007	181679.75	3917.85	10.00	100.01
			181679.75	3917.85	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0200.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_05.mth Date: 5/22/02
Std. Level: Std. 4 CCV Filename: A31_057 Time: 4:41

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	8.00	339.91	391.76	13.23%	YES

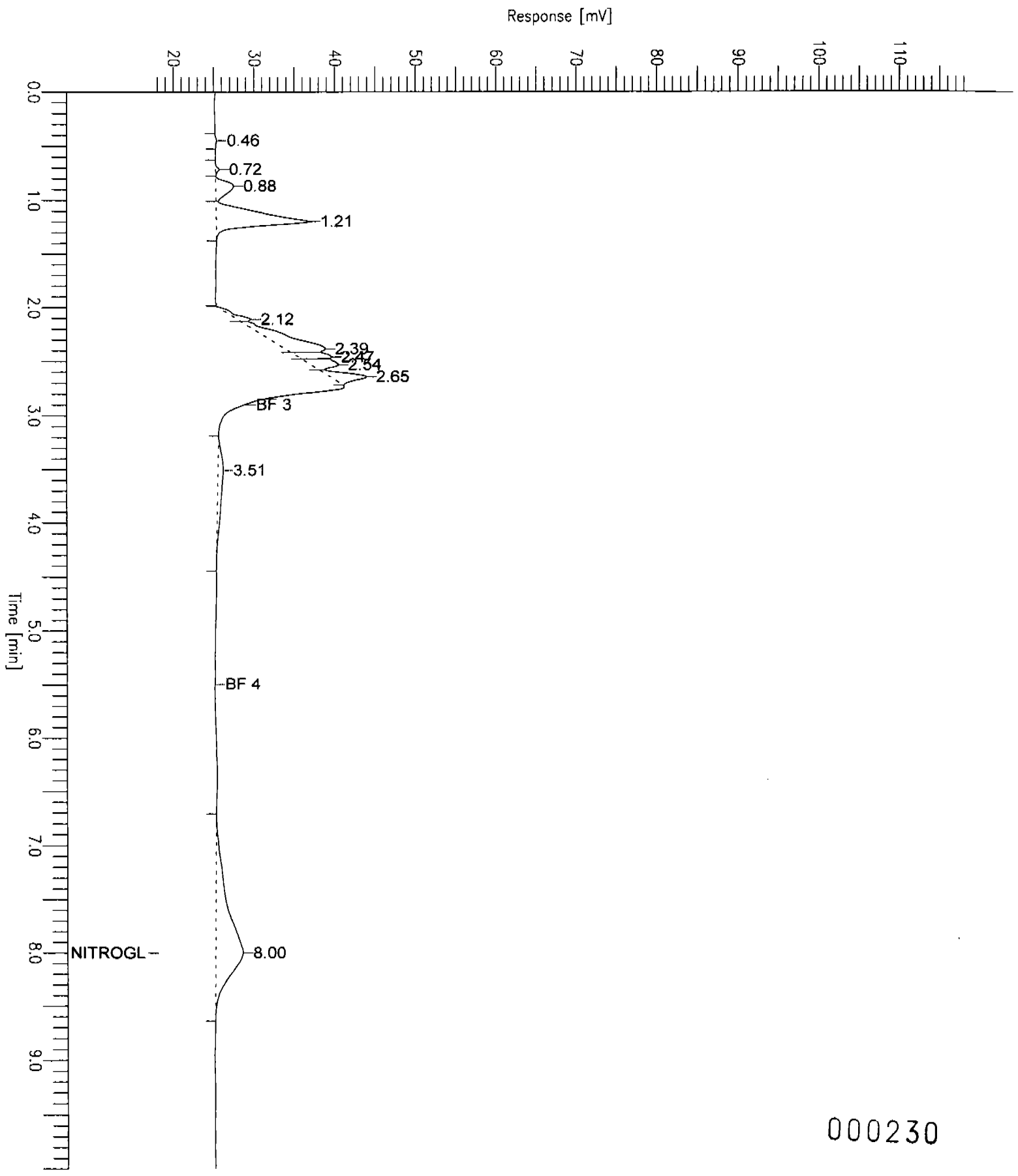
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10mg/l
FileName : C:\TC4\LC151\A31_057.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 57 Page 1 of 1
Date : 5/22/02 06:52
Time of Injection: 5/22/02 04:41
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000230

Software Version: 4.1<2F12>
Sample Name : 10mg/l Time : 5/22/02 06:52
Sample Number: 57 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 04:41
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_057.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
8.004	NITROGLYCERIN	8.6765	141789.00	3399.07	10.00	86.77
			141789.00	3399.07	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0200.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_05.mth Date: 5/22/02
Std. Level: Std. 4 CCV Filename: A31_066 6:52

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	7.93	354.23	391.76	9.58%	YES

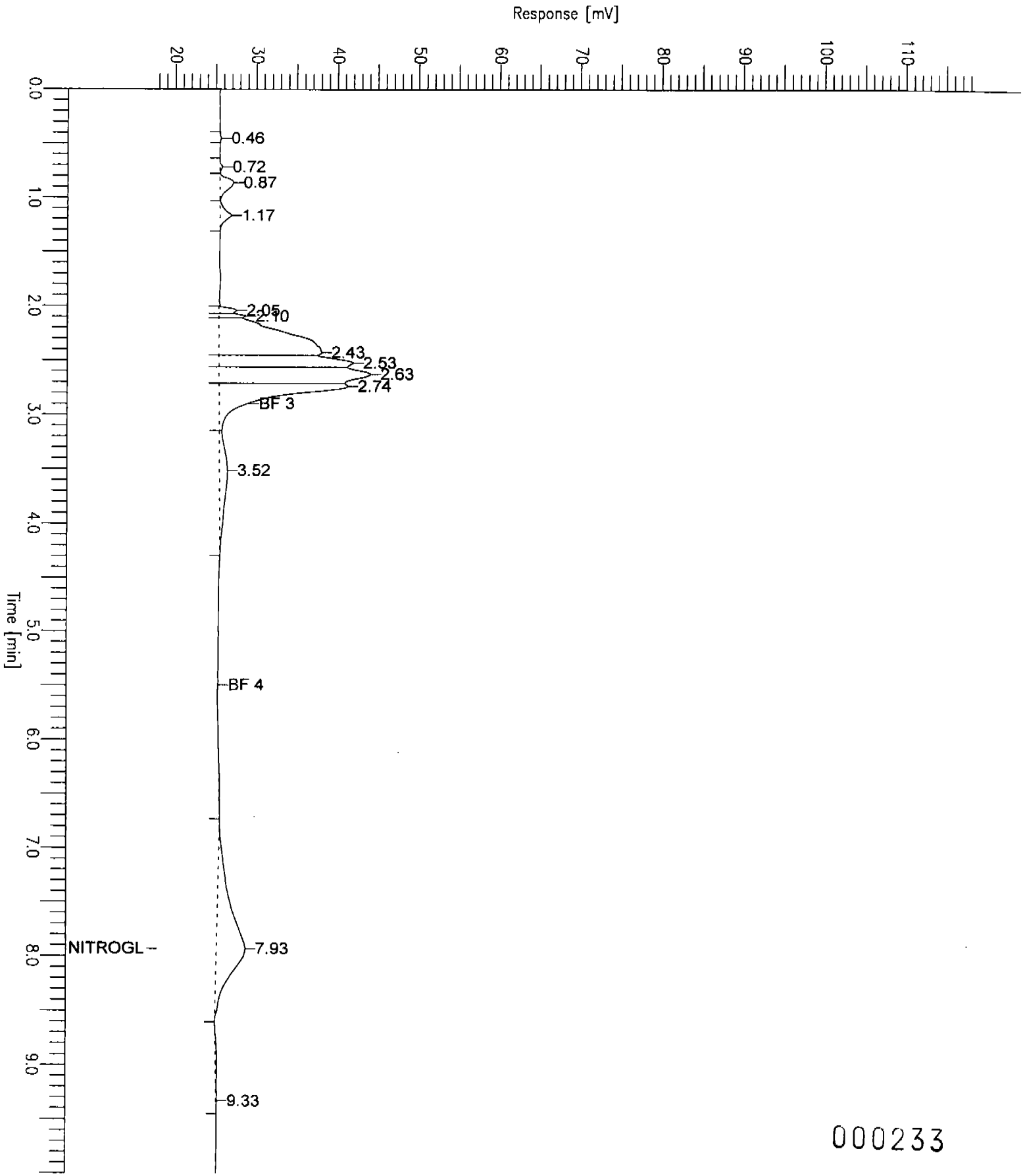
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10mg/lstd
FileName : C:\TC4\LC151\A31_066.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 66 Page 1 of 1
Date : 5/22/02 07:05
Time of Injection: 5/22/02 06:52
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000233

Software Version: 4.1<2F12>
Sample Name : 10mg/lstd
Sample Number: 66
Operator :

Time : 5/22/02 07:05
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 06:52
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_066.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.931	NITROGLYCERIN	9.0422	149842.00	3542.31	10.00	90.42
			149842.00	3542.31	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0200.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_05.mth Date: 5/22/02
Std. Level: Std. 4 CCV Filename: A31_074 Time: 9:34

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	8.02	364.68	391.76	6.91%	YES

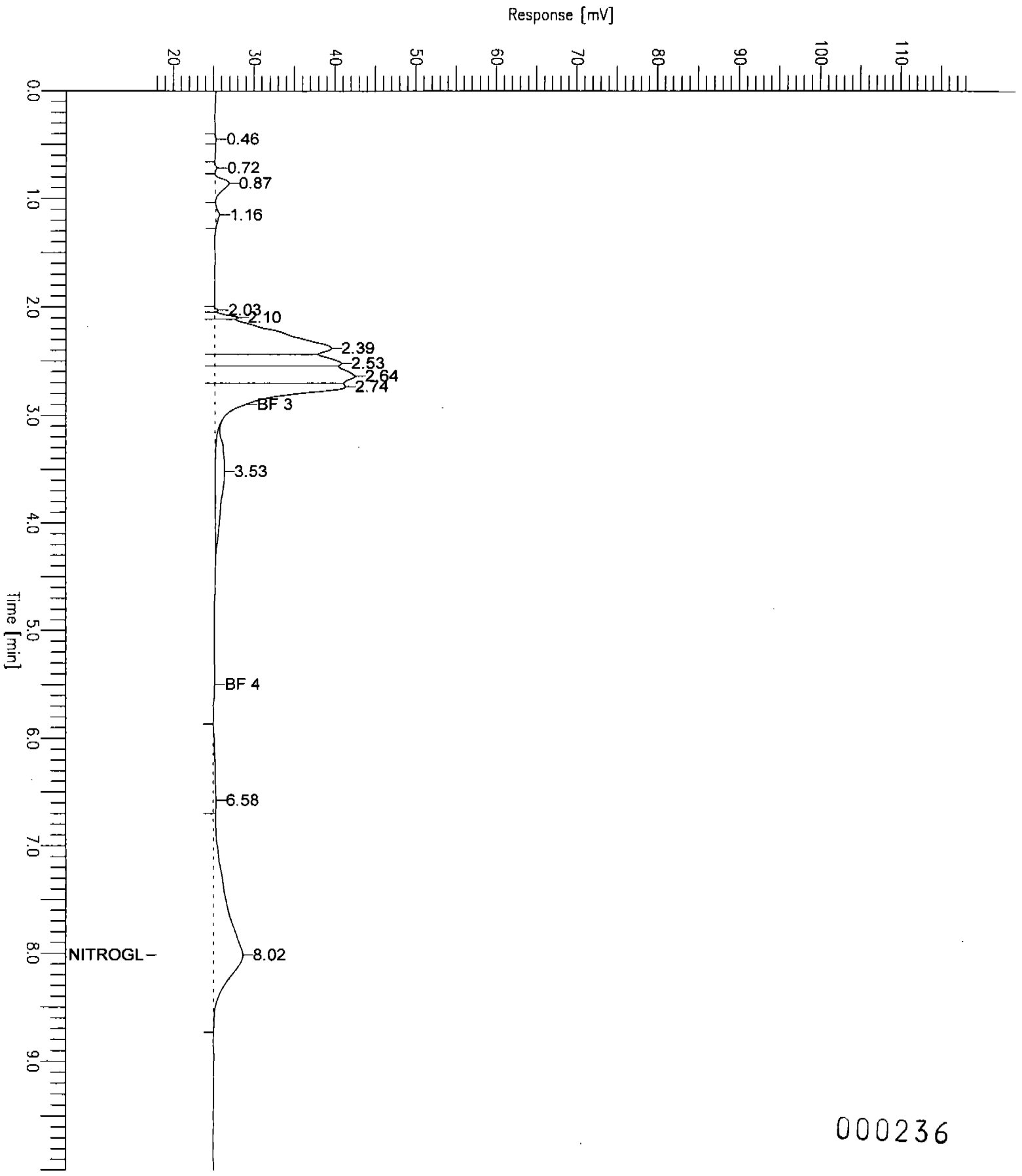
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10mg/lstd
FileName : C:\TC4\LC151\A31_074.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 74 Page 1 of 1
Date : 5/22/02 10:46
Time of Injection: 5/22/02 09:34
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000236

Software Version: 4.1<2F12>
Sample Name : 10mg/lstd Time : 5/22/02 10:46
Sample Number: 74 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 09:34
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_074.RAW
Result File : C:\WINDOWS\TEMP\~RST1905.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST1905.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
8.019	NITROGLYCERIN	9.3088	167683.31	3646.78	10.00	93.09
			167683.31	3646.78	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST1905.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_05.mth Date: 5/22/02
Std. Level: Std. 4 CCV Filename: A31_078 Time: 12:05

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	8.10	370.23	391.76	5.49%	YES

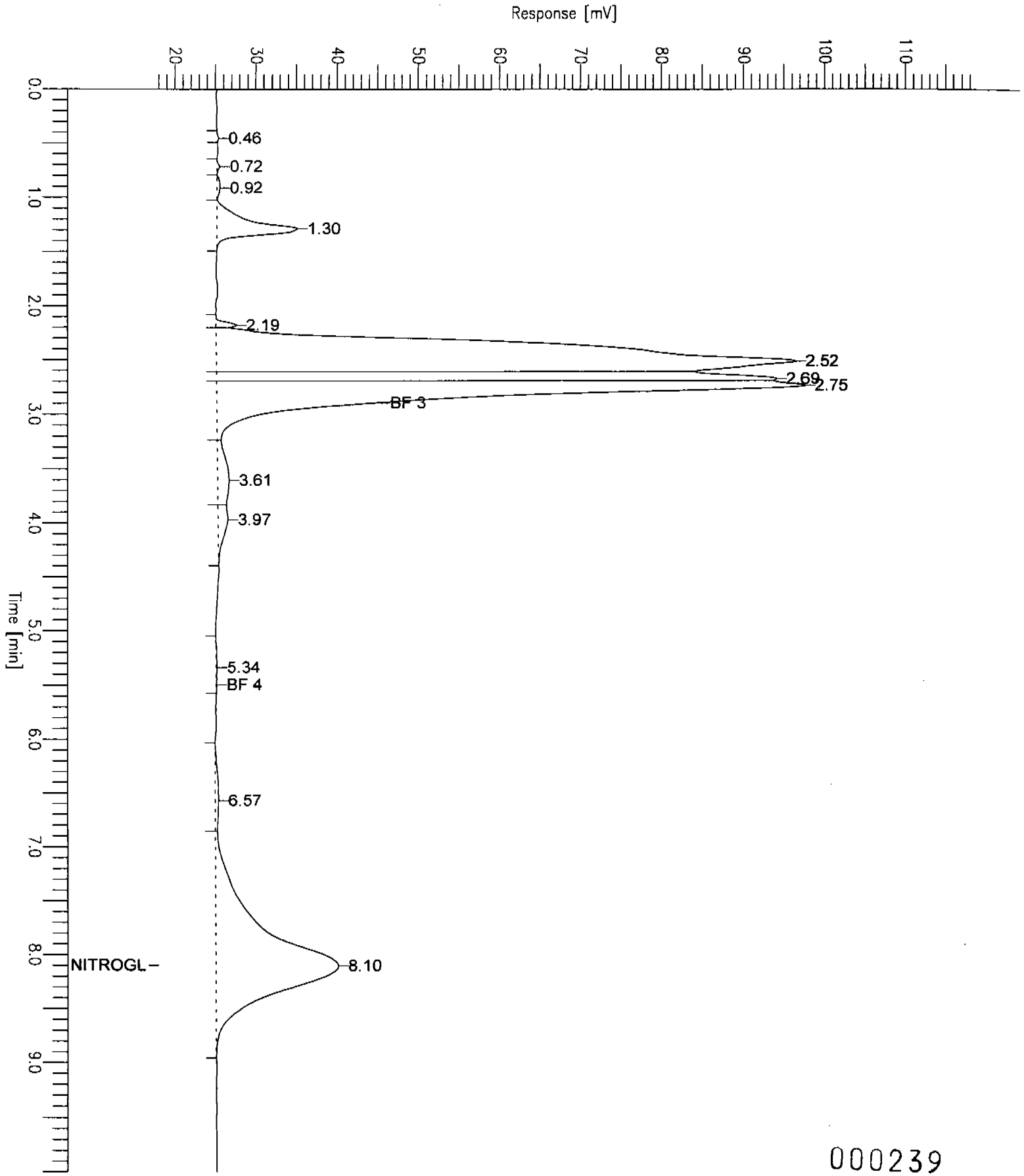
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10mg/lstd
FileName : C:\TC4\LC151\A31_078.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 78 Page 1 of 1
Date : 5/22/02 14:38
Time of Injection: 5/22/02 12:05
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000239

Software Version: 4.1<2F12>
Sample Name : 10mg/lstd
Time : 5/22/02 14:38
Sample Number: 78
Study : 8332
Operator :

Instrument : LC151
Channel : A
A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460
Data Acquisition Time: 5/22/02 12:05
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_078.RAW
Result File : C:\TC4\GC144\GEDIT.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\TC4\GC144\GEDIT.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Area Reject : 0.000000
Sample Amount : 1.0000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
8.100	NITROGLYCERIN	9.4506	44539.75	3702.33	10.00	94.51
			44539.75	3702.33	10.00	

Report stored in ASCII file: C:\TC4\GC144\GEDIT.TX0

INITIAL CALIBRATION OF SINGLE-COMPONENT ANALYTES

Inst. ID: LC 151 **Column: C-18** **Date(s) Analyzed: 05/21/02** **Curve: 8332_04.mth**

STD. AMT. (ug)	1.0	2.5	5.0	10	20	50	MEAN	RT WINDOW	
COMPOUND	RT OF STANDARDS						RT	FROM	TO
Nitroglycerine	4.812	4.778	4.792	4.790	4.808	4.808	4.798	**4.748**	**4.848**

Note: used default RT Windows of +/- 0.05 minutes.

STD. AMT. (ug)	1.0	2.5	5.0	10	20	50	MEAN	%
COMPOUND	CALIBRATION FACTORS						CF	RSD
Nitroglycerine	468.88	440.59	339.66	381.62	456.08	478.99	427.64	**12.88**

CF= Peak Height/Amount
Note: %RSD should be <20% for an acceptable curve

Nitroglycerine was calibrated using a curve rather than the average calibration factor:

Compound	Fit Type	r-Squared
Nitroglycerine	2nd Order	0.990192

Turbochrom Method File : C:\TC4\LC151\8332_04.MTH
Created by : DLV on : 5/15/02 12:04
Edited by : JMK1 on : 6/5/02 18:50
Description :

Number of Times Edited : 15
Number of Times Calibrated : 132

Instrument Conditions :

Liquid Chromatography -

Instrument	: 151
Column	: C18
Column Length	: 250
Particle Size	: 5
Column Diameter:	
Mobile Phase	:60:40 AcCN:H2O
Flow Rate	: 1.0 ML/MIN
Back Pressure	: 2500
Temperature	: AMBIENT
Detector 1	: 214
Detector 2	:
Notes	: 20 UL INJECTION

Instrument Control Method:

Instrument name : LC151

Interface Parameters :

Delay Time	: 0.00 min.
Run Time	: 8.00 min.
Sampling Rate	: 2.0000 pts/s
Interface Type	: 900
Analog Voltage Input	: 1000 mV

Data will be collected from channel A

Timed Events:

There are no timed events in the method

Real Time Plot Parameters :

Channel A -- Pages: 1 Offset: 20.000 mV Scale: 40.000 mV
Channel B -- Pages: 1 Offset: 0.000 mV Scale: 1000.000 mV

Processing Parameters :

Bunch Factor	: 1 points
Noise Threshold	: 20 µV
Area Threshold	: 100.00 µV

Peak Separation Criteria

Width Ratio	: 0.200
Valley-to-Peak Ratio	: 0.010

000242

Exponential Skim Criteria

Peak Height Ratio : 5.000
Adjusted Height Ratio : 4.000
Valley Height Ratio : 3.000

Baseline Timed Events :
Event #1 - BF 3.000 at 2.904
Event #2 - BF 4.000 at 5.500

Annotated Replot Parameters :
Offset & Scale set to absolute values
Plot Offset : 18.000 mV
Plot Scale : 100.000 mV

Number of Pages : 1
Plot Title : Chromatogram
X-Axis Label : Time [min]
Y-Axis Label : Response [mV]
Orientation : Landscape
Retention Labels : Peak Crests
Component Labels : Actual Time
Start Time : 0.00
End Time : 8.00

Report Format files :
No report format files given

User Programs :
No user programs will be executed

Global Information :
Default Sample Volume : 1.000 UG
Quantitation Units : ML
Void Time : 0.000 min
Correct amounts during calibration : YES
Reject outliers during calibration : NO
An External Standard calibration will be used
Unknown peaks will be quantitated using a response factor of 1.000000e+06

Component Information :
NITROGLYCERIN
Component Type : Single Peak Component
Retention Time : 4.796 min Search Window: 10.00 s, 0.00 %
Reference Component:
Find peak closest to expected RT in window
Calibrating Height versus Amount using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: None
User Values:
Label :
Value 1: 0.000000
Value 2: 0.000000
Value 3: 0.000000

Value 4: 0.000000
Value 5: 0.000000

Calibration Levels:

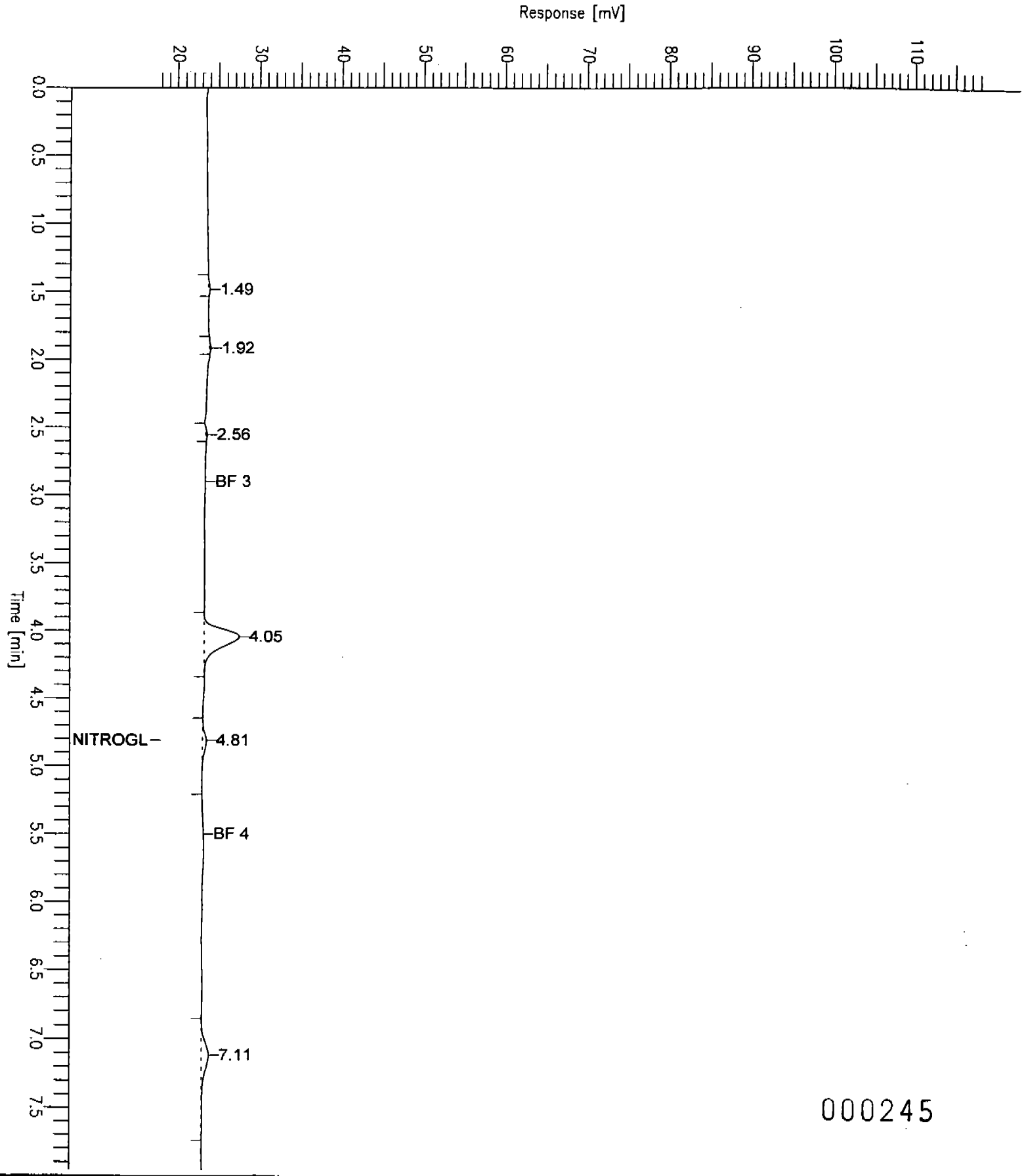
Level Name	Amount	Area	Height	ISTD Resp.	ISTD Amt.	# Replicates
1	1.0000	4719.75	468.88	----------	----------	1
2	2.5000	14115.56	1211.69	----------	----------	1
3	5.0000	18664.36	1698.32	----------	----------	1
4	10.0000	40450.69	3816.16	----------	----------	1
5	20.0000	50997.96	4882.05	----------	----------	1
6	50.0000	129319.83	12356.17	----------	----------	1

Calibration Curve : y = (557.143445) + (245.469643)x + (-0.208972)x^2 + (0.000000)x^3
R-squared : 0.990192

Chromatogram

Sample Name : 1MG/LSTD
FileName : C:\TC4\LC151\A30_136.RAW
Method : 8332_04.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 136 Page 1 of 1
Date : 5/28/02 12:08
Time of Injection: 5/15/02 10:35
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000245

Software Version: 4.1<2F12>
Sample Name : 1MG/LSTD
Time : 5/28/02 12:08
Sample Number: 136
Study : NITROG
Operator :

Instrument : LC151
Channel : A
A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460
Data Acquisition Time: 5/15/02 10:35
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_136.RAW
Result File : C:\WINDOWS\TEMP\~RST1A42.RST
Inst Method : C:\TC4\LC151\8332_02 from C:\WINDOWS\TEMP\~RST1A42.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Area Reject : 0.000000
Sample Amount : 1.0000
Dilution Factor : 1.00

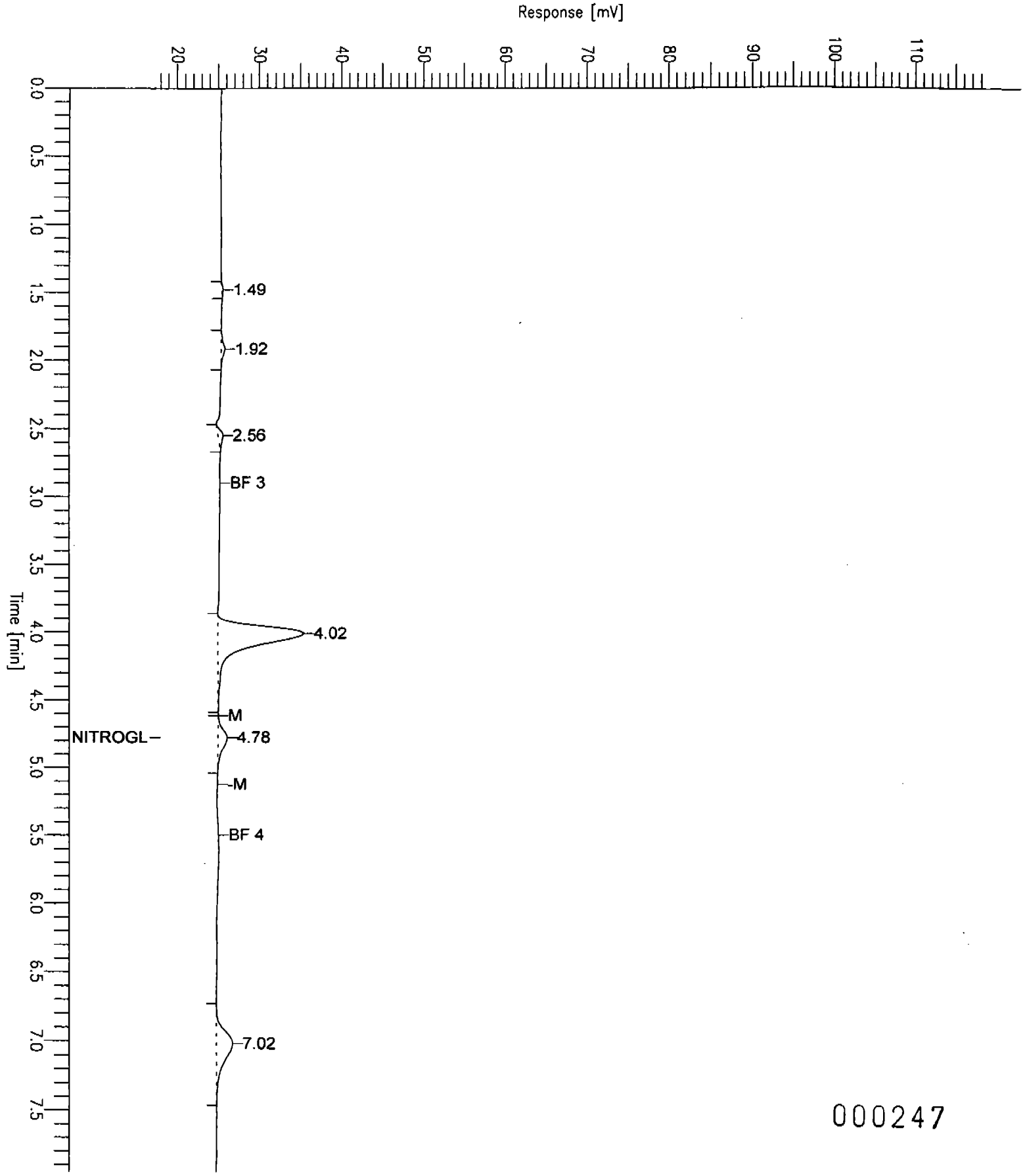
Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
4.812	NITROGLYCERIN	1.0366	4719.75	468.88	1.0366
			4719.75	468.88	

Chromatogram

Sample Name : 2.5MG/LSTD
FileName : C:\TC4\LC151\A30_137.RAW
Method : 8332_04.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 137
Date : 5/28/02 12:07
Time of Injection: 5/15/02 10:56
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 2.5MG/LSTD
Sample Number: 137
Operator :

Time : 5/28/02 12:07
Study : NITROG

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/15/02 10:56
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_137.RAW
Result File : C:\WINDOWS\TEMP\~RST1A42.RST
Inst Method : C:\TC4\LC151\8332_02 from C:\WINDOWS\TEMP\~RST1A42.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

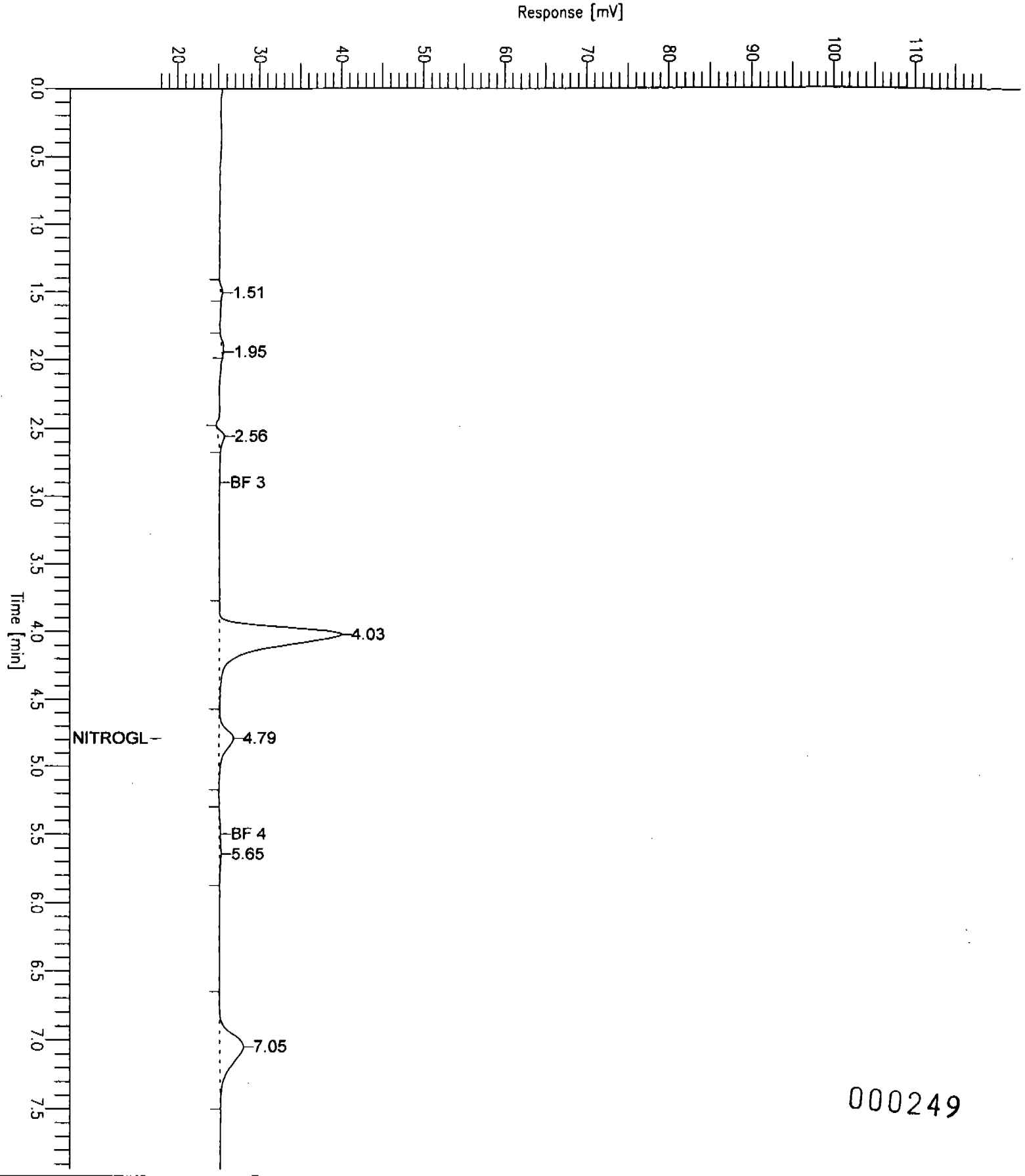
Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
4.778	NITROGLYCERIN	2.6726	14115.56	1211.69	2.6726
			14115.56	1211.69	

Chromatogram

Sample Name : 5MG/LSTD
FileName : C:\TC4\LC151\A30_138.RAW
Method : 8332_04.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 138 Page 1 of 1
Date : 5/28/02 12:07
Time of Injection: 5/15/02 11:18
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000249

Software Version: 4.1<2F12>
Sample Name : 5MG/LSTD
Sample Number: 138
Operator :

Time : 5/28/02 12:07
Study : NITROG

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/15/02 11:18
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_138.RAW
Result File : C:\WINDOWS\TEMP\~RST1A42.RST
Inst Method : C:\TC4\LC151\8332_02 from C:\WINDOWS\TEMP\~RST1A42.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

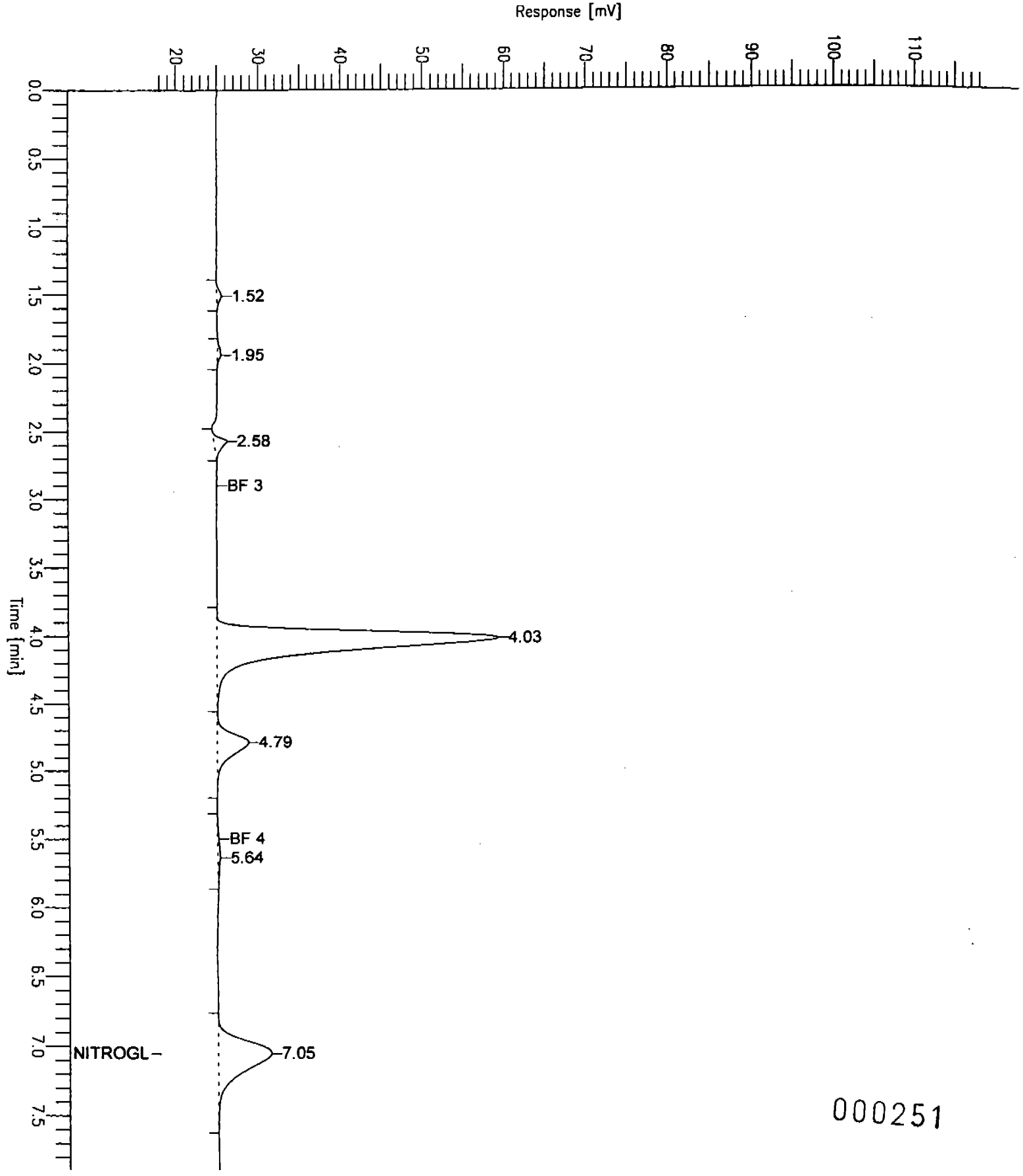
Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
4.792	NITROGLYCERIN	3.8167	18664.36	1698.32	3.8167
			18664.36	1698.32	

Chromatogram

Sample Name : 10MG/LSTD
FileName : C:\TC4\LC151\A30_139.RAW
Method : 8332_04.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 139 Page 1 of 1
Date : 5/28/02 12:07
Time of Injection: 5/15/02 11:40
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000251

Software Version: 4.1<2F12>
Sample Name : 10MG/LSTD
Sample Number: 139
Operator :

Time : 5/28/02 12:07
Study : NITROG

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/15/02 11:40
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_139.RAW
Result File : C:\WINDOWS\TEMP\~RST1A42.RST
Inst Method : C:\TC4\LC151\8332_02 from C:\WINDOWS\TEMP\~RST1A42.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

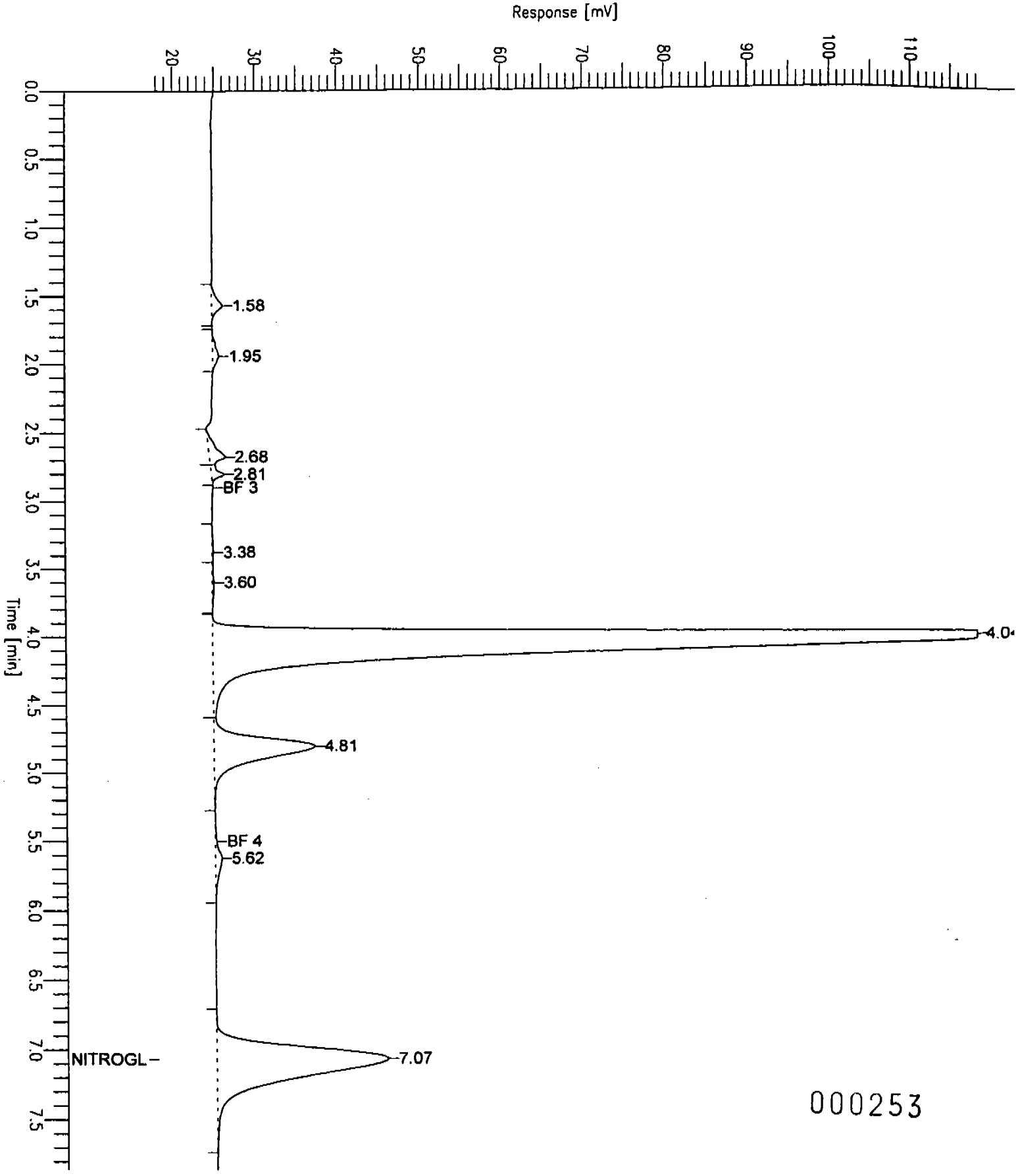
Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
4.790	NITROGLYCERIN	8.5763	40450.69	3816.16	8.5763
			40450.69	3816.16	

Chromatogram

Sample Name : 20MG/LSTD
FileName : C:\TC4\LC151\A30_140.RAW
Method : 8332_04.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 140
Date : 5/28/02 12:06
Time of Injection: 5/15/02 12:02
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 20MG/LSTD
Sample Number: 140
Operator :

Time : 5/28/02 12:06
Study : NITROG

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/15/02 12:02
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_140.RAW
Result File : C:\WINDOWS\TEMP\~RST1A42.RST
Inst Method : C:\TC4\LC151\8332_02 from C:\WINDOWS\TEMP\~RST1A42.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

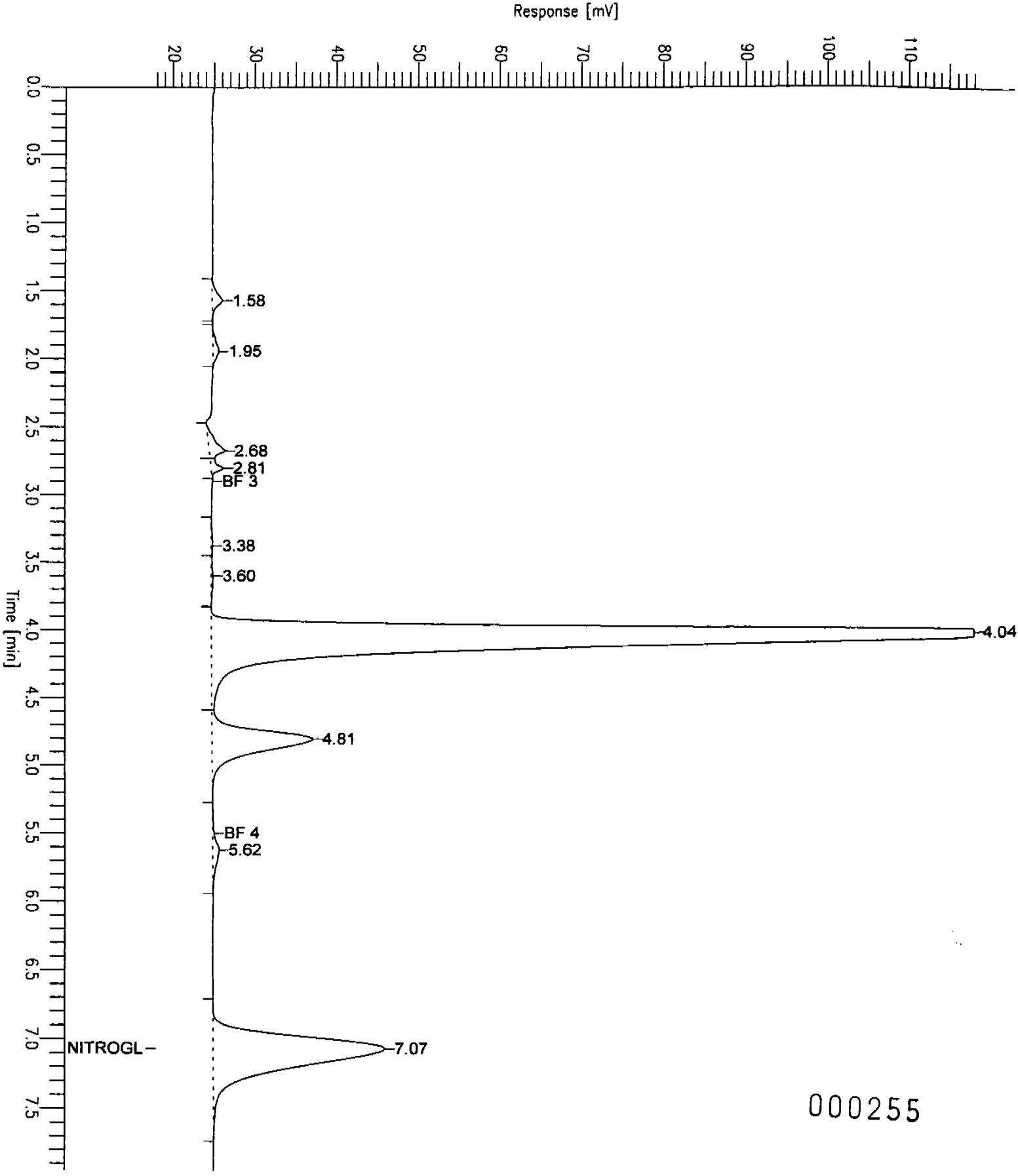
Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
4.808	NITROGLYCERIN	17.8914	50997.96	4882.05	17.8914
			50997.96	4882.05	

Chromatogram

Sample Name : 50MG/LSTD
FileName : C:\TC4\LC151\A30_141.RAW
Method : 8332_04.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 140 Page 1 of 1
Date : 5/20/02 12:06
Time of Injection: 5/15/02 12:02
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000255

Software Version: 4.1<2F12>
Sample Name : 50MG/LSTD
Sample Number: 141
Operator :

Time : 5/28/02 12:14
Study : NITROG

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/16/02 06:01
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_141.RAW
Result File : C:\WINDOWS\TEMP\~RST3B37.RST
Inst Method : C:\TC4\LC151\8332_02 from C:\WINDOWS\TEMP\~RST3B37.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
4.808	NITROGLYCERIN	50.2137	129319.83	12356.17	50.2137
			129319.83	12356.17	

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_04.mth Date: 5/22/02
Std. Level: Std. 4 CCV Filename: A31_080 Time: 15:09

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	4.77	320.96	427.64	24.95%	NO

NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

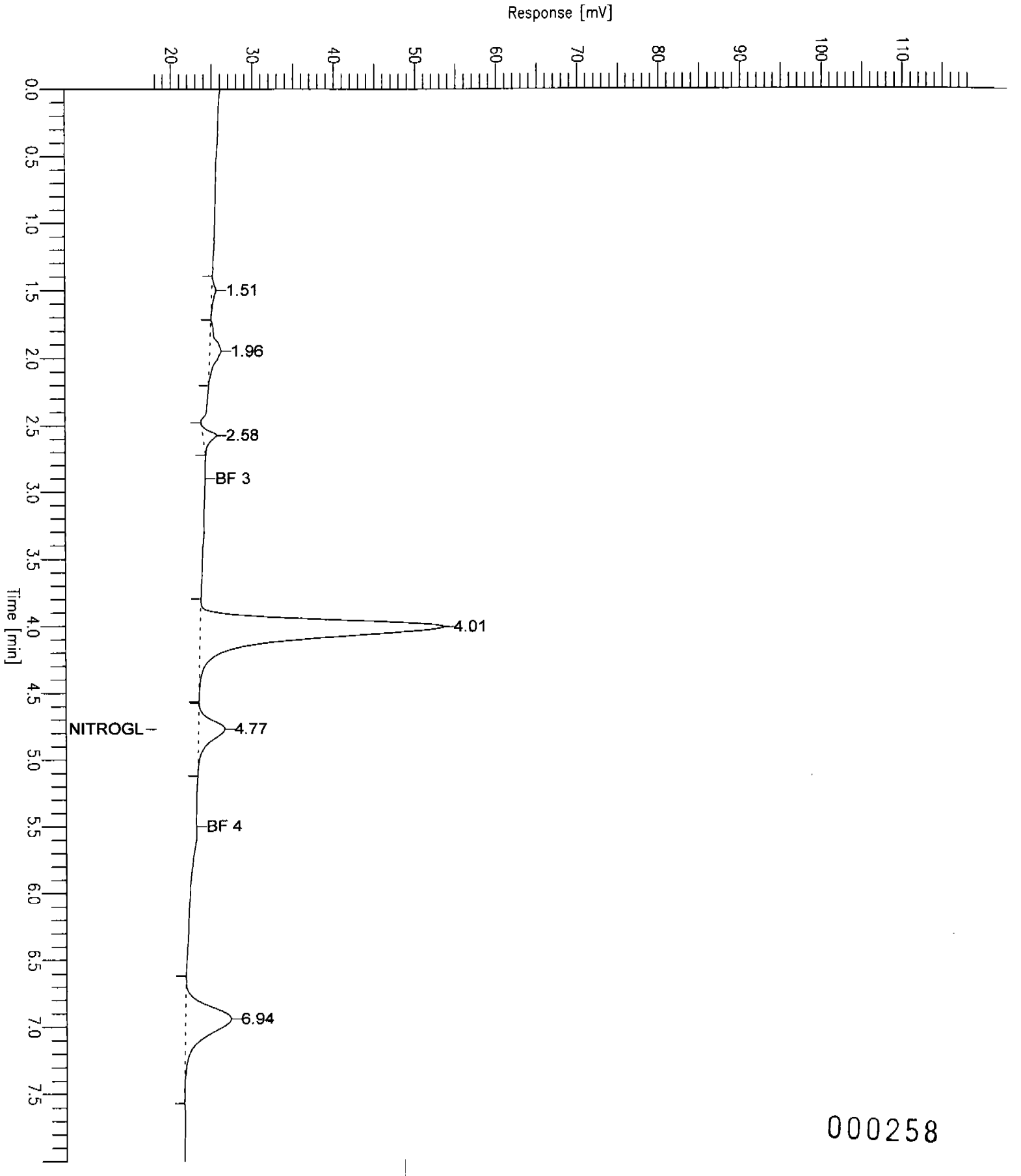
Results compared to calibration curve:

COMPOUND	TV	OBSERVED CONC.	% DIFF	ACCEPTABLE?
Nitroglycerine	10.000	10.9069	9.07%	YES

Chromatogram

Sample Name : 10mg/lstd
FileName : C:\TC4\LC151\A31_080.RAW
Method : 8332_04.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 80 Page 1 of 1
Date : 5/22/02 22:28
Time of Injection: 5/22/02 15:09
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000258

Software Version: 4.1<2F12>
Sample Name : 10mg/1std
Sample Number: 80
Operator :

Time : 5/22/02 22:28
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 15:09
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_080.RAW
Result File : C:\WINDOWS\TEMP\~RST237B.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST237B.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

C18 Column

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
4.772	NITROGLYCERIN	10.9069	33458.50	3209.60	10.00	109.07
			33458.50	3209.60	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST237B.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_04.mth Date: 5/22/02

Std. Level: Std. 4 CCV Filename: A31_082 Time: 15:38

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	4.79	324.59	427.64	24.10%	NO

NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

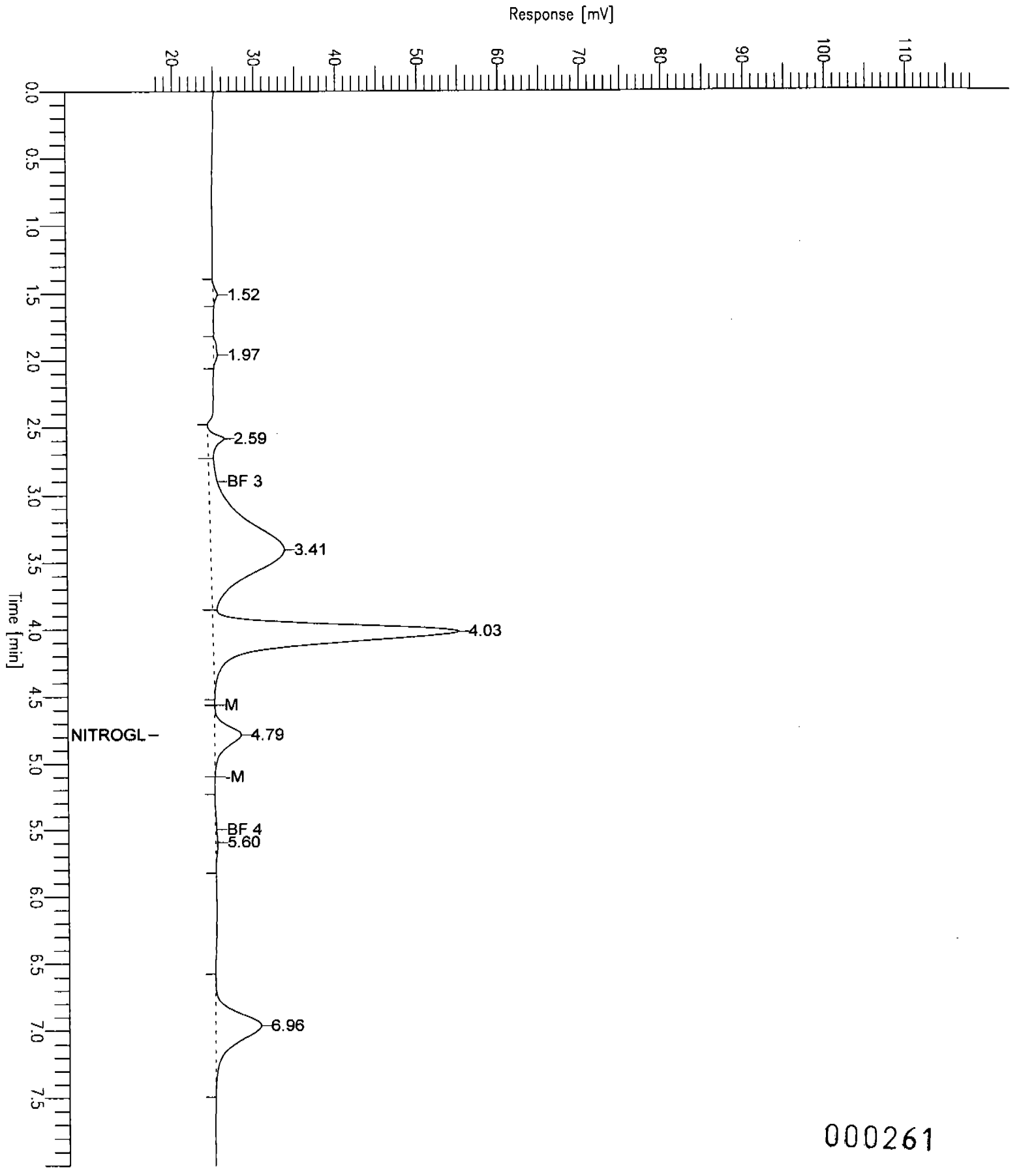
Results compared to calibration curve:

COMPOUND	TV	OBSERVED CONC.	% DIFF	ACCEPTABLE?
Nitroglycerine	10.000	11.0575	10.58%	YES

Chromatogram

Sample Name : 10mg/lstd
FileName : C:\TC4\LC151\A31_082.RAW
Method : 8332_04.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 82
Date : 5/22/02 22:27
Time of Injection: 5/22/02 15:38
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 10mg/1std Time : 5/22/02 22:27
Sample Number: 82 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 15:38
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_082.RAW
Result File : C:\WINDOWS\TEMP\~RST237B.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST237B.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

C18 Column

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
4.788	NITROGLYCERIN	11.0575	33549.00	3245.87	10.00	110.57
			33549.00	3245.87	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST237B.TX0

SECTION - C

RAW QUALITY CONTROL DATA

NITROGLYCERINE DATA

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Individual sample results relate only to the sample tested.
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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Nitroglycerine
Instrument ID	151	Ref. Cit.	USEPA-8332
		Matrix	WATER
		Units	ug/L

Batch	Blank QC Type	Sequence No.	Amount Found
186122	Instrument	1	<4000
186123	Instrument	1	<4000

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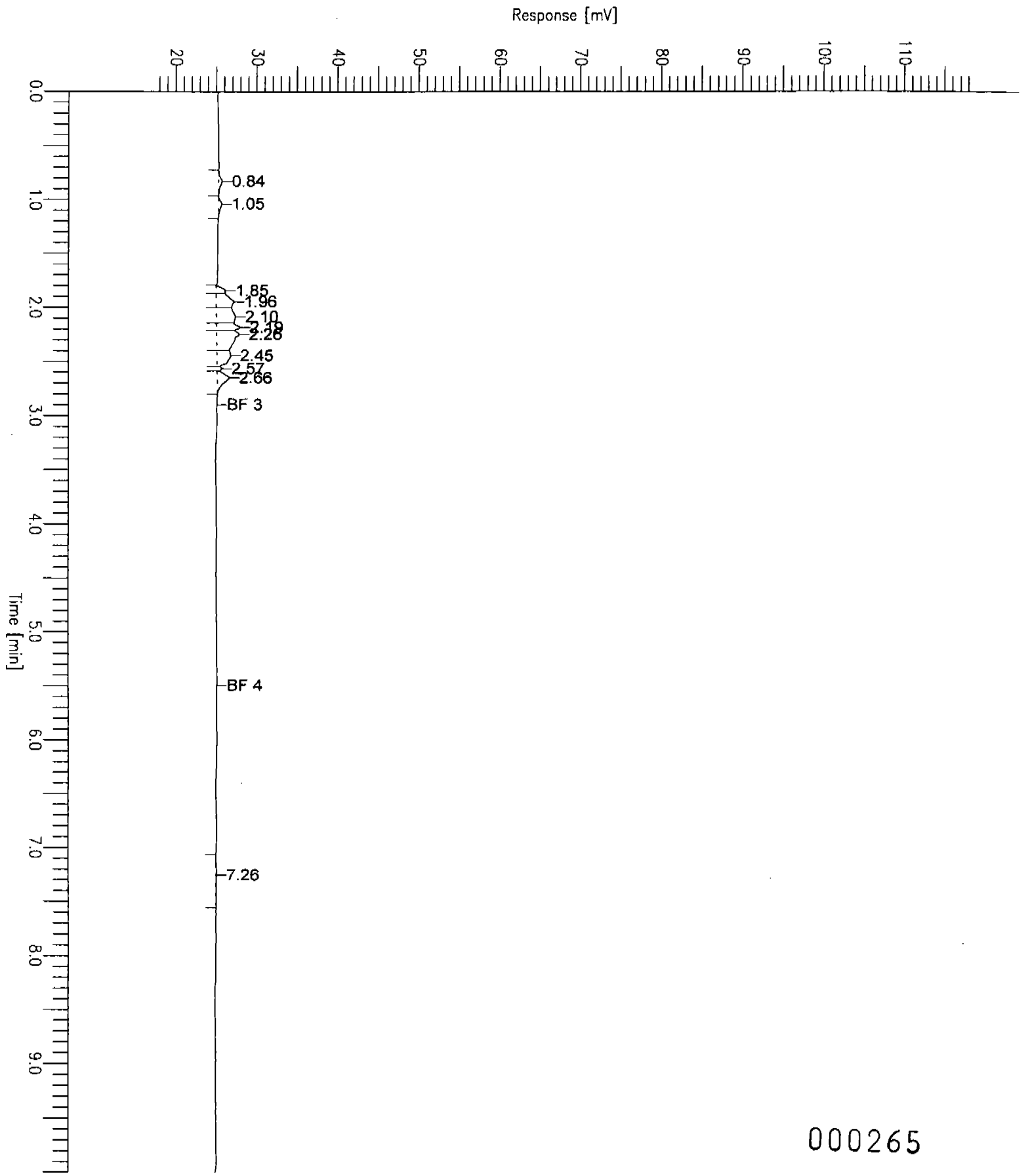
Chromatogram

Sample Name : instrblk
FileName : C:\TC4\LC151\A30_188.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 188 Page 1 of 1
Date : 5/21/02 13:52
Time of Injection: 5/21/02 09:28
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000265

Software Version: 4.1<2F12>
Sample Name : instrblk Time : 5/21/02 13:52
Sample Number: 188 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 09:28
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A30_188.RAW
Result File : C:\WINDOWS\TEMP\~RST1F6B.RST
Inst Method : C:\TC4\LC151\8332_03 from C:\WINDOWS\TEMP\~RST1F6B.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A30.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.8000 Dilution Factor : 1.00

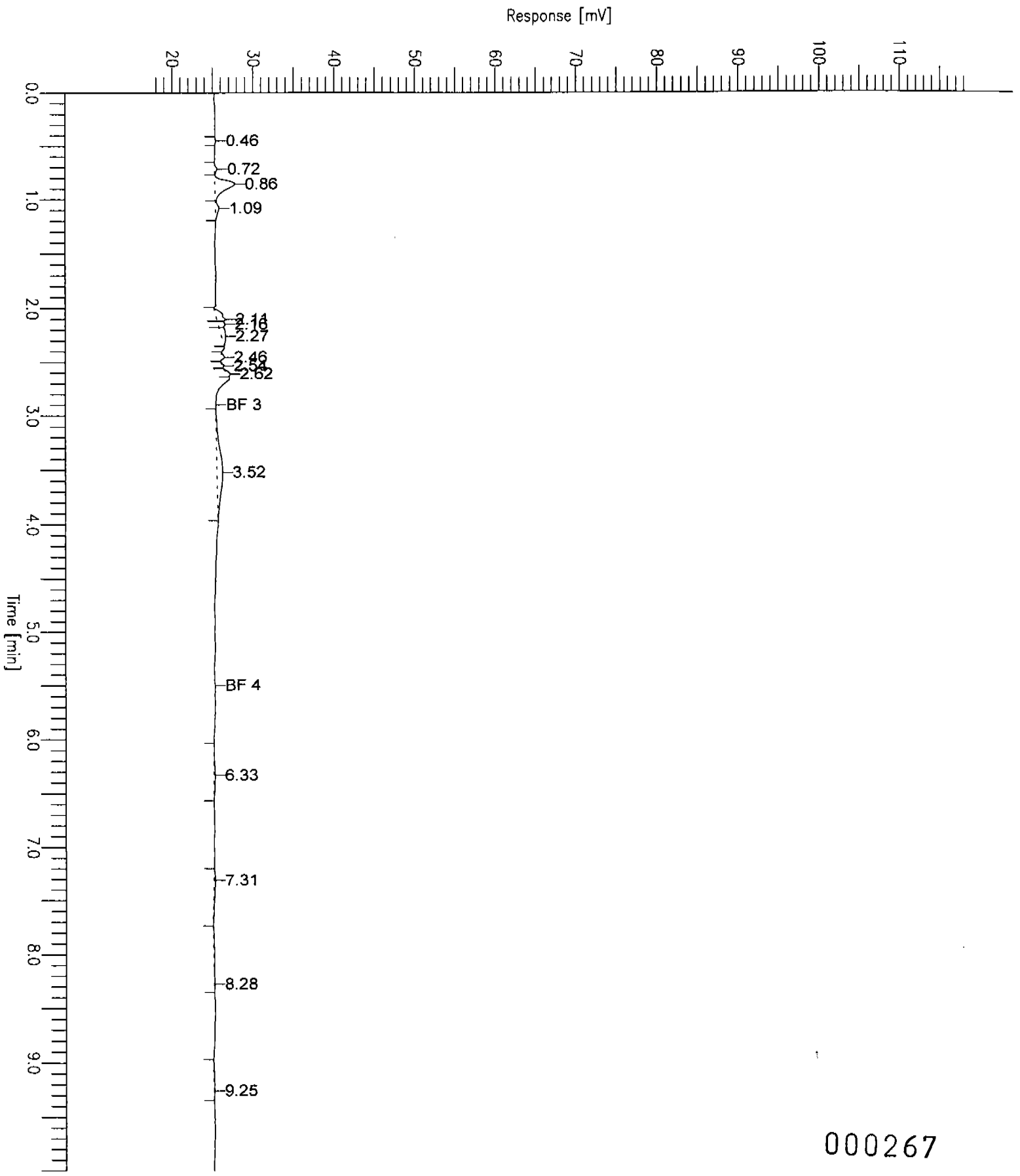
Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
8.098	NITROGLYCERIN	0.0000	0.00	0.00	0.0000
			0.00	0.00	

Chromatogram

Sample Name : instrblk
FileName : C:\TC4\LC151\A31_073.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 73 Page 1 of 1
Date : 5/22/02 10:47
Time of Injection: 5/22/02 09:06
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000267

Software Version: 4.1<2F12>
Sample Name : instrblk Time : 5/22/02 10:47
Sample Number: 73 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 09:06
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_073.RAW
Result File : C:\WINDOWS\TEMP\~RST1905.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST1905.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

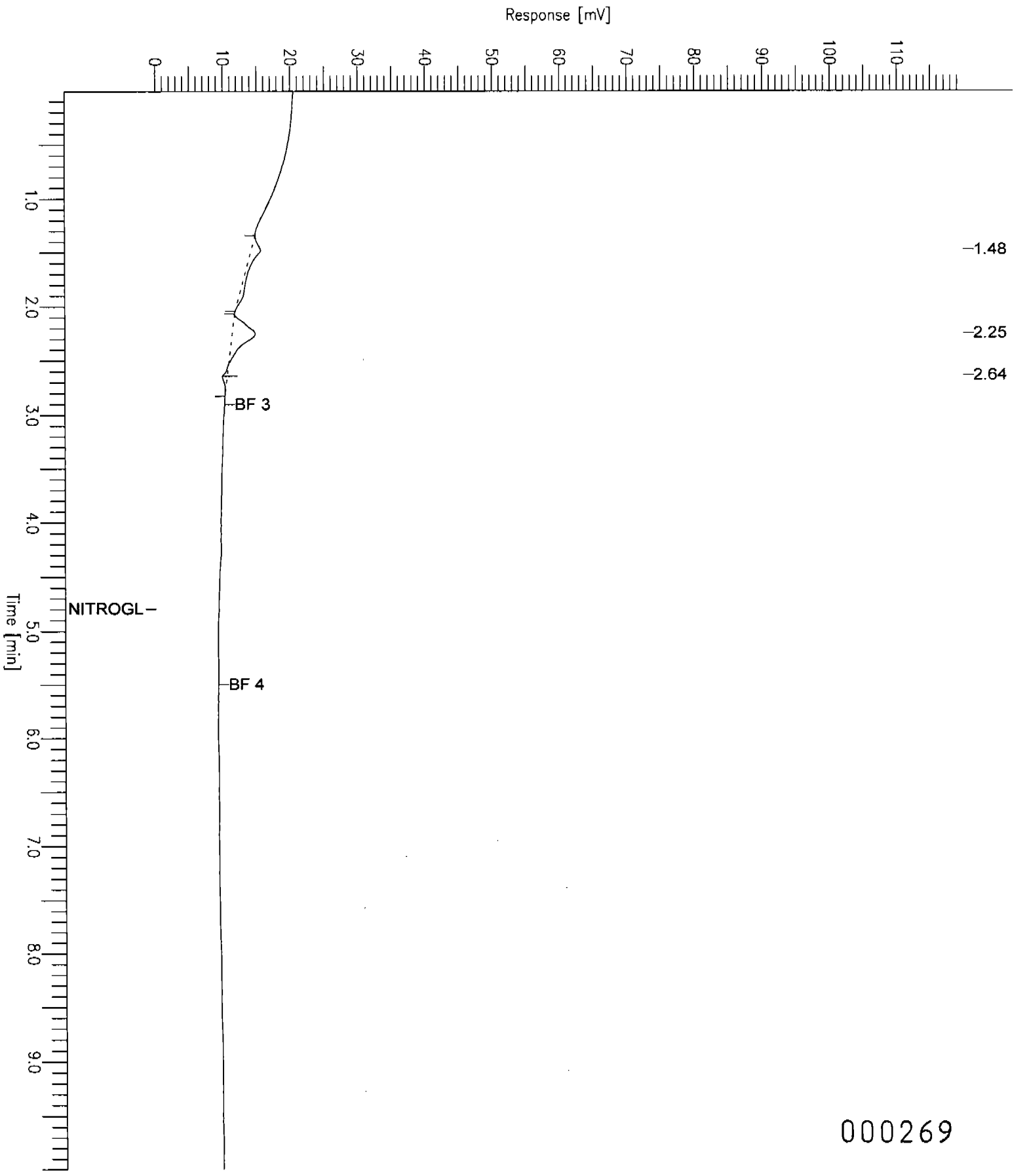
Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
8.098	NITROGLYCERIN	0.0000	0.00	0.00	0.0000
			0.00	0.00	

Chromatogram

Sample Name : instrblk
FileName : C:\TC4\LC151\A31_079.RAW
Method : 8332_04.MTH
Start Time : 0.01 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 0 mV

Sample #: 79 Page 1 of 1
Date : 6/6/02 08:29
Time of Injection: 5/22/02 14:54
Low Point : 0.00 mV High Point : 120.00 mV
Plot Scale: 120.0 mV



Software Version: 4.1<2F12>
Sample Name : instrblk
Sample Number: 79
Operator :

Time : 5/22/02 22:28
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 14:54
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_079.RAW
Result File : C:\WINDOWS\TEMP\~RST237B.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST237B.RST
Proc Method : C:\TC4\LC151\8332_04.MTH
Calib Method : C:\TC4\LC151\8332_04.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

C18 Column

Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
4.796	NITROGLYCERIN	0.0000	0.00	0.00	0.0000
			0.00	0.00	

QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Nitroglycerine
Instrument ID	151	Ref. Cit.	USEPA-8332
		Matrix	SOIL
		Units	mg/kg dry

Batch	Blank QC Type	Sequence No.	Amount Found
75193	Method Preparation	1	<25
75194	Method Preparation	1	<25
75195	Method Preparation	1	<25

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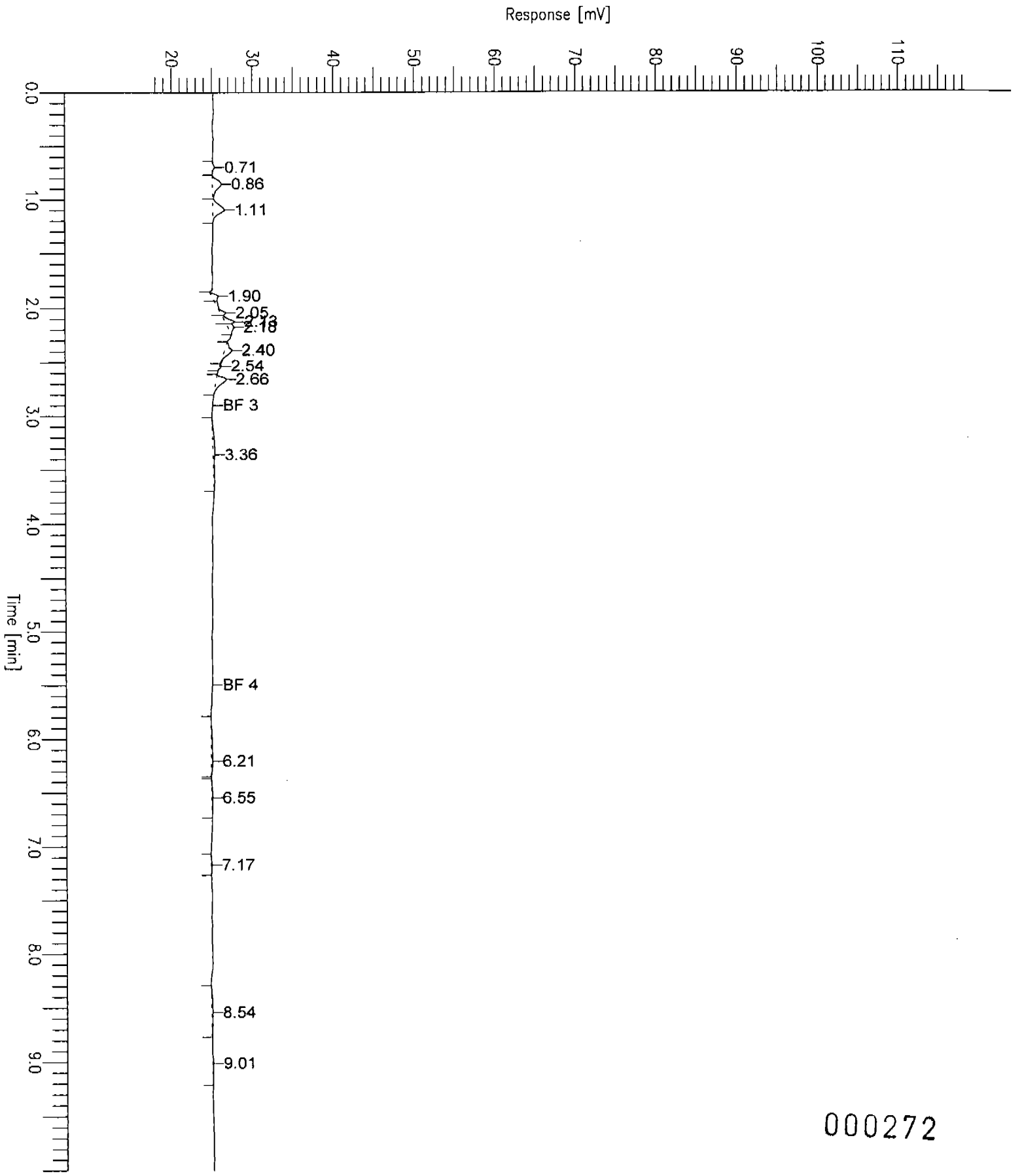
Chromatogram

Sample Name : MPB121S
FileName : C:\TC4\LC151\A31_006.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 6 Page 1 of 1
Date : 5/21/02 17:55
Time of Injection: 5/21/02 14:49
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000272

Software Version: 4.1<2F12>
Sample Name : MPB121S Time : 5/21/02 17:55
Sample Number: 6 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 14:49
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_006.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

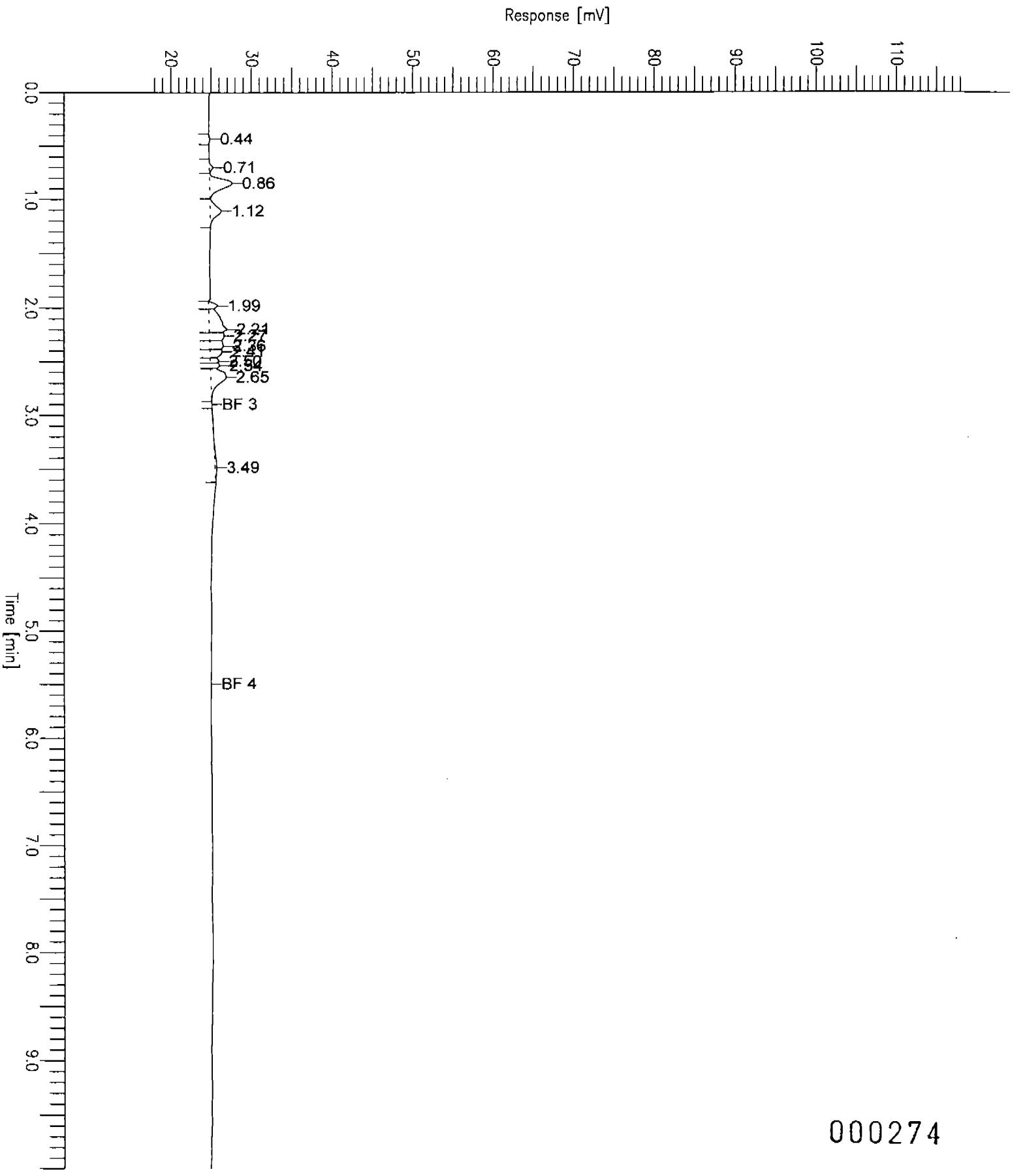
Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

Chromatogram

Sample Name : mpb 112s2
FileName : C:\TC4\LC151\A31_030.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 30 Page 1 of 1
Date : 5/22/02 06:41
Time of Injection: 5/21/02 21:53
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : mpb 112s2 Time : 5/22/02 06:41
Sample Number: 30 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 21:53
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_030.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

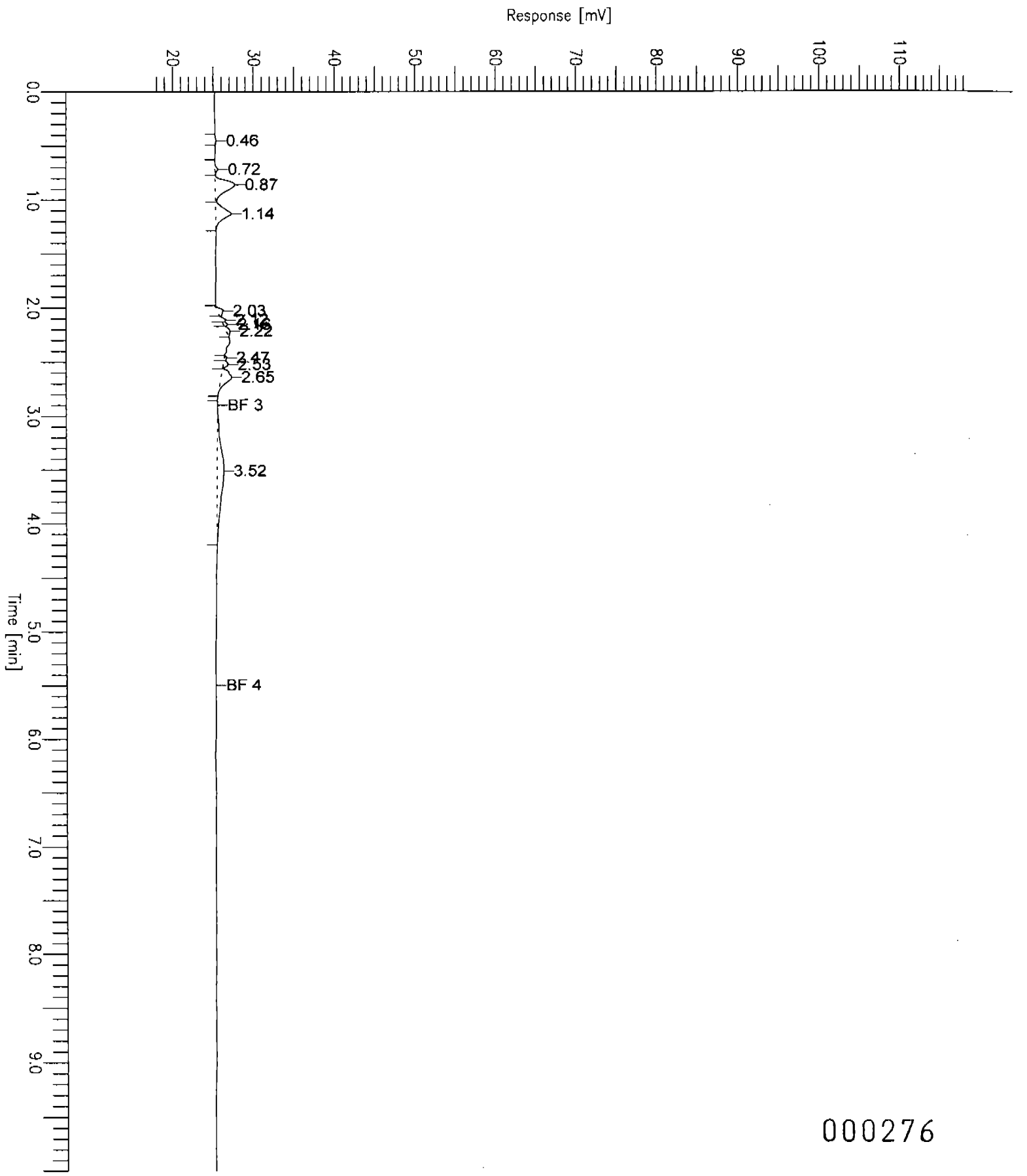
Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

Chromatogram

Sample Name : mpb121s3
FileName : C:\TC4\LC151\A31_064.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 64 Page 1 of 1
Date : 5/22/02 06:54
Time of Injection: 5/22/02 06:23
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : mpb121s3 Time : 5/22/02 06:54
Sample Number: 64 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 06:23
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_064.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305326
Sample ID.	67394BNP01003	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitroglycerine	70 - 130	39.5	<25	U	50	79	
Nitroglycerine	70 - 130	39.5	<25	U	50	79	

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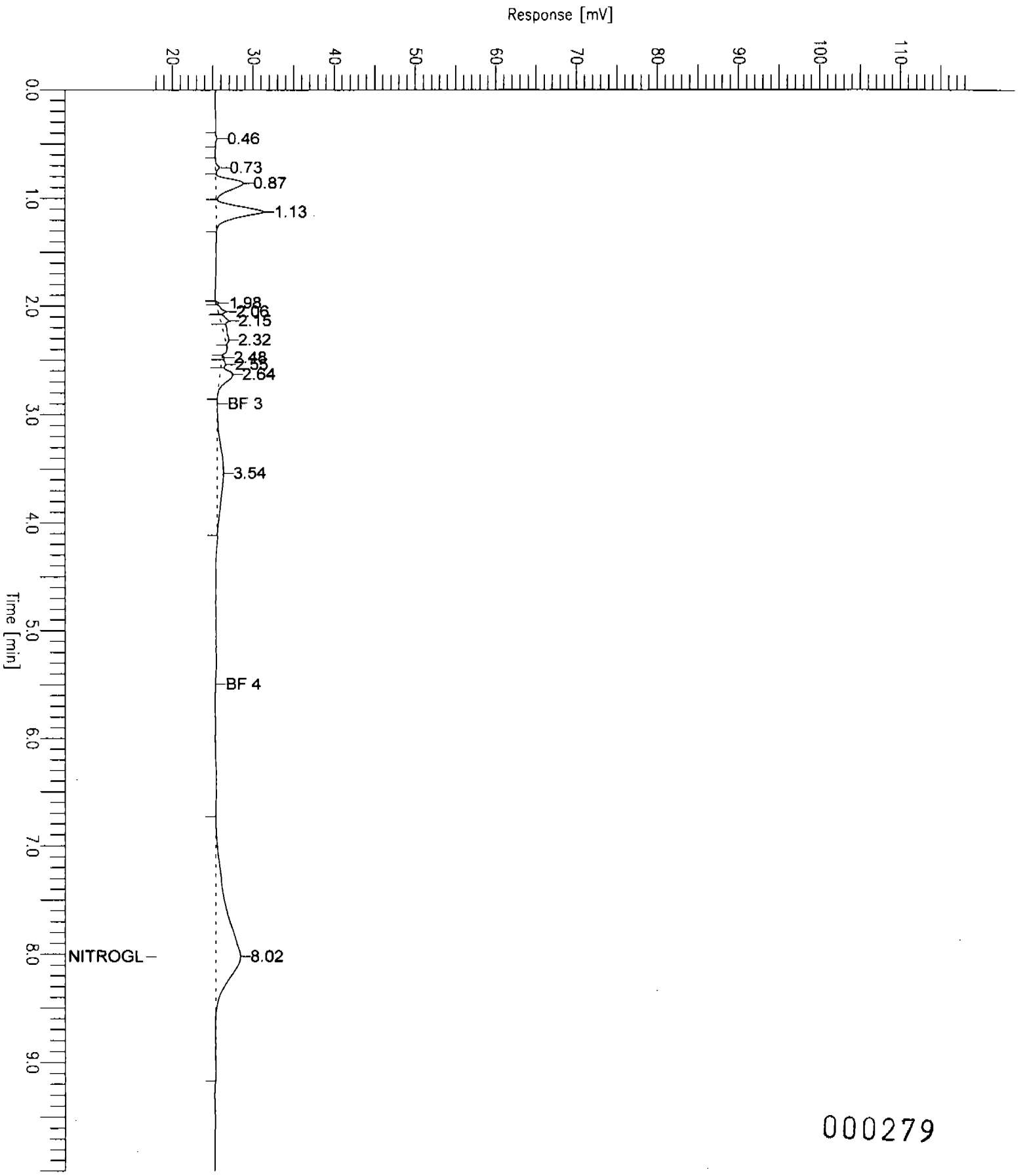
Chromatogram

Sample Name : 305326ms
FileName : C:\TC4\LC151\A31_060.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 60 Page 1 of 1
Date : 5/22/02 06:53
Time of Injection: 5/22/02 05:25
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000279

Software Version: 4.1<2F12>
Sample Name : 305326ms Time : 5/22/02 06:53
Sample Number: 60 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 05:25
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_060.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9900 Dilution Factor : 1.00

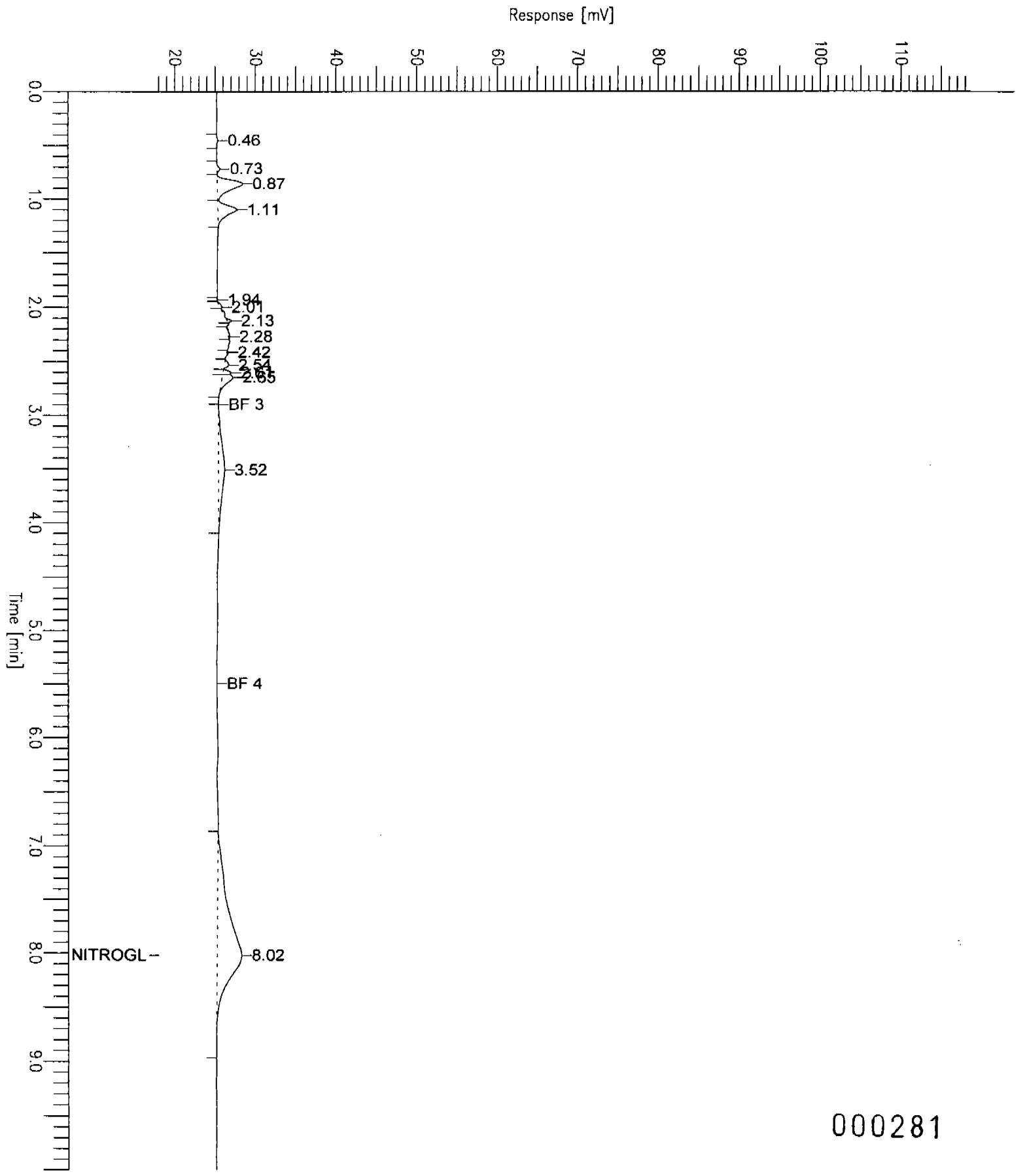
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
8.023	NITROGLYCERIN	7.8237	124924.00	3064.96	2.00	10.0	39.5134
		7.8237	124924.00	3064.96	2.00	10.0	39.5134

Chromatogram

Sample Name : 305326md
FileName : C:\TC4\LC151\A31_061.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 61 Page 1 of 1
Date : 5/22/02 06:54
Time of Injection: 5/22/02 05:39
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305326md Time : 5/22/02 06:54
Sample Number: 61 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 05:39
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_061.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9900 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
8.023	NITROGLYCERIN	7.8227	128122.00	3064.60	2.00	10.0	39.5088
		7.8227	128122.00	3064.60	2.00	10.0	39.5088

QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305331
Sample ID.	67398AWP01007	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitroglycerine	70 - 130	38.3	<25	U	50	77	
Nitroglycerine	70 - 130	37.6	<25	U	50	75	

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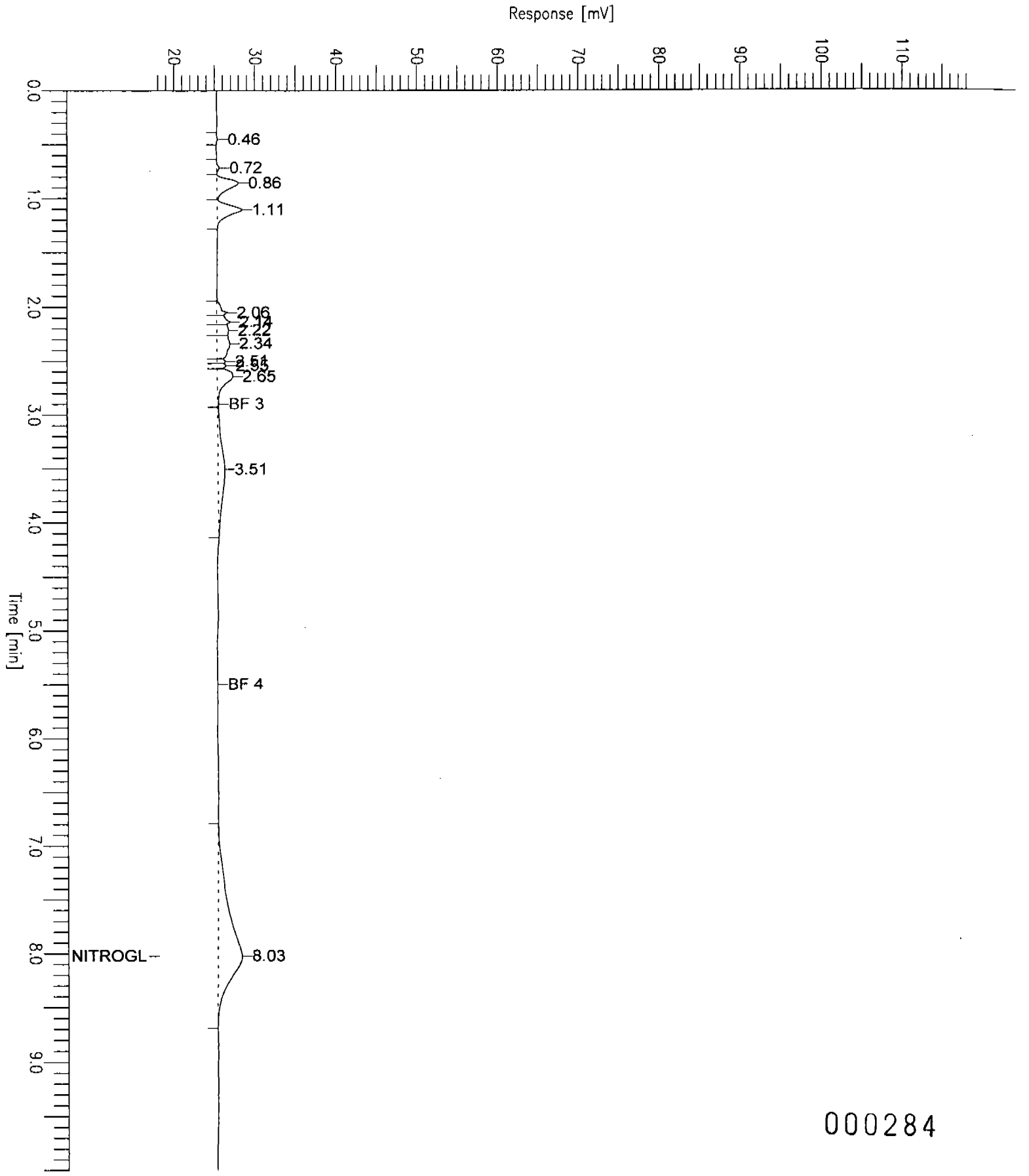
Chromatogram

Sample Name : 305331ms
FileName : C:\TC4\LC151\A31_062.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 62 Page 1 of 1
Date : 5/22/02 06:54
Time of Injection: 5/22/02 05:54
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305331ms
Sample Number: 62
Operator :

Time : 5/22/02 06:54
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 05:54
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_062.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

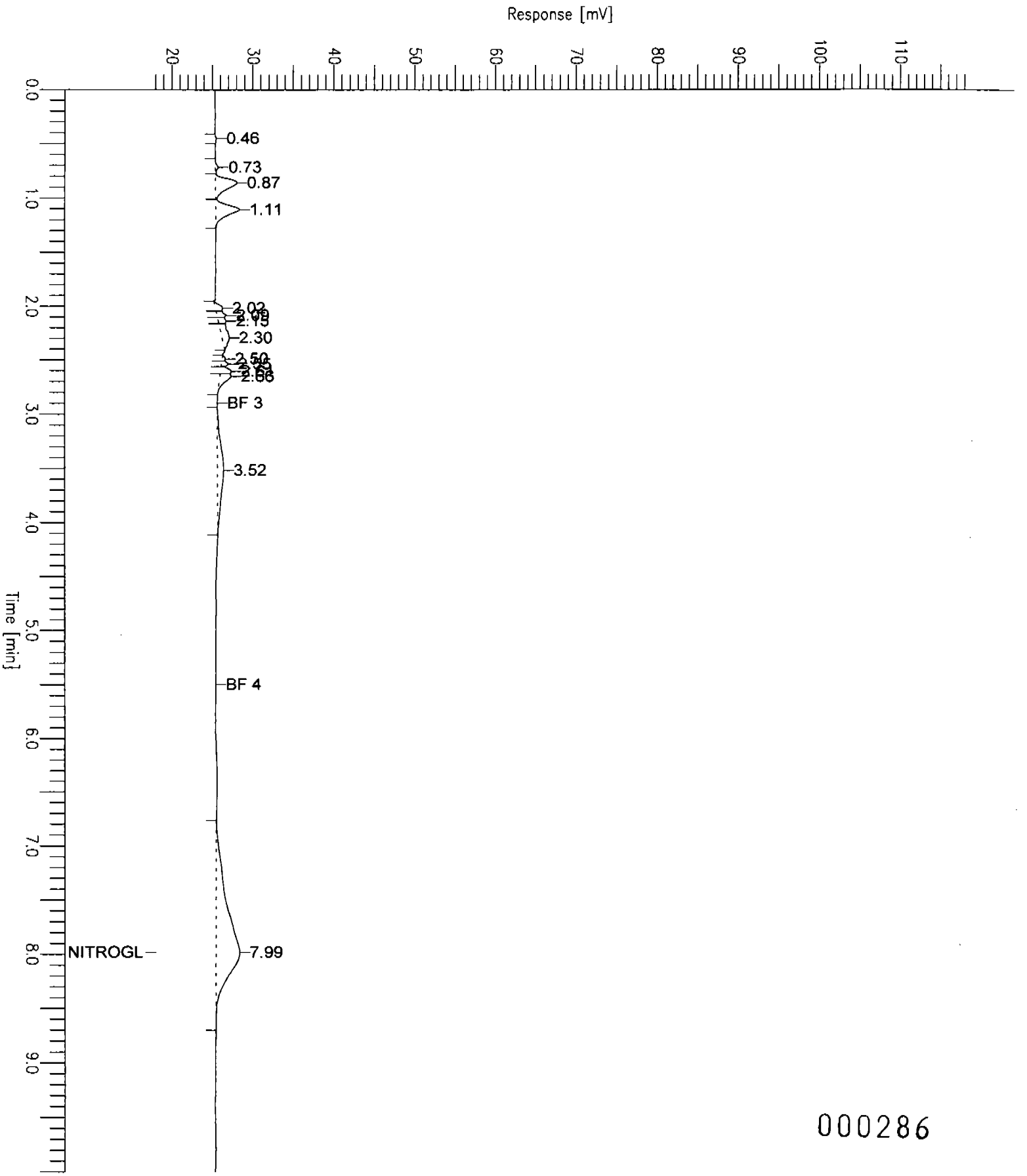
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
8.025	NITROGLYCERIN	7.6479	123756.50	2996.09	2.00	10.0	38.2393
		7.6479	123756.50	2996.09	2.00	10.0	38.2393

Chromatogram

Sample Name : 305331md
FileName : C:\TC4\LC151\A31_063.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 63 Page 1 of 1
Date : 5/22/02 06:54
Time of Injection: 5/22/02 06:09
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000286

Software Version: 4.1<2F12>
Sample Name : 305331md Time : 5/22/02 06:54
Sample Number: 63 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 06:09
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_063.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
7.985	NITROGLYCERIN	7.5180	125236.50	2945.21	2.00	10.0	37.5899
		7.5180	125236.50	2945.21	2.00	10.0	37.5899

QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305346
Sample ID.	67124DANP01008	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitrocellulose	0 - 0	33	2.5	J	42	73	
Nitroglycerine	70 - 130	42.2	<25	U	50	84	
Nitroglycerine	70 - 130	39.4	<25	U	50	79	

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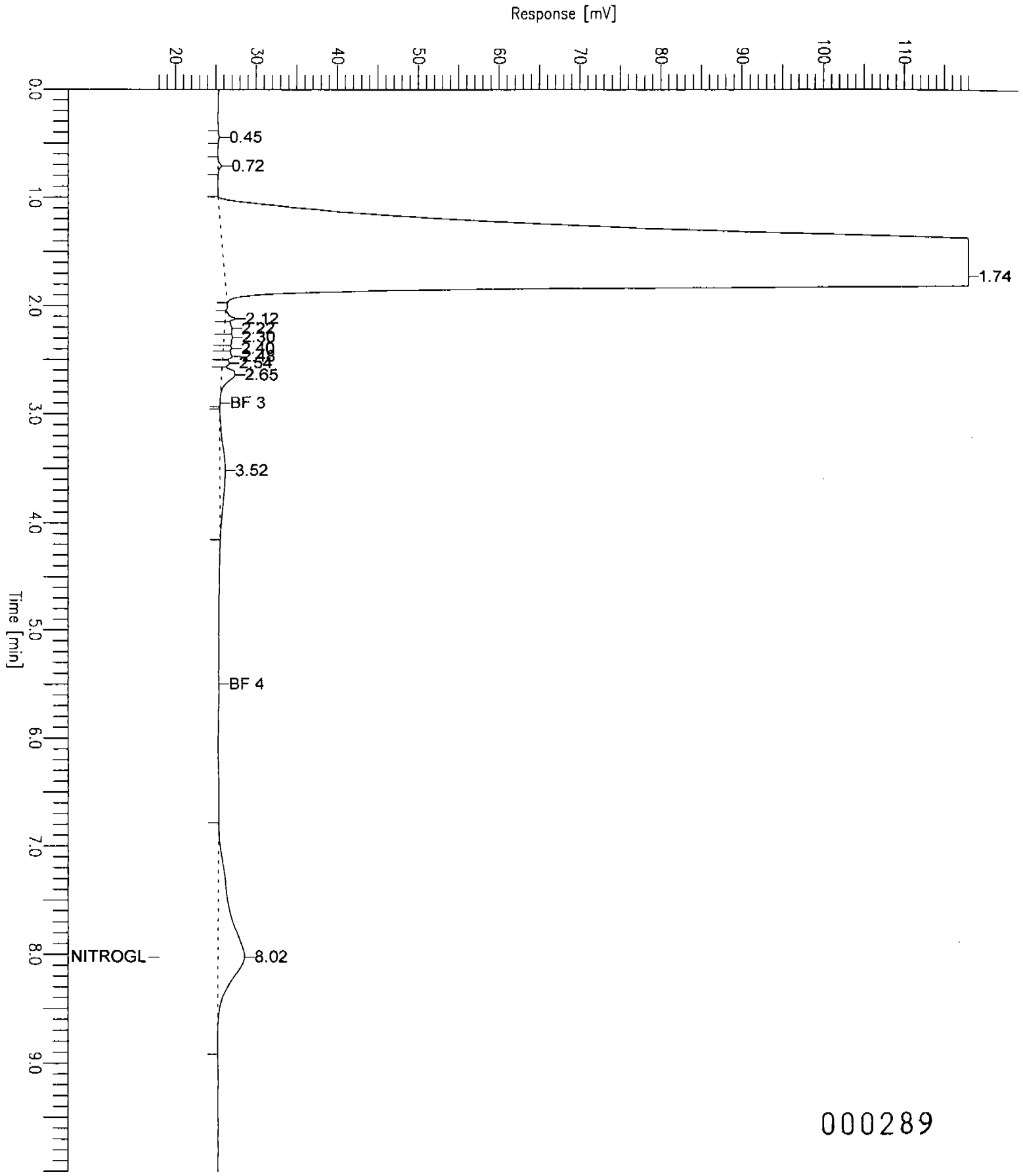
Chromatogram

Sample Name : 305346ms
FileName : C:\TC4\LC151\A31_056.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 56 Page 1 of 1
Date : 5/22/02 06:52
Time of Injection: 5/22/02 04:26
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305346ms
Sample Number: 56
Operator :

Time : 5/22/02 06:52
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 04:26
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_056.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

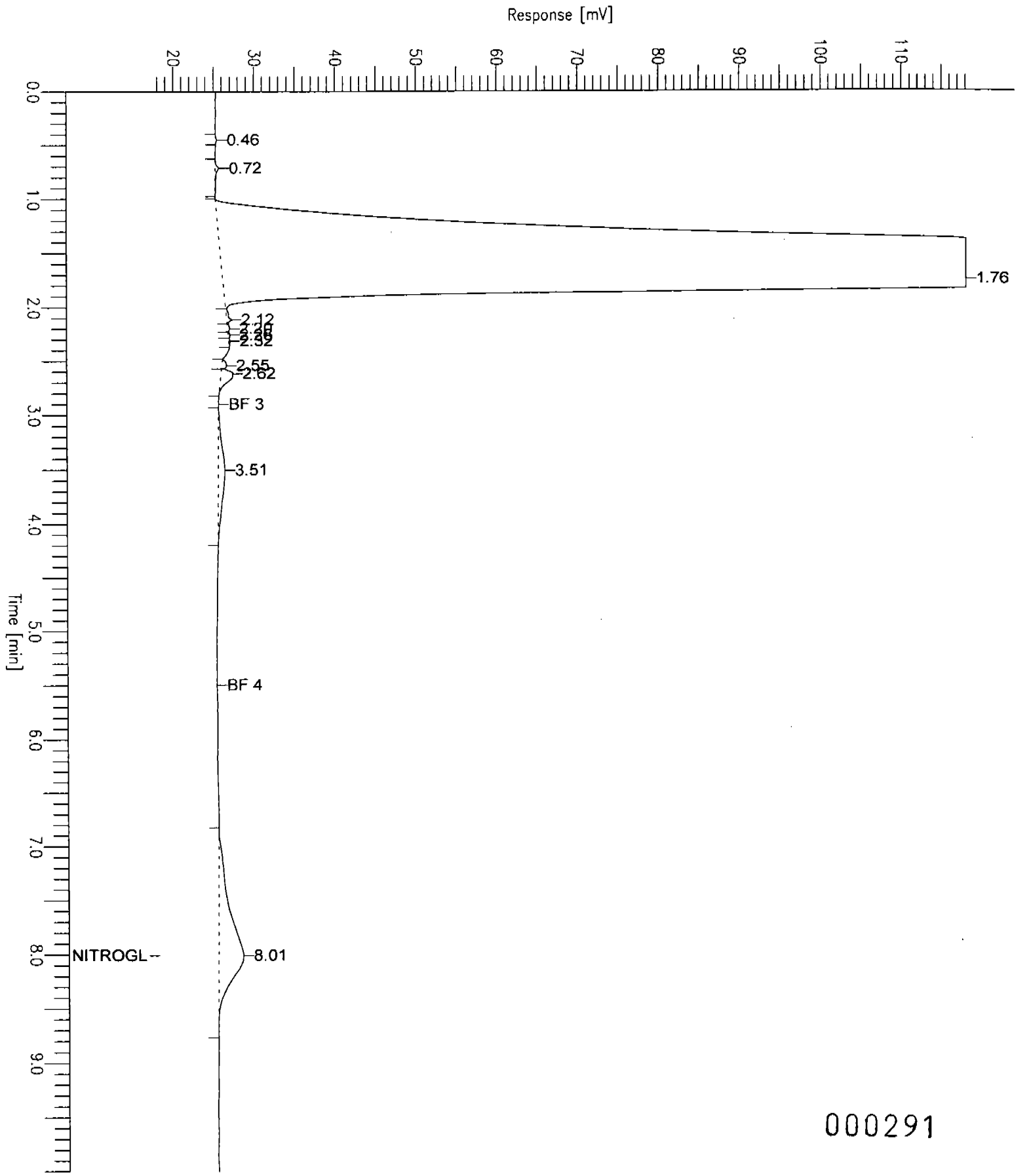
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
8.022	NITROGLYCERIN	8.4439	139032.00	3307.94	2.00	10.0	42.2194
		8.4439	139032.00	3307.94	2.00	10.0	42.2194

Chromatogram

Sample Name : 305346md
FileName : C:\TC4\LC151\A31_059.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 59 Page 1 of 1
Date : 5/22/02 06:53
Time of Injection: 5/22/02 05:10
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 305346md
Sample Number: 59
Operator :

Time : 5/22/02 06:53
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 05:10
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_059.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
8.009	NITROGLYCERIN	7.8893	128694.00	3090.66	2.00	10.0	39.4463
		7.8893	128694.00	3090.66	2.00	10.0	39.4463

QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No. 35988 -1 Units mg/kg dry

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Aluminum, Total	75109	250	241.6	78 - 123	97
Aluminum, Total	75110	250	249.2	78 - 123	100
Aluminum, Total	75111	250	226.3	78 - 123	91
Copper, Total	75197	25	23.1	72 - 115	92
Copper, Total	75199	25	23.2	72 - 115	93
Copper, Total	75200	25	24.3	72 - 115	97
Lead, Total	75197	25	23.9	80 - 110	96
Lead, Total	75199	25	22.9	80 - 110	92
Lead, Total	75200	25	24.1	80 - 110	96
Nitroglycerine	75193	50	47.6	70 - 130	95
Nitroglycerine	75194	50	45.6	70 - 130	91
Nitroglycerine	75195	50	41.8	70 - 130	84

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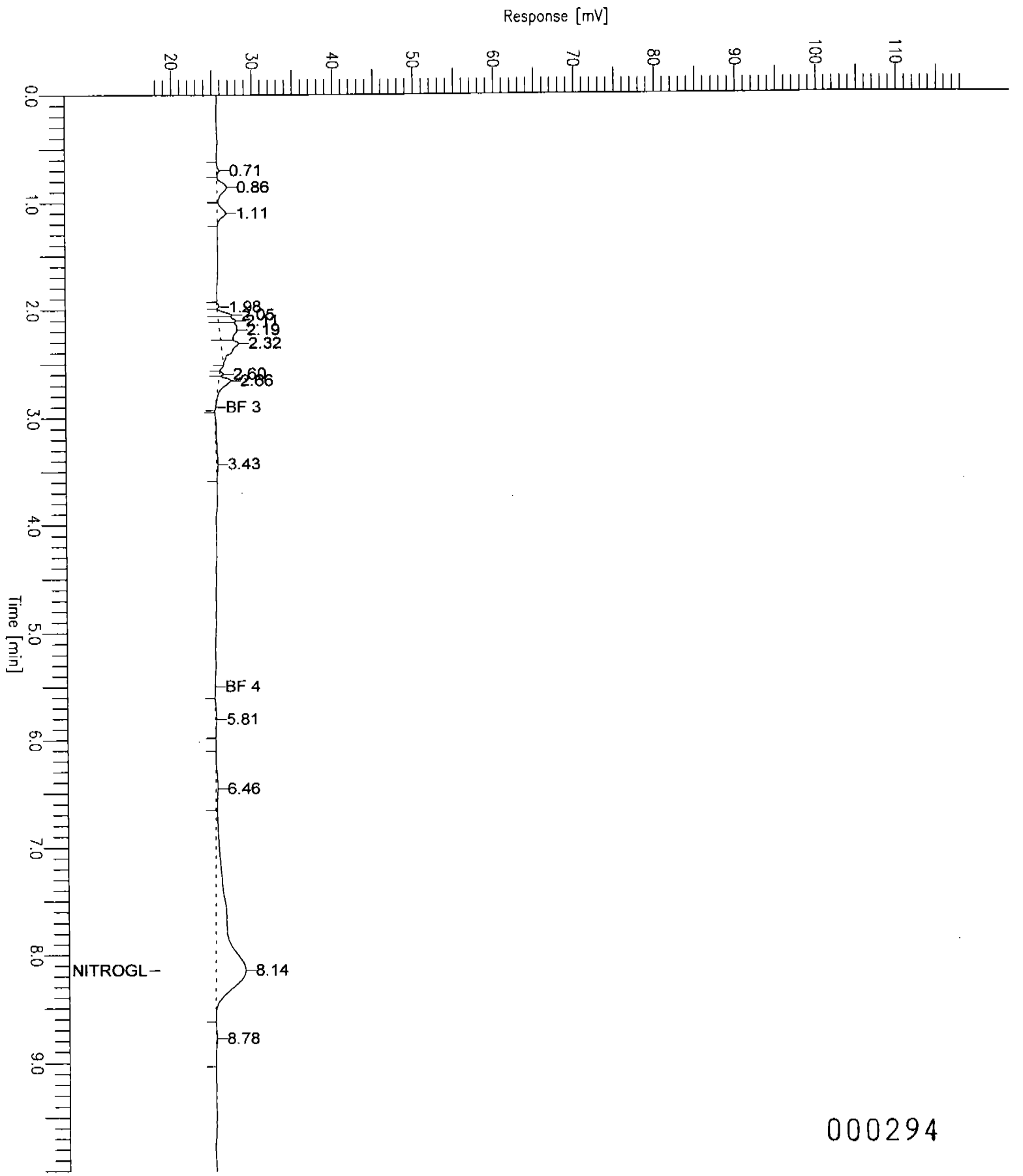
Chromatogram

Sample Name : LFB121S
FileName : C:\TC4\LC151\A31_007.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 7
Date : 5/21/02 17:55
Time of Injection: 5/21/02 15:04
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : LFB121S
Sample Number: 7
Operator :

Time : 5/21/02 17:55
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 15:04
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_007.RAW
Result File : C:\WINDOWS\TEMP\~RST2769.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST2769.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

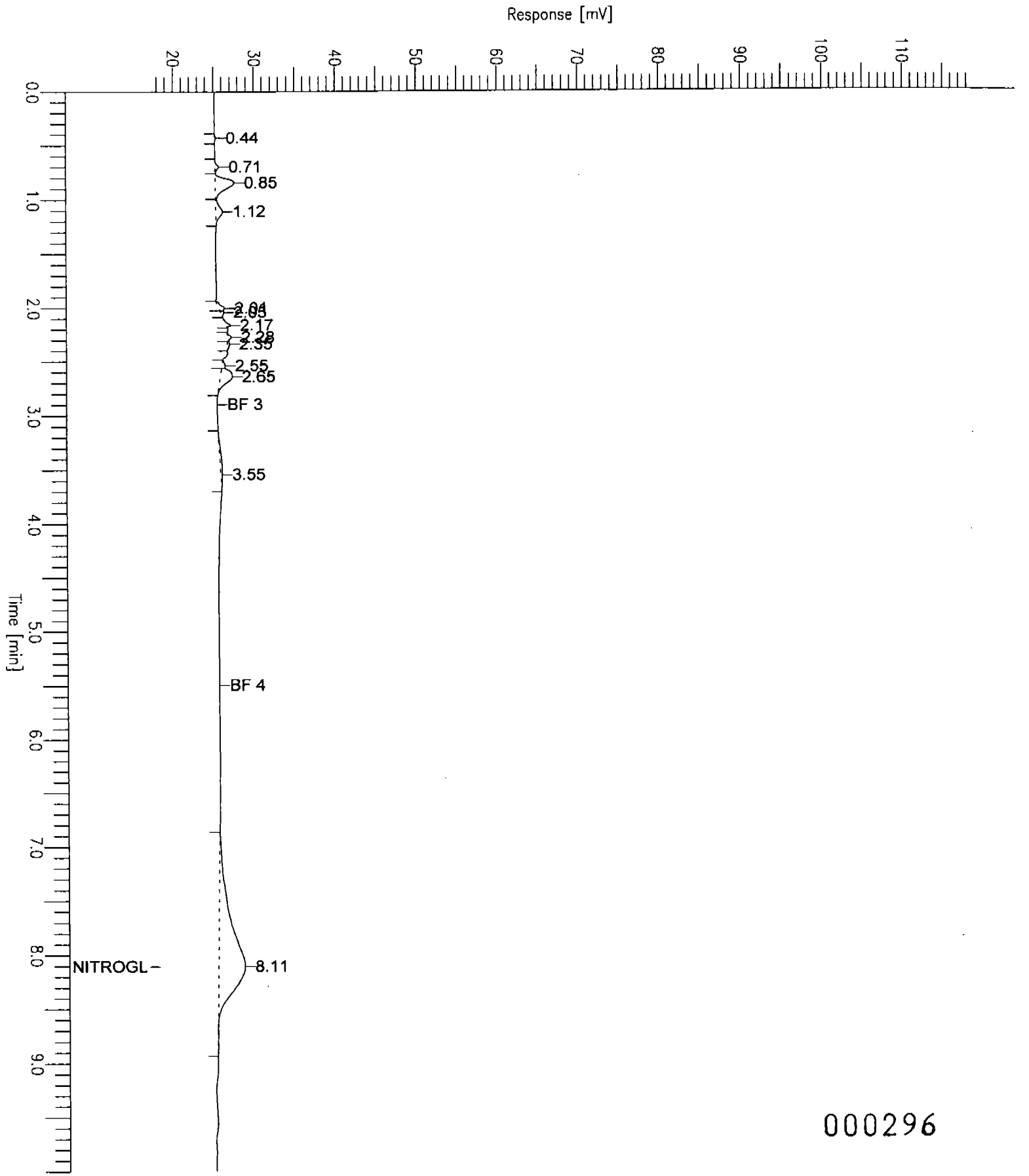
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
8.144	NITROGLYCERIN	9.5163	144112.67	3728.07	2.00	10.0	47.5816
		9.5163	144112.67	3728.07	2.00	10.0	47.5816

Chromatogram

Sample Name : lfb112s
FileName : C:\TC4\LC151\A31_031.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 31
Date : 5/22/02 06:41
Time of Injection: 5/21/02 22:07
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : lfb112s
Sample Number: 31
Operator :

Time : 5/22/02 06:41
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 5/21/02 22:07
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_031.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

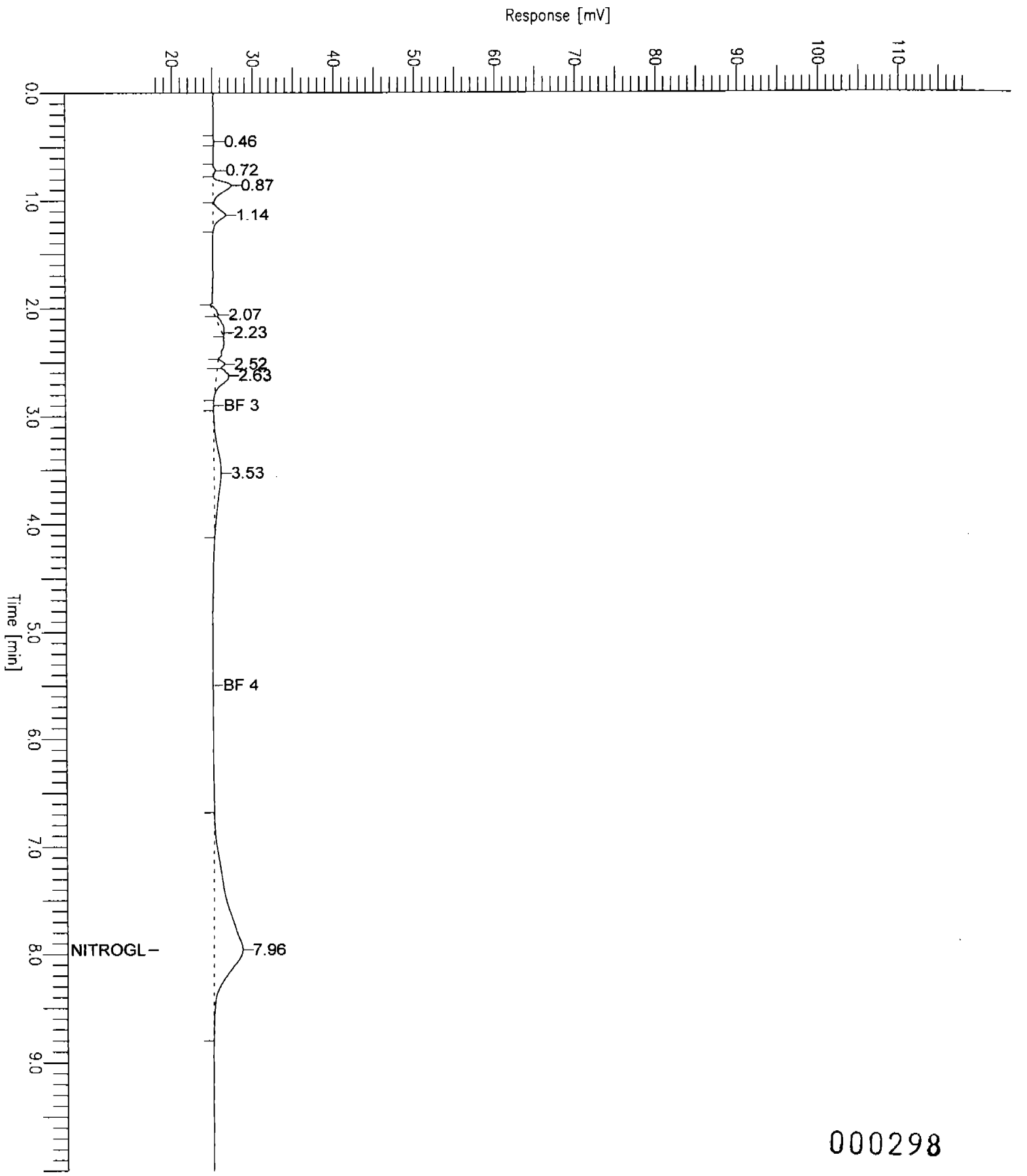
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
8.107	NITROGLYCERIN	8.3597	136650.50	3274.94	2.00	10.0	41.7983
		8.3597	136650.50	3274.94	2.00	10.0	41.7983

Chromatogram

Sample Name : lfb121s3
FileName : C:\TC4\LC151\A31_065.RAW
Method : 8332_05.MTH
Start Time : 0.00 min End Time : 10.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 65
Date : 5/22/02 06:55
Time of Injection: 5/22/02 06:38
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : lfb121s3 Time : 5/22/02 06:55
Sample Number: 65 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 5/22/02 06:38
Delay Time : 0.00 min.
End Time : 10.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A31_065.RAW
Result File : C:\WINDOWS\TEMP\~RST0200.RST
Inst Method : C:\TC4\LC151\8332_05 from C:\WINDOWS\TEMP\~RST0200.RST
Proc Method : C:\TC4\LC151\8332_05.MTH
Calib Method : C:\TC4\LC151\8332_05.MTH
Sequence File : C:\TC4\LC151\A31.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
7.963	NITROGLYCERIN	9.1154	152975.50	3570.99	2.00	10.0	45.5768
		9.1154	152975.50	3570.99	2.00	10.0	45.5768

SECTION - C

PREPARATION LOGS / MISCELLANEOUS

NITROGLYCERINE DATA

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

000301

Prepared by: DJM

Time spent: _____

Lims Batch: 186025/~~122~~ 121 BSH

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: DJM
Opened Date: 5/21/02
Sequence: 1

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

Client.....5/21/02..... Submittal Sample QC COC

[Test number] Parameter	Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP / QC Type
Stone & Webster Engineering Corp 35988- 1 305052 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332	5/21/02	~~305~~ 2.0g BSH 5/21/02	10.0ml	100			
Stone & Webster Engineering Corp 35988- 1 305053 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		95			
Stone & Webster Engineering Corp 35988- 1 305054 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		96			
Stone & Webster Engineering Corp 35988- 1 305055 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		96			
Stone & Webster Engineering Corp 35988- 1 305056 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		98			
Stone & Webster Engineering Corp 35988- 1 305057 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.1g		95			
Stone & Webster Engineering Corp 35988- 1 305058 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		94			
Stone & Webster Engineering Corp 35988- 1 305059 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		97			
Stone & Webster Engineering Corp 35988- 1 305060 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		97			
Stone & Webster Engineering Corp 35988- 1 305061 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		96			
Stone & Webster Engineering Corp 35988- 1 305316 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL			2.1g					

********** QUALITY CONTROL DATA **********

Type	Amt Ext	Final Volume	Surrogates Standard	Surrogates Amount	Spikes Standard	Spikes Amount	Spikes Standard	Spikes Amount
MPB								
DUP								
SPK#								
MSD#								
LCS								
(Sample Notes)								

	Type	Date done	# times
* 1	Nitrogen Blowdown		
* 2	Alumina		
* 3	Copper/Sulf. Acid		
* 4	Small Florisil		
* 5	Lg. Florisil Col.		
* 6	Silica Gel		
* 7	GPC		

Prepared by: DMM

Time spent: _____

Lims Batch: 186025/121

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: DMM
Opened Date: 5/21/02
Sequence: 1

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

000302

Client..... Submittal / [Test number] Parameter	Sample QC COC Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP / QC Type
	MPB121	5/21/02	2.0g	10.0mL				
	LFB121		2.0g					
Stone & Webster Engineering Corp 35988- 1 305316 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			2.1g					
Stone & Webster Engineering Corp 35988- 1 305317 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			2.1g					
Stone & Webster Engineering Corp 35988- 1 305318 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			2.0g					
Stone & Webster Engineering Corp 35988- 1 305319 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			2.1g					
Stone & Webster Engineering Corp 35988- 1 305320 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			2.1g					
Stone & Webster Engineering Corp 35988- 1 305321 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			2.1g					
Stone & Webster Engineering Corp 35988- 1 305322 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			2.0g					
Stone & Webster Engineering Corp 35988- 1 305323 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			1.9g					
Stone & Webster Engineering Corp 35988- 1 305324 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			2.0g					
Stone & Webster Engineering Corp 35988- 1 305326 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			2.0g					
	305326MS		2.0g					
	305326MSD		2.0g					

********** QUALITY CONTROL DATA **********

Type	Amt Ext	Final Volume	Surrogates... Standard	Surrogates... Amount	Spikes... Standard	Spikes... Amount	Spikes... Standard	Spikes... Amount
MPB								
DUP								
SPK#								
MSD#					*NLT-13			
LCS								
(Sample Notes)								

*		Type	Date done	# times
*	1	Nitrogen Blowdown		
*	2	Alumina		
*	3	Copper/Sulf. Acid		
*	4	Small Florisil		
*	5	Lg. Florisil Col.		
*	6	Silica Gel		
*	7	GPC		

* LFB spiked with 200µl, MS, MSD spiked with 10µl.

21-MAY-02 EXTRACTION LAB EXTRACTION SUMMARY PAGE 1

Prepared by: DJM

Time spent: _____

Lims Batch: 196024/121

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: DJM
Opened Date: 5/21/02
Sequence: 1

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

000303

Client..... Submittal Sample QC COC [Test number] Parameter	Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP QC Type
Stone & Webster Engineering Corp 35988- 1 305325 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332	5/21/02	1.9g	10.0mL	100			
Stone & Webster Engineering Corp 35988- 1 305327 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.1g		100			
Stone & Webster Engineering Corp 35988- 1 305328 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		100			
Stone & Webster Engineering Corp 35988- 1 305329 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.1g		100			
Stone & Webster Engineering Corp 35988- 1 305330 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.1g		99			
Stone & Webster Engineering Corp 35988- 1 305331 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.1g		99			
Stone & Webster Engineering Corp 35988- 1 305332 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.1g		100			
Stone & Webster Engineering Corp 35988- 1 305333 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		100			
Stone & Webster Engineering Corp 35988- 1 305334 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.1g		96			
Stone & Webster Engineering Corp 35988- 1 305335 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		97			
Stone & Webster Engineering Corp 35988- 1 305336 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL	USEPA-8332		2.1g		98			

********** QUALITY CONTROL DATA **********

Type	Amt Ext	Final Volume	Surrogates... Standard	Surrogates... Amount	Spikes... Standard	Spikes... Amount	Spikes... Standard	Spikes... Amount
MPB								
DUP								
SPK#								
MSD#								
LCS								
(Sample Notes)								

*	Type	Date done	# times
* 1	Nitrogen Blowdown		
* 2	Alumina		
* 3	Copper/Sulf. Acid		
* 4	Small Florisil		
* 5	Lg. Florisil Col.		
* 6	Silica Gel		
* 7	GPC		

000304

Prepared by: [illegible]

Time spent: _____

Lims Batch: 196026/121

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: [illegible]
Opened Date: 5/21/02
Sequence: 1

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

Client / [Test number] Parameter	Submittal / Sample QC COC / Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP / QC Type
Stone & Webster Engineering Corp 35988- 1 305336 LV5								
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL		5/21/02	2.1g	10.0ml	98			
NITROGLYCERINE	USEPA-8332							
Stone & Webster Engineering Corp 35988- 1 305337 LV5								
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL			1.9g		99			
NITROGLYCERINE	USEPA-8332							
Stone & Webster Engineering Corp 35988- 1 305338 LV5								
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL			2.1g		99			
NITROGLYCERINE	USEPA-8332							
Stone & Webster Engineering Corp 35988- 1 305339 LV5								
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL			2.1g		98			
NITROGLYCERINE	USEPA-8332							
Stone & Webster Engineering Corp 35988- 1 305340 LV5								
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL			2.1g		99			
NITROGLYCERINE	USEPA-8332							
Stone & Webster Engineering Corp 35988- 1 305341 LV5								
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL			2.1g		100			
NITROGLYCERINE	USEPA-8332							
Stone & Webster Engineering Corp 35988- 1 305342 LV5								
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL			2.0g		100			
NITROGLYCERINE	USEPA-8332							
	MPB 121		2.0g					
	305331MS		2.0g					
	305331MSD		2.0g					
	LFB121		2.0g					

********** QUALITY CONTROL DATA **********

Type	Amt Ext	Final Volume	Surrogates... Standard	Surrogates... Amount	Spikes... Standard	Spikes... Amount	Spikes... Standard	Spikes... Amount
MPB								
DUP								
SPK#								
MSD#								
LCS					* 121-13			
(Sample Notes)								

*	Type	Date done	# times
* 1	Nitrogen Blowdown		
* 2	Alumina		
* 3	Copper/Sulf. Acid		
* 4	Small Florisil		
* 5	Lg. Florisil Col.		
* 6	Silica Gel		
* 7	GPC		

* LFB spiked with 20µl, MS/MSD spiked with 100µl to conserve spike.

000305

Prepared by: DMM

Time spent: _____

Lims Batch: 18607/121

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: DMM
Opened Date: 5/2/02
Sequence: 3

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

Client..... Submittal Sample QC COC [Test number] Parameter	Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP QC Type
Stone & Webster Engineering Corp 35988- 1 305343 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332	5/2/02	2.0g	10.0ml	100			
Stone & Webster Engineering Corp 35988- 1 305344 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.0g		100			
Stone & Webster Engineering Corp 35988- 1 305345 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.1g		100			
Stone & Webster Engineering Corp 35988- 1 305346 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		2.1g		100			
	MPB121		2.0g					
	305346MS		2.0g					
	305346MSD		2.0g					
	LFB121		2.0g					

********** QUALITY CONTROL DATA **********

Type	Amt Ext	Final Volume	Surrogates Standard	Surrogates Amount	Spikes Standard	Spikes Amount	Spikes Standard	Spikes Amount
MPB								
DUP								
SPK#								
MSD#								
LCS					* 8121-13			
(Sample Notes)								

	Type	Date done	# times
* 1	Nitrogen Blowdown		
* 2	Alumina		
* 3	Copper/Sulf. Acid		
* 4	Small Florisil		
* 5	Lg. Florisil Col.		
* 6	Silica Gel		
* 7	GPC		

* LFB spiked with 200µl, MS/MSD spike with 100µl to conserve limited spike.

000306

TriMatrix Laboratories, Inc.

Instrument ID: Perkin Elmer LC235 151	Date: 5/15/12	Sequence #: A30	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: C18 & CN	Curve Date: New curves	(Programs listed in front of book)	Notes:
Column Heater Temp: 25°	Curve Type: Regression or Avg. CF	8315 ____ Acrylamide ____	
Injection Volume: 50 ml, 20 ml	Quantitated By: Curve	8310 ____ Phenytoin ____	
Initial Pressure: 3250	ICV/CCV Std: GC1,48,10	8330 ____ Other x	N. troglycerin
UV Detector Wavelength: 214 nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
Jmk	A30 128	Instrblk	07:41	8332-04			Stn		
	1mg/L STD	A30 129	07:55						CN [illegible] C18 [illegible]
	2.5mg/L STD	A30 130	08:10						50 ml
	5mg/L STD	A30 131	08:24						
	10mg/L STD	132	08:39						
	20mg/L STD	133	08:53						
	50mg/L STD	134	09:08						
	Instrblk	135	10:13						C18 [illegible] CN [illegible] 8332-04.mth
	1mg/L STD	136	10:35						50 ml
	2.5mg/L STD	137	10:56						
	5mg/L STD	138	11:18						
	10mg/L STD	139	11:40						
	20mg/L STD	140	12:02						
	50mg/L STD	141	12:24						

TriMatrix Laboratories, Inc.

000307

Instrument ID: Perkin Elmer LC235 151	Date: 5/21/12	Sequence #: A30-A31	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: Develosil CN	Curve Date: 5/21/12	(Programs listed in front of book)	Notes:
Column Heater Temp: 28°	Curve Type: Regression or Avg. CF	8315 ____ Acrylamide ____	
Injection Volume: 50 ul	Quantitated By: Curve	8310 ____ Phenytoin ____	
Initial Pressure: 3350	ICV/CCV Std: CCL 48.10	8330 ____ Other x	Nitroglycerin
UV Detector Wavelength: 214 nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
JMK	Elistrbilt	A30 188	09:28	8332-03			Stn		8332-05.mth
	1mg/L STD	189	09:43	8332-05					
	2.5mg/L STD	190	09:57						
	5mg/L STD	191	10:12						6 pt curve
	10mg/L STD	192	10:26						
	20mg/L STD	193	10:41						
	40mg/L STD	194	10:56						
	SO.1MDL1	196	11:43			Soil			
	SO.1MDL2	197	11:58						
	SO.1MDL3	198	12:12						
	SO.1MDL4	199	12:27						
	SO.1MDL5	200	12:41						
	SO.1MDL6	201	12:56						
	SO.1MDL7	202	13:10						
	10mg/L STD	A31 001	13:36	8332-05				passes	CCV
	CERT1	002	13:51			Soil			
	CERT2	003	14:05						
	CERT3	004	14:20						

TriMatrix Laboratories, Inc. cont.

Instrument ID: Perkin Elmer LC235 151	Date: 5/4/12	Sequence #: A31	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: Develosil CN	Curve Date: 5/4/12	(Programs listed in front of book)	Notes:
Column Heater Temp: 25°	Curve Type: Regression or Avg. CF	8315 Acrylamide	
Injection Volume: 50 ml	Quantitated By: Curve	8310 Phenytoin	
Initial Pressure: 3350	ICV/CCV Std: CCV 48.10	8330 Other A	N. Nitroglycerin
UV Detector Wavelength: 214 nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
Jmr.	CERCH	A31 005	14:39	8332-05		Soil	SH		
	MPB121S	6	14:49		S+W	Soil	SH		
	LFB121S	7	15:04						
	305052	8	15:18						
	305053	9	15:33						
	305054	10	15:48						
	305055	11	16:03						
	10mg/LSID	12	16:17				SH	pulses	
	305056	13	16:33		S+W	Soil	SH		
	305057	14	16:47						
	305058	15	17:02						
	305059	16	17:16						
	305060	17	17:31						
	305061	18	18:00						
	305316	19	18:15						
	305317	20	18:29						
	305318	21	18:44						
	305319	22	19:03						

000308

TriMatrix Laboratories, Inc.

000309

Instrument ID: Perkin Elmer LC235 151	Date: 5/21/12	Sequence #: A31	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: Dual bs.1 CN	Curve Date: 5/14/12	(Programs listed in front of book)	Notes:
Column Heater Temp: 26°	Curve Type: Regression or Avg. CF	8315 Acrylamide	
Injection Volume: 50 µL	Quantitated By: Curve	8310 Phenytoin	
Initial Pressure: 3250	ICV/CCV Std: C-CLMS-01	8330 Other x	N. hexylcarb
UV Detector Wavelength: 214 nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
JMH	10 ng/L SSD A31 23	A31 23	19:16	8332.05			SK	102	
	10ng/LSM	A31 24	19:42 FON				SK	passes	
	10ng/L std 30S320	A31 29A 296	19:59 20:35		SDW	Soil			
	30S321	25	20:40						
	30S322	26	20:54						
	30S323	27	21:09						
	30S324	28	21:23						
	30S325	29	21:38						
	MPD11252	30	21:52						
	LFD11252	31	22:07						
	30S326	32	22:22						
	30S327	33	22:36						
	10ng/LSID	34	22:51				SK	passes	
	10ng/LSID	34	23:06				↓	passes	
	30S328	35	23:20		SDW	Soil	SK		
	30S329	36	23:35						
	30S330	37	23:49						
	30S331	38	00:04						

TriMatrix Laboratories, Inc.

000310

Instrument ID: Perkin Elmer LC235 151	Date: 5/21/12-5/22	Sequence #: A31	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: Develosil C-N	Curve Date: 5/21/12	(Programs listed in front of book)	Notes:
Column Heater Temp: 25°	Curve Type: Regression or Avg. CF	8315____ Acrylamide____	
Injection Volume: 50uL	Quantitated By: Curve	8310____ Phenytoin____	
Initial Pressure: 3200	ICV/CCV Std: CCV 5.13	8330____ Other ^	N. Nitrosodiethylamine
UV Detector Wavelength: 214nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
jmw	3:53332	A31 31	00:14	8332-UV	Std	Soil	Std		
	3:53333	32	00:33						
	3:53334	33	00:48						
	3:53335	34	01:02						
	3:53336	35	01:17						
	3:53337	36	01:31						
	10ng/L SIM	37	01:46				Std	pass	
	10ng/L SIM	38	02:00					pass	
	3:53338	39	02:15		Std	Soil	Std		
	3:53339	40	02:30						
	~~3:53340~~	41	02:44						not used - rerun
KM	~~3:53341~~	50	02:59						carryover - not used
	3:53342	51	03:14						
	3:53343	52	03:28						
	3:53344	53	03:43						
	3:53345	54	03:57						
	3:53346	55	04:12						
	3:53346SD	56	04:26						

TriMatrix Laboratories, Inc. cont.

Instrument ID: Perkin Elmer LC235 151	Date: 5/22/2	Sequence #: A31	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: Develosil CN	Curve Date: 5/21/2	(Programs listed in front of book)	Notes:
Column Heater Temp: 25°	Curve Type: Regression or Avg. CF	8315 ____ Acrylamide ____	
Injection Volume: 50 ml	Quantitated By: Curve	8310 ____ Phenytoin ____	
Initial Pressure: 3350	ICV/CCV Std: 44.48,10	8330 ____ Other A	Nitroglycerin
UV Detector Wavelength: 214 nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
JMM	10mg/L	A31 057	04:41	8332-05			SL	passes	
	10mg/L	058	04:56					passes	
	305346MD	59	05:10		S+W	Soil	SL		
	305326MS	60	05:25						
	305326MD	61	05:39						
	305331MS	62	05:54						
	305331MD	63	06:09						
	MPB12153	64	06:23						
	LFB12153	65	06:38						
	10mg/L STD	66	06:52				SL	passes	
	305340D	67	07:11		S+W	Soil	10x		
	305341R	68	07:26				SL		
	305340D2	69	07:40				200x		
	305340D3	70	08:07				400x		
	10mg/L STD	71	08:21				SL	100	
	10mg/L STD	72	08:36					100 passes	[illegible]

file: 151_run.XLS page: 82 of 100 revision: 0.0

000311

TriMatrix Laboratories, Inc.

000312

Instrument ID: Perkin Elmer LC235 151	Date: 5/22/12	Sequence #: A31	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: Develosil CN	Curve Date: 5/21/12	(Programs listed in front of book)	Notes:
Column Heater Temp: 25°	Curve Type: Regression or Avg. CF	8315____ Acrylamide____	
Injection Volume: 50 ml	Quantitated By: Curve	8310____ Phenytoin____	
Initial Pressure: 7350	ICV/CCV Std: [illegible]	8330____ Other A	[illegible]
UV Detector Wavelength: 217 nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
[illegible]	Instr blk	A31 73	09:06	8332-05			SW		
↓	10mg/LSID	74	09:34	↓			SW	passes	
	305341F	75	10:58		SW	soil	SW		
	305340d3	76	11:12		↓	↓	400X		
	10mg/LSID	77	11:27				SW		
↓	10mg/LSID	78	12:05	↓			↓	passes	

TriMatrix Laboratories, Inc.

000313

Instrument ID: Perkin Elmer LC235 151	Date: 5/22/12	Sequence #: A31	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: C18-250	Curve Date: 5/15/12	(Programs listed in front of book)	Notes:
Column Heater Temp: 280	Curve Type: Regression or Avg. CF	8315____ Acrylamide____	
Injection Volume: 20 ml	Quantitated By: Curve	8310____ Phenytoin____	
Initial Pressure: 3250	ICV/CCV Std: CL1.48.13	8330____ Other X	Nitroglycerin
UV Detector Wavelength: 214 nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
[illegible]	instrblk	A31 079	14:54	8330-04			SL		
	10mg/L STD	80	15:09				SL	passes	
	305340103	81	15:23		S&N	SOIL	400X		confirmation run
	10mg/L STD	82	15:38				SL	passes	

[illegible] file: [illegible]n.XLS [illegible] page: 8[illegible] [illegible]00 [illegible] evisi[illegible]

000314

TriMatrix Laboratories, Inc.

Row #	Standard Number	Standard Description	Analyte(s) (and/or Stock Standard Number for dilutions)	Manufacturer and Lot Numbers	Exp. Date	Ampule or Stock Standard Concentration	Initial Weight/ Volume	Solvent Used	Final Volume	Final Concentration	Made or Opened By	Date Made or Opened	Date Expires	Math Check By	Checked Against Standard #
1		2,4-DDT	GC 1.24.18		8/2/2	1000ug/mL	8uL	Hexane	50mL	0.16ug/mL	JAZ	5/8/2	11/8/2		
2		CLP Pest Surrogates	Absolute DCB TCMX	# 20023 LOT 031701	3/17/06	200ug/mL	40uL	Hexane	50mL	0.16ug/mL	JAZ	5/8/12	11/8/2		
3	GC1.48-3	Alcohol Surr Std.	T-Butyl alcohol	[illegible] Lot 235-91A	1/06	Neat	100mg	H_2O	50ml	2000ppm	[illegible]	5/9/02	5/9/03		
4	GC1.48-4	Alcohol IS	Sec Butyl alcohol	[illegible] Lot 220-708	12/04	Neat	100mg	H_2O	50ml	2000ppm	[illegible]	5/9/02	5/9/03		
5	GC 1.48.5	Chlorinated Pests SPIKE MIX	Pest Solution 20	O2SI LOT 102155	1/29/05	1000ug/mL	20uL	Acetone	500mL	0.04ug/mL	JAZ	5/9/2	11/9/2		
6	GC 1.48.6	PEST Surrogate SPIKING MIX	TCMX & DCB	Absolute LOT 031701	3/17/06	200ug/mL	250uL	Acetone	500mL	0.10ug/mL	JAZ	5/9/2	11/9/2		
7	GC1.48-7	Herbicide Spike	Methylated Herbicide Mixture	ULTRA HBM-8150M Lot# S-1170	11/04	Varies	1.2mL	MeOH	15mL	Varies	JAM	5/13/02	11-13-02		
8	GC 1.48.8	DRO SPIKE (#2D)	#2 Diesel GC1.34.18	Restek Lot # A019309	6/04	50000ug/mL	500uL	Acetone	25mL	1000ug/mL	JAZ	5/14/2	11/14/2		
9	GC 1.48.9	OTP - SURR CAL STD	OTP LOT 113001	Absolute PART # 71225	113006	1000ug/mL	1000uL	MeCl	10mL	100ug/mL	JAZ	5/14/2	5/14/3		
10	GC1.48.10	Nitroglycerin		Accutex B2040289	4/19/3	0.1mg/ml		EtOH		0.1mg/ml	JAM	5/14/2	4/19/3		
11	GC1.48-11	1016/1260 LCS	Arochlor 1016 Solution	ULTRA PP-280 Lot# R-186	11/04	100ug/mL	100uL	Hexane 003841	25mL	0.4ug/mL	JAM	5-15-02	11-15-02		
12			Arochlor 1260 Solution	ULTRA PP-360 Lot# S-0234	3/05	100ug/mL	100uL								
13			TCMX+DCB	PL2.9-9	5-3-03	1.0ug/mL	1.0mL			0.04ug/mL					
14	GC1.48-14	1232 LCS	Arochlor 1232 Solution	ULTRA PP-300 Lot# P-0133	2/03	100ug/mL	100uL	Hexane 003841	25mL	0.4ug/mL	JAM	5-15-02	11-15-02		
15			TCMX+DCB	PL2.9-9	5-3-03	1.0ug/mL	1.0mL			0.04ug/mL					
16	GC1.48-16	1242 LCS	Arochlor 1242 Solution	ULTRA PP-310 Lot# S-0775	7/05	100ug/mL	100uL	Hexane 003841	25mL	0.4ug/mL	JAM	5-15-02	11-15-02		
17			TCMX+DCB	PL2.9-9	5-3-03	1.0ug/mL	1.0mL			0.04ug/mL					
18															

revision: 1.0

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration

COC: YES
Proj Chemist: LMH

Lab due date: 23-MAY-02
QC: LV5
Safety: NO
Hazards: F=0 R=0 C=0 H=0

Submittal: 1 May 2002 Samples

Received Date: 14-MAY-02

Sample	Sample Names / Parameter	Description / Ref Cit	Appl	Unit	Hold Date	Test Type	Frac Num
305052	6807-13 1ZFNS01001 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	100
305053	6807-13 14HWP01002 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	95
305054	6807-13 6FNP01003 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	96
305055	6807-13 6CNS01004 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	96
305056	6807-13 3CNS01005 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	98
305057	6807-13 2BNS01006 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	95
305058	6807-13 6BNS01007 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	99
305059	6807-13 8ENS01008 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	97
305060	6807-13 8EANS01008 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	97
305061	6807-13 1DNS01010 NITROGLYCERINE	17,18 USEPA-8332	SOIL	mg/kg dry	19-JUN-02	STD TEST	96

========== CLIENT NARRATIVES ==========

Date	User	Text
03-FEB-00	LMH	EDD and data within 20 days of sample receipt
03-FEB-00	LMH	LV-5 package must include MDLs and IDL (metals) sheets

========== PROJECT NARRATIVES ==========

Date	User	Text
13-MAY-02	LMH	LV5 - Wisconsin reportable

0003155

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration

COC: YES
Proj Chemist: LMH

Lab due date: 23-MAY-02
QC: LV5
Safety: NO
Hazards: F=0 R=0 C=0 H=0

Submittal: 1 May 2002 Samples

Received Date: 14-MAY-02

000316

========== PROJECT NARRATIVES ==========

Date	User	Text
13-MAY-02	LMH	please J flag between MDL (LOD) and 3.333xMDL (LOQ)
13-MAY-02	LMH	-
13-MAY-02	LMH	PREP LAB: extract all SVOCs for ion trap
13-MAY-02	LMH	--

========== SUBMITTAL NARRATIVES ==========

Date	User	Text

========== SAMPLE NARRATIVES ==========

Sample	Date	User	Text

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration

COC: YES
Proj Chemist: LMH

Lab due date: 23-MAY-02
QC: LV5
Safety: NO
Hazards: F=0 R=0 C=0 H=0

Submittal: 1 May 2002 Samples

Received Date: 15-MAY-02

000317

Sample	Sample Names / Parameter	Description / Ref Cit	Appl	Unit	Hold Date	Test Type	Frac Num
305316	6731-2 5AWP01001 97 NITROGLYCERINE	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305317	6731-2 4BNP01002 97 NITROGLYCERINE	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305318	6731-2 3CWP01003 94 NITROGLYCERINE	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305319	6731-2 3CAWP01003 NITROGLYCERINE 94	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305320	6731-2 2BWP01004 NITROGLYCERINE 97	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305321	6731-2 1DWP01005 NITROGLYCERINE 97	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305322	6731-2 3DNS01006 NITROGLYCERINE 95	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305323	6731-2 5CNS01007 NITROGLYCERINE 84	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305324	6739 2AWP01001 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305325	6739 4AWP01002 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305326	6739 4BNP01003 NITROGLYCERINE 98	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305327	6739 5CWP01004 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305328	6739 5CAWP01004 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305329	6739 6AWP01005 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305330	6739 6BWP01006 NITROGLYCERINE 99	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration

Submittal: 1 May 2002 Samples

COC: YES
Proj Chemist: LMH

Received Date: 15-MAY-02

Lab due date: 23-MAY-02
QC: LV5
Safety: NO
Hazards: F=0 R=0 C=0 H=0

000318

Sample	Sample Names / Parameter	Description / Ref Cit	Appl	Unit	Hold Date	Test Type	Frac Num
305331	6739 8AWP01007 NITROGLYCERINE 99	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305332	6739 9BWP01008 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305333	6739 1ANS01001 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305334	6739 2CNS01002 NITROGLYCERINE 96	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305335	6739 2CANS01002 NITROGLYCERINE 91	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305336	6739 2DNS01003 NITROGLYCERINE 98	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305337	6739 1ENS01004 NITROGLYCERINE 99	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305338	6712 1CNP01001 NITROGLYCERINE 95	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305339	6712 1CANP01001 NITROGLYCERINE 97	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305340	6712 2DNP01002 NITROGLYCERINE 99	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305341	6712 2ANP01003 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305342	6712 4BNP01004 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305343	6712 4DNP01005 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305344	6712 4ANP01006 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	
305345	6712 7BNP01007 NITROGLYCERINE 100	2-125ml glass,60ml USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration

COC: YES
Proj Chemist: LMH

Lab due date: 23-MAY-02
QC: LV5
Safety: NO
Hazards: F=0 R=0 C=0 H=0

Submittal: 1 May 2002 Samples

Received Date: 15-MAY-02

000319

Sample	Sample Names / Parameter	Description / Ref Cit	Appl	Unit	Hold Date	Test Type	Frac Num
305346	6712 4DANP01008 100 NITROGLYCERINE	1-125ml glass USEPA-8332	SOIL	mg/kg dry	22-JUN-02	STD TEST	

========== CLIENT NARRATIVES ==========

Date	User	Text
03-FEB-00	LMH	EDD and data within 20 days of sample receipt
03-FEB-00	LMH	LV-5 package must include MDLs and IDL (metals) sheets

========== PROJECT NARRATIVES ==========

Date	User	Text
13-MAY-02	LMH	LV5 - Wisconsin reportable
13-MAY-02	LMH	please J flag between MDL (LOD) and 3.333xMDL (LOQ)
13-MAY-02	LMH	-
13-MAY-02	LMH	PREP LAB: extract all SVOCs for ion trap
13-MAY-02	LMH	--

========== SUBMITTAL NARRATIVES ==========

Date	User	Text

========== SAMPLE NARRATIVES ==========

Sample	Date	User	Text

SECTION - D

GC/MS
SEMI-VOLATILE ORGANIC COMPOUND
DATA

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Individual sample results relate only to the sample tested.
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SECTION - D

QUALITY CONTROL (QC) SUMMARY

GC/MS
SEMI-VOLATILE ORGANIC COMPOUND
DATA

This report shall not be reproduced except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

QUALITY CONTROL REPORT
SURROGATE RECOVERIES
USEPA CLP FORM 2

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL

Surrogate Compound List

SUR-1:	2-Fluorobiphenyl	SUR-4:	d6-Phenol
SUR-2:	2-Fluorophenol	SUR-5:	o-Terphenyl
SUR-3:	d5-Nitrobenzene	SUR-6:	2,4,6-Tribromophenol

% R = Percent Recovery

Compounds:		SUR-1	SUR-2	SUR-3	SUR-4	SUR-5	SUR-6
Control Limits:		50-118	29-115	40-132	38-107	47-126	22-113
Sample # / ID	Batch	% R	% R	% R	% R	% R	% R
MPB-01	75188-121	78	73	73	78	82	83
MPB-01	75246-121	91	86	96	84	96	96
LFB-01	75188-121	87	76	90	80	100	84
LFB-01	75246-121	92	84	90	88	105	100
305054SPK	75188-121	77	68	64	68	85	71
305054SPK	75188-121	68	66	72	71	78	68
305327SPK	75246-121	79	79	84	77	93	82
305327SPK	75246-121	77	67	80	70	90	80
305052	75188-121	73	51	67	62	66	22
305053	75188-121	73	59	65	65	79	68
305054	75188-121	72	70	78	75	75	67
305055	75188-121	75	65	72	69	77	73
305056	75188-121	69	61	71	66	71	53
305057	75188-121	77	70	84	71	75	76
305058	75188-121	74	76	71	74	78	71
305059	75188-121	69	59	74	66	74	68
305060	75188-121	73	60	69	65	75	60
305061	75188-121	78	72	82	73	74	67
305316	75188-121	81	70	86	74	75	55
305317	75188-121	74	60	77	63	78	55
305318	75188-121	75	54	77	60	81	42
305319	75188-121	79	64	83	71	85	53
305320	75188-121	70	48	70	57	66	36
305321	75188-121	71	51	71	60	71	39
305322	75188-121	80	63	76	70	76	58
305323	75188-121	77	65	84	69	66	54
305324	75188-121	70	64	82	66	68	43
305325	75188-121	72	67	77	68	75	60
305326	75246-121	80	66	83	64	85	76
305327	75246-121	75	62	71	61	78	65
305328	75246-121	79	68	77	67	87	71
305329	75246-121	81	66	82	67	88	67
305330	75246-121	77	60	75	58	82	63

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QUALITY CONTROL REPORT
SURROGATE RECOVERIES
USEPA CLP FORM 2

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL

Surrogate Compound List

SUR-1:	2-Fluorobiphenyl	SUR-4:	d6-Phenol
SUR-2:	2-Fluorophenol	SUR-5:	o-Terphenyl
SUR-3:	d5-Nitrobenzene	SUR-6:	2,4,6-Tribromophenol

% R = Percent Recovery

Compounds:	SUR-1	SUR-2	SUR-3	SUR-4	SUR-5	SUR-6
Control Limits:	50-118	29-115	40-132	38-107	47-126	22-113
Sample # / ID	Batch	% R	% R	% R	% R	% R	% R
305331	75246-121	83	66	86	66	85	65
305332	75246-121	82	62	80	63	91	70
305333	75246-121	83	60	78	61	83	44
305334	75246-121	78	58	80	61	85	61
305335	75246-121	84	65	83	65	93	73
305336	75246-121	71	60	71	63	72	64
305337	75246-121	79	67	80	66	90	77
305338	75246-121	74	65	76	63	77	67
305339	75246-121	75	61	73	62	78	68
305341	75246-121	69	52	69	55	75	54
305342	75246-121	75	58	79	59	81	68
305343	75246-121	76	49	79	57	81	80
305344	75246-121	88	54	82	62	88	46
305345	75246-121	76	52	75	58	88	45

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Janet M. Kudirka Test Date: 05/22/02
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Phenol	ND	0.347	0.276	80	58 - 126
Bis (2-Chloroethyl) Ether	ND	0.347	0.274	79	16 - 129
2-Chlorophenol	ND	0.347	0.279	80	51 - 126
1,3-Dichlorobenzene	ND	0.347	0.222	64	35 - 112
1,4-Dichlorobenzene	ND	0.347	0.229	66	43 - 122
1,2-Dichlorobenzene	0.001	0.347	0.246	71	42 - 114
2-Methylphenol	ND	0.347	0.284	82	32 - 116
Bis (2-Chloroisopropyl)-Ether	ND	0.347	0.278	80	61 - 144
4-Methylphenol	ND	0.347	0.282	81	35 - 128
N-Nitrosodi-n-Propylamine	ND	0.347	0.294	85	48 - 120
Hexachloroethane	ND	0.347	0.248	71	55 - 129
Nitrobenzene	ND	0.347	0.232	67	53 - 128
Isophorone	ND	0.347	0.267	77	70 - 111
2-Nitrophenol	ND	0.347	0.309	89	47 - 111
2,4-Dimethylphenol	ND	0.347	0.198	57	47 - 119
Bis (2-Chloroethoxy)-Methane	ND	0.347	0.262	76	39 - 121
2,4-Dichlorophenol	ND	0.347	0.278	80	41 - 115
1,2,4-Trichlorobenzene	ND	0.347	0.242	70	57 - 116
Naphthalene	ND	0.347	0.268	77	55 - 129
4-Chloroaniline	ND	0.347	0.140	40	30 - 92
Hexachlorobutadiene	ND	0.347	0.230	66	41 - 122
4-Chloro-3-Methylphenol	ND	0.347	0.290	84	61 - 125
2-Methylnaphthalene	ND	0.347	0.282	81	48 - 111
Hexachlorocyclopentadiene	ND	0.347	0.238	69	16 - 120
2,4,6-Trichlorophenol	ND	0.347	0.260	75	34 - 118
2,4,5-Trichlorophenol	ND	0.347	0.252	73	28 - 119
2-Chloronaphthalene	ND	0.347	0.247	71	39 - 119
2-Nitroaniline	ND	0.347	0.268	77	40 - 130
Dimethylphthalate	ND	0.347	0.238	69	60 - 116
Acenaphthylene	ND	0.347	0.251	72	40 - 113
2,6-Dinitrotoluene	ND	0.347	0.244	70	61 - 115
3-Nitroaniline	ND	0.347	0.202	58	50 - 100
Acenaphthene	ND	0.347	0.231	67	47 - 112
2,4-Dinitrophenol	ND	0.347	0.120	35	28 - 97
4-Nitrophenol	ND	0.347	0.213	61	34 - 128

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Janet M. Kudirka Test Date: 05/22/02
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Dibenzofuran	ND	0.347	0.239	69	42 - 116
2,4-Dinitrotoluene	ND	0.347	0.251	72	52 - 128
Diethylphthalate	0.006	0.347	0.253	71	69 - 110
4-Chlorophenylphenyl-Ether	ND	0.347	0.243	70	42 - 120
Fluorene	ND	0.347	0.235	68	34 - 126
4-Nitroaniline	ND	0.347	0.230	66	38 - 116
4,6-Dinitro-2-Methylphenol	ND	0.347	0.173	50	28 - 111
N-Nitroso-di-Phenylamine	ND	0.347	0.301	87	38 - 124
4-Bromophenyl Phenylether	ND	0.347	0.286	82	70 - 111
Hexachlorobenzene	ND	0.347	0.280	81	34 - 116
Pentachlorophenol	ND	0.347	0.238	69	20 - 143
Phenanthrene	ND	0.347	0.286	82	40 - 134
Anthracene	ND	0.347	0.278	80	41 - 123
Carbazole	ND	0.347	0.279	80	70 - 130
Di-n-Butylphthalate	0.031	0.347	0.341	89	32 - 142
Fluoranthene	ND	0.347	0.284	82	45 - 138
Pyrene	ND	0.347	0.284	82	42 - 129
Butyl Benzyl Phthalate	0.003	0.347	0.289	82	38 - 136
Benzo (a) Anthracene	ND	0.347	0.297	86	30 - 145
Chrysene	ND	0.347	0.295	85	63 - 135
Bis (2-ethylhexyl)-Phthalate	0.012	0.347	0.299	83	39 - 141
Di-n-Octylphthalate	ND	0.347	0.312	90	33 - 149
Benzo (b) Fluoranthene	ND	0.347	0.306	88	58 - 132
Benzo (k) Fluoranthene	ND	0.347	0.302	87	54 - 128
Benzo (a) Pyrene	ND	0.347	0.312	90	49 - 124
Indeno (1,2,3-cd) Pyrene	ND	0.347	0.290	84	56 - 110
Dibenzo (a,h) Anthracene	ND	0.347	0.324	93	45 - 123
Benzo (g,h,i,) Perylene	ND	0.347	0.309	89	38 - 124

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Janet M. Kudirka Test Date: 05/22/02
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Phenol	ND	0.347	0.270	78	58 - 126
Bis (2-Chloroethyl) Ether	ND	0.347	0.290	84	16 - 129
2-Chlorophenol	ND	0.347	0.262	76	51 - 126
1,3-Dichlorobenzene	ND	0.347	0.221	64	35 - 112
1,4-Dichlorobenzene	ND	0.347	0.233	67	43 - 122
1,2-Dichlorobenzene	0.001	0.347	0.236	68	42 - 114
2-Methylphenol	ND	0.347	0.275	79	32 - 116
Bis (2-Chloroisopropyl)-Ether	ND	0.347	0.271	78	61 - 144
4-Methylphenol	ND	0.347	0.280	81	35 - 128
N-Nitrosodi-n-Propylamine	ND	0.347	0.278	80	48 - 120
Hexachloroethane	ND	0.347	0.250	72	55 - 129
Nitrobenzene	ND	0.347	0.250	72	53 - 128
Isophorone	ND	0.347	0.283	82	70 - 111
2-Nitrophenol	ND	0.347	0.313	90	47 - 111
2,4-Dimethylphenol	ND	0.347	0.218	63	47 - 119
Bis (2-Chloroethoxy)-Methane	ND	0.347	0.268	77	39 - 121
2,4-Dichlorophenol	ND	0.347	0.289	83	41 - 115
1,2,4-Trichlorobenzene	ND	0.347	0.259	75	57 - 116
Naphthalene	ND	0.347	0.288	83	55 - 129
4-Chloroaniline	ND	0.347	0.132	38	30 - 92
Hexachlorobutadiene	ND	0.347	0.221	64	41 - 122
4-Chloro-3-Methylphenol	ND	0.347	0.312	90	61 - 125
2-Methylnaphthalene	ND	0.347	0.296	85	48 - 111
Hexachlorocyclopentadiene	ND	0.347	0.266	77	16 - 120
2,4,6-Trichlorophenol	ND	0.347	0.288	83	34 - 118
2,4,5-Trichlorophenol	ND	0.347	0.287	83	28 - 119
2-Chloronaphthalene	ND	0.347	0.269	78	39 - 119
2-Nitroaniline	ND	0.347	0.283	82	40 - 130
Dimethylphthalate	ND	0.347	0.264	76	60 - 116
Acenaphthylene	ND	0.347	0.274	79	40 - 113
2,6-Dinitrotoluene	ND	0.347	0.275	79	61 - 115
3-Nitroaniline	ND	0.347	0.202	58	50 - 100
Acenaphthene	ND	0.347	0.258	74	47 - 112
2,4-Dinitrophenol	ND	0.347	0.106	31	28 - 97
4-Nitrophenol	ND	0.347	0.208	60	34 - 128

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Janet M. Kudirka Test Date: 05/22/02
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Dibenzofuran	ND	0.347	0.262	76	42 - 116
2,4-Dinitrotoluene	ND	0.347	0.265	76	52 - 128
Diethylphthalate	0.006	0.347	0.285	80	69 - 110
4-Chlorophenylphenyl-Ether	ND	0.347	0.266	77	42 - 120
Fluorene	ND	0.347	0.264	76	34 - 126
4-Nitroaniline	ND	0.347	0.235	68	38 - 116
4,6-Dinitro-2-Methylphenol	ND	0.347	0.158	46	28 - 111
N-Nitroso-di-Phenylamine	ND	0.347	0.324	93	38 - 124
4-Bromophenyl Phenylether	ND	0.347	0.299	86	70 - 111
Hexachlorobenzene	ND	0.347	0.310	89	34 - 116
Pentachlorophenol	ND	0.347	0.251	72	20 - 143
Phenanthrene	ND	0.347	0.307	88	40 - 134
Anthracene	ND	0.347	0.306	88	41 - 123
Carbazole	ND	0.347	0.282	81	70 - 130
Di-n-Butylphthalate	0.031	0.347	0.378	100	32 - 142
Fluoranthene	ND	0.347	0.325	94	45 - 138
Pyrene	ND	0.347	0.303	87	42 - 129
Butyl Benzyl Phthalate	0.003	0.347	0.275	78	38 - 136
Benzo (a) Anthracene	ND	0.347	0.309	89	30 - 145
Chrysene	ND	0.347	0.308	89	63 - 135
Bis (2-ethylhexyl)-Phthalate	0.012	0.347	0.305	84	39 - 141
Di-n-Octylphthalate	ND	0.347	0.304	88	33 - 149
Benzo (b) Fluoranthene	ND	0.347	0.335	97	58 - 132
Benzo (k) Fluoranthene	ND	0.347	0.333	96	54 - 128
Benzo (a) Pyrene	ND	0.347	0.328	95	49 - 124
Indeno (1,2,3-cd) Pyrene	ND	0.347	0.292	84	56 - 110
Dibenzo (a,h) Anthracene	ND	0.347	0.335	97	45 - 123
Benzo (g,h,i,) Perylene	ND	0.347	0.326	94	38 - 124

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Phenol	ND	0.333	0.269	81	58 - 126
Bis (2-Chloroethyl) Ether	ND	0.333	0.265	80	16 - 129
2-Chlorophenol	ND	0.333	0.265	80	51 - 126
1,3-Dichlorobenzene	ND	0.333	0.248	74	35 - 112
1,4-Dichlorobenzene	ND	0.333	0.252	76	43 - 122
1,2-Dichlorobenzene	ND	0.333	0.269	81	42 - 114
2-Methylphenol	ND	0.333	0.256	77	32 - 116
Bis (2-Chloroisopropyl)-Ether	ND	0.333	0.288	86	61 - 144
4-Methylphenol	ND	0.333	0.269	81	35 - 128
N-Nitrosodi-n-Propylamine	ND	0.333	0.278	83	48 - 120
Hexachloroethane	ND	0.333	0.246	74	55 - 129
Nitrobenzene	ND	0.333	0.296	89	53 - 128
Isophorone	ND	0.333	0.288	86	70 - 111
2-Nitrophenol	ND	0.333	0.324	97	47 - 111
2,4-Dimethylphenol	ND	0.333	0.226	68	47 - 119
Bis (2-Chloroethoxy)-Methane	ND	0.333	0.294	88	39 - 121
2,4-Dichlorophenol	ND	0.333	0.292	88	41 - 115
1,2,4-Trichlorobenzene	ND	0.333	0.275	83	57 - 116
Naphthalene	ND	0.333	0.294	88	55 - 129
4-Chloroaniline	ND	0.333	0.106	32	30 - 92
Hexachlorobutadiene	ND	0.333	0.273	82	41 - 122
4-Chloro-3-Methylphenol	0.006	0.333	0.300	88	61 - 125
2-Methylnaphthalene	ND	0.333	0.296	89	48 - 111
Hexachlorocyclopentadiene	ND	0.333	0.228	68	16 - 120
2,4,6-Trichlorophenol	ND	0.333	0.276	83	34 - 118
2,4,5-Trichlorophenol	ND	0.333	0.262	79	28 - 119
2-Chloronaphthalene	ND	0.333	0.295	89	39 - 119
2-Nitroaniline	ND	0.333	0.293	88	40 - 130
Dimethylphthalate	ND	0.333	0.285	86	60 - 116
Acenaphthylene	ND	0.333	0.304	91	40 - 113
2,6-Dinitrotoluene	ND	0.333	0.283	85	61 - 115
3-Nitroaniline	ND	0.333	0.199	60	50 - 100
Acenaphthene	ND	0.333	0.241	72	47 - 112
2,4-Dinitrophenol	ND	0.333	0.0100	3	28 - 97
4-Nitrophenol	ND	0.333	0.271	81	34 - 128

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Dibenzofuran	ND	0.333	0.295	89	42 - 116
2,4-Dinitrotoluene	0.027	0.333	0.330	91	52 - 128
Diethylphthalate	0.014	0.333	0.311	89	69 - 110
4-Chlorophenylphenyl-Ether	ND	0.333	0.262	79	42 - 120
Fluorene	ND	0.333	0.299	90	34 - 126
4-Nitroaniline	ND	0.333	0.237	71	38 - 116
4,6-Dinitro-2-Methylphenol	ND	0.333	0.127	38	28 - 111
N-Nitroso-di-Phenylamine	ND	0.333	0.299	90	38 - 124
4-Bromophenyl Phenylether	ND	0.333	0.274	82	70 - 111
Hexachlorobenzene	ND	0.333	0.273	82	34 - 116
Pentachlorophenol	ND	0.333	0.194	58	20 - 143
Phenanthrene	ND	0.333	0.277	83	40 - 134
Anthracene	ND	0.333	0.276	83	41 - 123
Carbazole	ND	0.333	0.279	84	70 - 130
Di-n-Butylphthalate	0.036	0.333	0.355	96	32 - 142
Fluoranthene	ND	0.333	0.291	87	45 - 138
Pyrene	ND	0.333	0.317	95	42 - 129
Butyl Benzyl Phthalate	0.008	0.333	0.295	86	38 - 136
Benzo (a) Anthracene	ND	0.333	0.306	92	30 - 145
Chrysene	ND	0.333	0.285	86	63 - 135
Bis (2-ethylhexyl)-Phthalate	0.016	0.333	0.308	88	39 - 141
Di-n-Octylphthalate	ND	0.333	0.288	86	33 - 149
Benzo (b) Fluoranthene	ND	0.333	0.309	93	58 - 132
Benzo (k) Fluoranthene	ND	0.333	0.291	87	54 - 128
Benzo (a) Pyrene	ND	0.333	0.303	91	49 - 124
Indeno (1,2,3-cd) Pyrene	ND	0.333	0.311	93	56 - 110
Dibenzo (a,h) Anthracene	ND	0.333	0.301	90	45 - 123
Benzo (g,h,i,) Perylene	ND	0.333	0.284	85	38 - 124

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Phenol	ND	0.333	0.294	88	58 - 126
Bis (2-Chloroethyl) Ether	ND	0.333	0.320	96	16 - 129
2-Chlorophenol	ND	0.333	0.288	86	51 - 126
1,3-Dichlorobenzene	ND	0.333	0.287	86	35 - 112
1,4-Dichlorobenzene	ND	0.333	0.277	83	43 - 122
1,2-Dichlorobenzene	ND	0.333	0.302	91	42 - 114
2-Methylphenol	ND	0.333	0.295	89	32 - 116
Bis (2-Chloroisopropyl)-Ether	ND	0.333	0.324	97	61 - 144
4-Methylphenol	ND	0.333	0.296	89	35 - 128
N-Nitrosodi-n-Propylamine	ND	0.333	0.313	94	48 - 120
Hexachloroethane	ND	0.333	0.290	87	55 - 129
Nitrobenzene	ND	0.333	0.300	90	53 - 128
Isophorone	ND	0.333	0.290	87	70 - 111
2-Nitrophenol	ND	0.333	0.326	98	47 - 111
2,4-Dimethylphenol	ND	0.333	0.255	77	47 - 119
Bis (2-Chloroethoxy)-Methane	ND	0.333	0.297	89	39 - 121
2,4-Dichlorophenol	ND	0.333	0.292	88	41 - 115
1,2,4-Trichlorobenzene	ND	0.333	0.281	84	57 - 116
Naphthalene	ND	0.333	0.307	92	55 - 129
4-Chloroaniline	ND	0.333	0.119	36	30 - 92
Hexachlorobutadiene	ND	0.333	0.276	83	41 - 122
4-Chloro-3-Methylphenol	0.006	0.333	0.301	89	61 - 125
2-Methylnaphthalene	ND	0.333	0.307	92	48 - 111
Hexachlorocyclopentadiene	ND	0.333	0.217	65	16 - 120
2,4,6-Trichlorophenol	ND	0.333	0.283	85	34 - 118
2,4,5-Trichlorophenol	ND	0.333	0.264	79	28 - 119
2-Chloronaphthalene	ND	0.333	0.292	88	39 - 119
2-Nitroaniline	ND	0.333	0.279	84	40 - 130
Dimethylphthalate	ND	0.333	0.262	79	60 - 116
Acenaphthylene	ND	0.333	0.308	92	40 - 113
2,6-Dinitrotoluene	ND	0.333	0.287	86	61 - 115
3-Nitroaniline	ND	0.333	0.198	59	50 - 100
Acenaphthene	ND	0.333	0.244	73	47 - 112
2,4-Dinitrophenol	ND	0.333	0.0100	3	28 - 97
4-Nitrophenol	ND	0.333	0.237	71	34 - 128

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Dibenzofuran	ND	0.333	0.285	86	42 - 116
2,4-Dinitrotoluene	0.027	0.333	0.304	83	52 - 128
Diethylphthalate	0.014	0.333	0.298	85	69 - 110
4-Chlorophenylphenyl-Ether	ND	0.333	0.269	81	42 - 120
Fluorene	ND	0.333	0.284	85	34 - 126
4-Nitroaniline	ND	0.333	0.238	71	38 - 116
4,6-Dinitro-2-Methylphenol	ND	0.333	0.130	39	28 - 111
N-Nitroso-di-Phenylamine	ND	0.333	0.318	95	38 - 124
4-Bromophenyl Phenylether	ND	0.333	0.274	82	70 - 111
Hexachlorobenzene	ND	0.333	0.299	90	34 - 116
Pentachlorophenol	ND	0.333	0.190	57	20 - 143
Phenanthrene	ND	0.333	0.296	89	40 - 134
Anthracene	ND	0.333	0.280	84	41 - 123
Carbazole	ND	0.333	0.276	83	70 - 130
Di-n-Butylphthalate	0.036	0.333	0.388	106	32 - 142
Fluoranthene	ND	0.333	0.297	89	45 - 138
Pyrene	ND	0.333	0.314	94	42 - 129
Butyl Benzyl Phthalate	0.008	0.333	0.256	74	38 - 136
Benzo (a) Anthracene	ND	0.333	0.303	91	30 - 145
Chrysene	ND	0.333	0.287	86	63 - 135
Bis (2-ethylhexyl)-Phthalate	0.016	0.333	0.304	86	39 - 141
Di-n-Octylphthalate	ND	0.333	0.273	82	33 - 149
Benzo (b) Fluoranthene	ND	0.333	0.363	109	58 - 132
Benzo (k) Fluoranthene	ND	0.333	0.288	86	54 - 128
Benzo (a) Pyrene	ND	0.333	0.320	96	49 - 124
Indeno (1,2,3-cd) Pyrene	ND	0.333	0.307	92	56 - 110
Dibenzo (a,h) Anthracene	ND	0.333	0.332	100	45 - 123
Benzo (g,h,i,) Perylene	ND	0.333	0.297	89	38 - 124

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Janet M. Kudirka Test Date: 05/22/02
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

Parameter	Sample+Spike Conc #1	Sample+Spike Conc #2	Relative % Diff.	Control Limits
Phenol	0.270	0.276	2	0 - 19
Bis (2-Chloroethyl) Ether	0.290	0.274	6	0 - 40
2-Chlorophenol	0.262	0.279	6	0 - 20
1,3-Dichlorobenzene	0.221	0.222	0	0 - 40
1,4-Dichlorobenzene	0.233	0.229	2	0 - 23
1,2-Dichlorobenzene	0.236	0.246	4	0 - 40
2-Methylphenol	0.275	0.284	3	0 - 40
Bis (2-Chloroisopropyl)-Ether	0.271	0.278	3	0 - 13
4-Methylphenol	0.280	0.282	1	0 - 40
N-Nitrosodi-n-Propylamine	0.278	0.294	6	0 - 23
Hexachloroethane	0.250	0.248	1	0 - 21
Nitrobenzene	0.250	0.232	7	0 - 40
Isophorone	0.283	0.267	6	0 - 29
2-Nitrophenol	0.313	0.309	1	0 - 40
2,4-Dimethylphenol	0.218	0.198	10	0 - 40
Bis (2-Chloroethoxy)-Methane	0.268	0.262	2	0 - 40
2,4-Dichlorophenol	0.289	0.278	4	0 - 40
1,2,4-Trichlorobenzene	0.259	0.242	7	0 - 22
Naphthalene	0.288	0.268	7	0 - 22
4-Chloroaniline	0.132	0.140	6	0 - 20
Hexachlorobutadiene	0.221	0.230	4	0 - 40
4-Chloro-3-Methylphenol	0.312	0.290	7	0 - 18
2-Methylnaphthalene	0.296	0.282	5	0 - 40
Hexachlorocyclopentadiene	0.266	0.238	11	0 - 40
2,4,6-Trichlorophenol	0.288	0.260	10	0 - 40
2,4,5-Trichlorophenol	0.287	0.252	13	0 - 40
2-Chloronaphthalene	0.269	0.247	9	0 - 40
2-Nitroaniline	0.283	0.268	5	0 - 40
Dimethylphthalate	0.264	0.238	10	0 - 23
Acenaphthylene	0.274	0.251	9	0 - 20
2,6-Dinitrotoluene	0.275	0.244	12	0 - 33
3-Nitroaniline	0.202	0.202	0	0 - 20
Acenaphthene	0.258	0.231	11	0 - 18
2,4-Dinitrophenol	0.106	0.120	12	0 - 20
4-Nitrophenol	0.208	0.213	2	0 - 20

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Janet M. Kudirka Test Date: 05/22/02
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

Parameter	Sample+Spike Conc #1	Sample+Spike Conc #2	Relative % Diff.	Control Limits
Dibenzofuran	0.262	0.239	9	0 - 40
2,4-Dinitrotoluene	0.265	0.251	5	0 - 20
Diethylphthalate	0.285	0.253	12	0 - 40
4-Chlorophenylphenyl-Ether	0.266	0.243	9	0 - 40
Fluorene	0.264	0.235	12	0 - 40
4-Nitroaniline	0.235	0.230	2	0 - 40
4,6-Dinitro-2-Methylphenol	0.158	0.173	9	0 - 40
N-Nitroso-di-Phenylamine	0.324	0.301	7	0 - 40
4-Bromophenyl Phenylether	0.299	0.286	4	0 - 17
Hexachlorobenzene	0.310	0.280	10	0 - 40
Pentachlorophenol	0.251	0.238	5	0 - 21
Phenanthrene	0.307	0.286	7	0 - 15
Anthracene	0.306	0.278	10	0 - 20
Carbazole	0.282	0.279	1	0 - 40
Di-n-Butylphthalate	0.378	0.341	10	0 - 68
Fluoranthene	0.325	0.284	13	0 - 20
Pyrene	0.303	0.284	6	0 - 23
Butyl Benzyl Phthalate	0.275	0.289	5	0 - 40
Benzo (a) Anthracene	0.309	0.297	4	0 - 26
Chrysene	0.308	0.295	4	0 - 20
Bis (2-ethylhexyl)-Phthalate	0.305	0.299	2	0 - 43
Di-n-Octylphthalate	0.304	0.312	3	0 - 40
Benzo (b) Fluoranthene	0.335	0.306	9	0 - 19
Benzo (k) Fluoranthene	0.333	0.302	10	0 - 20
Benzo (a) Pyrene	0.328	0.312	5	0 - 20
Indeno (1,2,3-cd) Pyrene	0.292	0.290	1	0 - 20
Dibenzo (a,h) Anthracene	0.335	0.324	3	0 - 20
Benzo (g,h,i,) Perylene	0.326	0.309	5	0 - 19

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

Parameter	Sample+Spike Conc #1	Sample+Spike Conc #2	Relative % Diff.	Control Limits
Phenol	0.294	0.269	9	0 - 19
Bis (2-Chloroethyl) Ether	0.320	0.265	19	0 - 40
2-Chlorophenol	0.288	0.265	8	0 - 20
1,3-Dichlorobenzene	0.287	0.248	15	0 - 40
1,4-Dichlorobenzene	0.277	0.252	9	0 - 23
1,2-Dichlorobenzene	0.302	0.269	12	0 - 40
2-Methylphenol	0.295	0.256	14	0 - 40
Bis (2-Chloroisopropyl)-Ether	0.324	0.288	12	0 - 13
4-Methylphenol	0.296	0.269	10	0 - 40
N-Nitrosodi-n-Propylamine	0.313	0.278	12	0 - 23
Hexachloroethane	0.290	0.246	16	0 - 21
Nitrobenzene	0.300	0.296	1	0 - 40
Isophorone	0.290	0.288	1	0 - 29
2-Nitrophenol	0.326	0.324	1	0 - 40
2,4-Dimethylphenol	0.255	0.226	12	0 - 40
Bis (2-Chloroethoxy)-Methane	0.297	0.294	1	0 - 40
2,4-Dichlorophenol	0.292	0.292	0	0 - 40
1,2,4-Trichlorobenzene	0.281	0.275	2	0 - 22
Naphthalene	0.307	0.294	4	0 - 22
4-Chloroaniline	0.119	0.106	12	0 - 20
Hexachlorobutadiene	0.276	0.273	1	0 - 40
4-Chloro-3-Methylphenol	0.301	0.300	0	0 - 18
2-Methylnaphthalene	0.307	0.296	4	0 - 40
Hexachlorocyclopentadiene	0.217	0.228	5	0 - 40
2,4,6-Trichlorophenol	0.283	0.276	3	0 - 40
2,4,5-Trichlorophenol	0.264	0.262	1	0 - 40
2-Chloronaphthalene	0.292	0.295	1	0 - 40
2-Nitroaniline	0.279	0.293	5	0 - 40
Dimethylphthalate	0.262	0.285	8	0 - 23
Acenaphthylene	0.308	0.304	1	0 - 20
2,6-Dinitrotoluene	0.287	0.283	1	0 - 33
3-Nitroaniline	0.198	0.199	1	0 - 20
Acenaphthene	0.244	0.241	1	0 - 18
2,4-Dinitrophenol	0.0100	0.0100	0	0 - 32
4-Nitrophenol	0.237	0.271	13	0 - 20

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

Parameter	Sample+Spike Conc #1	Sample+Spike Conc #2	Relative % Diff.	Control Limits
Dibenzofuran	0.285	0.295	3	0 - 40
2,4-Dinitrotoluene	0.304	0.330	8	0 - 20
Diethylphthalate	0.298	0.311	4	0 - 40
4-Chlorophenylphenyl-Ether	0.269	0.262	3	0 - 40
Fluorene	0.284	0.299	5	0 - 40
4-Nitroaniline	0.238	0.237	0	0 - 40
4,6-Dinitro-2-Methylphenol	0.130	0.127	2	0 - 40
N-Nitroso-di-Phenylamine	0.318	0.299	6	0 - 40
4-Bromophenyl Phenylether	0.274	0.274	0	0 - 17
Hexachlorobenzene	0.299	0.273	9	0 - 40
Pentachlorophenol	0.190	0.194	2	0 - 21
Phenanthrene	0.296	0.277	7	0 - 15
Anthracene	0.280	0.276	1	0 - 20
Carbazole	0.276	0.279	1	0 - 40
Di-n-Butylphthalate	0.388	0.355	9	0 - 68
Fluoranthene	0.297	0.291	2	0 - 20
Pyrene	0.314	0.317	1	0 - 23
Butyl Benzyl Phthalate	0.256	0.295	14	0 - 40
Benzo (a) Anthracene	0.303	0.306	1	0 - 26
Chrysene	0.287	0.285	1	0 - 20
Bis (2-ethylhexyl)-Phthalate	0.304	0.308	1	0 - 43
Di-n-Octylphthalate	0.273	0.288	5	0 - 40
Benzo (b) Fluoranthene	0.363	0.309	16	0 - 19
Benzo (k) Fluoranthene	0.288	0.291	1	0 - 20
Benzo (a) Pyrene	0.320	0.303	5	0 - 20
Indeno (1,2,3-cd) Pyrene	0.307	0.311	1	0 - 20
Dibenzo (a,h) Anthracene	0.332	0.301	10	0 - 20
Benzo (g,h,i,) Perylene	0.297	0.284	4	0 - 19

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QUALITY CONTROL REPORT
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Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka Test Date: 05/21/02
Analytical Batch No: 185980
QC Batch No: 75188-121
Units: mg/kg dry

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
Phenol	0.333	0.309	93	54 - 138
Bis (2-Chloroethyl) Ether	0.333	0.294	88	17 - 123
2-Chlorophenol	0.333	0.299	90	51 - 133
1,3-Dichlorobenzene	0.333	0.252	76	34 - 113
1,4-Dichlorobenzene	0.333	0.262	79	51 - 125
1,2-Dichlorobenzene	0.333	0.285	86	31 - 120
2-Methylphenol	0.333	0.302	91	53 - 124
Bis (2-Chloroisopropyl)-Ether	0.333	0.301	90	32 - 109
4-Methylphenol	0.333	0.313	94	32 - 125
N-Nitrosodi-n-Propylamine	0.333	0.319	96	43 - 126
Hexachloroethane	0.333	0.272	82	42 - 120
Nitrobenzene	0.333	0.304	91	43 - 115
Isophorone	0.333	0.316	95	52 - 132
2-Nitrophenol	0.333	0.334	100	32 - 127
2,4-Dimethylphenol	0.333	0.314	94	37 - 116
Bis (2-Chloroethoxy)-Methane	0.333	0.315	95	42 - 118
2,4-Dichlorophenol	0.333	0.328	98	42 - 116
1,2,4-Trichlorobenzene	0.333	0.297	89	57 - 124
Naphthalene	0.333	0.332	100	57 - 131
4-Chloroaniline	0.333	0.229	69	23 - 97
Hexachlorobutadiene	0.333	0.296	89	32 - 127
4-Chloro-3-Methylphenol	0.333	0.335	101	57 - 131
2-Methylnaphthalene	0.333	0.328	98	45 - 116
Hexachlorocyclopentadiene	0.333	0.329	99	10 - 113
2,4,6-Trichlorophenol	0.333	0.337	101	41 - 122
2,4,5-Trichlorophenol	0.333	0.334	100	41 - 118
2-Chloronaphthalene	0.333	0.289	87	45 - 115
2-Nitroaniline	0.333	0.344	103	43 - 120
Dimethylphthalate	0.333	0.307	92	44 - 116
Acenaphthylene	0.333	0.310	93	44 - 112
2,6-Dinitrotoluene	0.333	0.316	95	42 - 118
3-Nitroaniline	0.333	0.294	88	21 - 111
Acenaphthene	0.333	0.325	98	47 - 115
2,4-Dinitrophenol	0.333	0.247	74	1 - 126
4-Nitrophenol	0.333	0.334	100	41 - 126
Dibenzofuran	0.333	0.297	89	46 - 115

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QUALITY CONTROL REPORT
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Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka Test Date: 05/21/02
Analytical Batch No: 185980
QC Batch No: 75188-121
Units: mg/kg dry

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
2,4-Dinitrotoluene	0.333	0.326	98	44 - 139
Diethylphthalate	0.333	0.281	84	52 - 111
4-Chlorophenylphenyl-Ether	0.333	0.276	83	43 - 118
Fluorene	0.333	0.267	80	43 - 116
4-Nitroaniline	0.333	0.272	82	28 - 117
4,6-Dinitro-2-Methylphenol	0.333	0.321	96	27 - 113
N-Nitroso-di-Phenylamine	0.333	0.367	110	28 - 141
4-Bromophenyl Phenylether	0.333	0.314	94	37 - 121
Hexachlorobenzene	0.333	0.354	106	38 - 122
Pentachlorophenol	0.333	0.307	92	25 - 133
Phenanthrene	0.333	0.333	100	45 - 122
Anthracene	0.333	0.330	99	42 - 123
Carbazole	0.333	0.316	95	80 - 120
Di-n-Butylphthalate	0.333	0.374	112	45 - 132
Fluoranthene	0.333	0.335	101	43 - 123
Pyrene	0.333	0.350	105	44 - 123
Butyl Benzyl Phthalate	0.333	0.369	111	44 - 124
3,3'-Dichlorobenzidine	0.333	0.0102	3	1 - 119
Benzo (a) Anthracene	0.333	0.337	101	45 - 131
Chrysene	0.333	0.350	105	53 - 129
Bis (2-ethylhexyl)-Phthalate	0.333	0.359	108	47 - 123
Di-n-Octylphthalate	0.333	0.362	109	37 - 138
Benzo (b) Fluoranthene	0.333	0.347	104	53 - 117
Benzo (k) Fluoranthene	0.333	0.340	102	52 - 115
Benzo (a) Pyrene	0.333	0.367	110	36 - 130
Indeno (1,2,3-cd) Pyrene	0.333	0.348	105	37 - 123
Dibenzo (a,h) Anthracene	0.333	0.370	111	39 - 123
Benzo (g,h,i,) Perylene	0.333	0.344	103	36 - 126

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QUALITY CONTROL REPORT
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Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom
Test Date: 05/21/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Units: mg/kg dry

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
Phenol	0.333	0.328	98	54 - 138
Bis (2-Chloroethyl) Ether	0.333	0.311	93	17 - 123
2-Chlorophenol	0.333	0.324	97	51 - 133
1,3-Dichlorobenzene	0.333	0.295	89	34 - 113
1,4-Dichlorobenzene	0.333	0.302	91	51 - 125
1,2-Dichlorobenzene	0.333	0.317	95	31 - 120
2-Methylphenol	0.333	0.309	93	53 - 124
Bis (2-Chloroisopropyl)-Ether	0.333	0.344	103	32 - 109
4-Methylphenol	0.333	0.329	99	32 - 125
N-Nitrosodi-n-Propylamine	0.333	0.345	104	43 - 126
Hexachloroethane	0.333	0.297	89	42 - 120
Nitrobenzene	0.333	0.309	93	43 - 115
Isophorone	0.333	0.333	100	52 - 132
2-Nitrophenol	0.333	0.397	119	32 - 127
2,4-Dimethylphenol	0.333	0.308	92	37 - 116
Bis (2-Chloroethoxy)-Methane	0.333	0.316	95	42 - 118
2,4-Dichlorophenol	0.333	0.342	103	42 - 116
1,2,4-Trichlorobenzene	0.333	0.313	94	57 - 124
Naphthalene	0.333	0.334	100	57 - 131
4-Chloroaniline	0.333	0.182	55	23 - 97
Hexachlorobutadiene	0.333	0.308	92	32 - 127
4-Chloro-3-Methylphenol	0.333	0.350	105	57 - 131
2-Methylnaphthalene	0.333	0.335	101	45 - 116
Hexachlorocyclopentadiene	0.333	0.281	84	10 - 113
2,4,6-Trichlorophenol	0.333	0.326	98	41 - 122
2,4,5-Trichlorophenol	0.333	0.302	91	41 - 118
2-Chloronaphthalene	0.333	0.322	97	45 - 115
2-Nitroaniline	0.333	0.319	96	43 - 120
Dimethylphthalate	0.333	0.321	96	44 - 116
Acenaphthylene	0.333	0.327	98	44 - 112
2,6-Dinitrotoluene	0.333	0.323	97	42 - 118
3-Nitroaniline	0.333	0.277	83	21 - 111
Acenaphthene	0.333	0.316	95	47 - 115
2,4-Dinitrophenol	0.333	0.246	74	1 - 126
4-Nitrophenol	0.333	0.322	97	41 - 126
Dibenzofuran	0.333	0.321	96	46 - 115

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QUALITY CONTROL REPORT
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Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom
Test Date: 05/21/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Units: mg/kg dry

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
2,4-Dinitrotoluene	0.333	0.330	99	44 - 139
Diethylphthalate	0.333	0.316	95	52 - 111
4-Chlorophenylphenyl-Ether	0.333	0.277	83	43 - 118
Fluorene	0.333	0.328	98	43 - 116
4-Nitroaniline	0.333	0.275	83	28 - 117
4,6-Dinitro-2-Methylphenol	0.333	0.328	98	27 - 113
N-Nitroso-di-Phenylamine	0.333	0.346	104	28 - 141
4-Bromophenyl Phenylether	0.333	0.318	95	37 - 121
Hexachlorobenzene	0.333	0.348	105	38 - 122
Pentachlorophenol	0.333	0.308	92	25 - 133
Phenanthrene	0.333	0.331	99	45 - 122
Anthracene	0.333	0.338	102	42 - 123
Carbazole	0.333	0.345	104	80 - 120
Di-n-Butylphthalate	0.333	0.413	124	45 - 132
Fluoranthene	0.333	0.362	109	43 - 123
Pyrene	0.333	0.359	108	44 - 123
Butyl Benzyl Phthalate	0.333	0.332	100	44 - 124
Benzo (a) Anthracene	0.333	0.356	107	45 - 131
Chrysene	0.333	0.349	105	53 - 129
Bis (2-ethylhexyl)-Phthalate	0.333	0.359	108	47 - 123
Di-n-Octylphthalate	0.333	0.337	101	37 - 138
Benzo (b) Fluoranthene	0.333	0.359	108	53 - 117
Benzo (k) Fluoranthene	0.333	0.341	102	52 - 115
Benzo (a) Pyrene	0.333	0.360	108	36 - 130
Indeno (1,2,3-cd) Pyrene	0.333	0.353	106	37 - 123
Dibenzo (a,h) Anthracene	0.333	0.359	108	39 - 123
Benzo (g,h,i,) Perylene	0.333	0.335	101	36 - 126

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SEMIVOLATILE METHOD BLANK SUMMARY

EPA Method 8270C

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: MPB121S Lab Sample ID: MPB121S

Instrument ID: 133 Date Extracted: 05/21/02

Matrix: (soil/water) WATER Date Analyzed: 05/21/02

Level: (low/med) LOW Time Analyzed: 12:16

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
LAB FORT BLK	LFB121S	LFB121S	05/21/02	13:07
1ZFNS01001	305052	305052	05/21/02	13:58
14HWP01002	305053	305053	05/21/02	14:49
6FNP01003	305054	305054	05/21/02	15:40
6CNS01004	305055	305055	05/21/02	16:30
SCNS01005	305056	305056	05/21/02	17:21
2BNS01006	305057	305057	05/21/02	18:12
6BNS01007	305058	305058	05/21/02	19:03
8ENS01008	305059	305059	05/21/02	21:55
8EANS01008	305060	305060	05/21/02	22:46
1DNS01010	305061	305061	05/21/02	23:37
6FNP01003 MS	305054MS	305054MS	05/22/02	00:27
6FNP01003MSD	305054MD	305054MD	05/22/02	01:19
5AWP01001	305316	305316	05/22/02	02:09
4BNP01002	305317	305317	05/22/02	03:00
3CWP01003	305318	305318	05/22/02	03:51
3CAWP01003	305319	305319	05/22/02	04:43
2BWP01004	305320	305320	05/22/02	05:34
1DWP01005	305321	305321	05/22/02	06:25
3DNS01006	305322	305322	05/22/02	07:17
5CNS01007	305323	305323	05/22/02	20:06
2AWP01001	305324	305324	05/22/02	20:57
4AWP01002	305325	305325	05/22/02	21:48

SEMIVOLATILE METHOD BLANK SUMMARY

EPA Method 8270

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: MPB121S2 Lab Sample ID: MPB121S2

Instrument ID: 138 Date Extracted: 05/21/02

Matrix: (soil/water) WATER Date Analyzed: 05/21/02

Level: (low/med) LOW Time Analyzed: 21:25

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
LAB FORT BLK	LFB121S2	LFB121S2	05/21/02	22:12
6739 4BNP010	305326	305326	05/21/02	22:58
6739 5CWP010	305327	305327	05/21/02	23:44
5CWP01004 MS	305327MS	305327MS	05/22/02	00:30
6739 5CAWP01	305328	305328	05/22/02	02:03
6739 6AWP010	305329	305329	05/22/02	02:49
6739 6BWP010	305330	305330	05/22/02	03:35
6739 8AWP010	305331	305331	05/22/02	04:22
6739 9BWP010	305332	305332	05/22/02	05:08
6739 1ANS010	305333	305333	05/22/02	05:55
6739 2CNS010	305334	305334	05/22/02	06:41
6739 2CANS01	305335	305335	05/22/02	07:28
5CWP01004 MD	305327DR	305327DR	05/22/02	11:05
6739 2DNS010	305336	305336	05/22/02	12:36
6739 1ENS010	305337	305337	05/22/02	13:21
6712 1CNP010	305338	305338	05/22/02	14:07
6712 1CANP01	305339	305339	05/22/02	14:53
6712 2ANP010	305341	305341	05/22/02	15:38
6712 4BNP010	305342	305342	05/22/02	16:24
6712 4DNP010	305343	305343	05/22/02	17:09
6712 4ANP010	305344	305344	05/22/02	17:55
6712 7BNP010	305345	305345	05/22/02	18:41
6712 2DNP010	305340R	305340R	05/23/02	10:52

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0518C DFTPP Injection Date: 05/18/02

Instrument ID: 133 DFTPP Injection Time: 19:09

GC Column: ID: 0 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	33.4
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	26.5
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	28.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.1
275	10.0 - 30.0% of mass 198	29.4
365	Greater than 0.75% of mass 198	3.9
441	Present, but less than mass 443	9.0
442	40.0% - 110.0% of mass 198	56.1
443	15.0 - 24.0% of mass 442	12.0 (21.4) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	DFT0518C	DFT0518C	DFT0518C	05/18/02	19:09
2	10PPM BNA ST	10IC0518	10IC0518	05/18/02	19:33
3	0.5PPM BNA S	05IC0518	05IC0518	05/18/02	20:25
4	1PPM BNA STD	1IC0518	1IC0518	05/18/02	21:17
5	2PPM BNA STD	2IC0518	2IC0518	05/18/02	22:09
6	5PPM BNA STD	5IC0518	5IC0518	05/18/02	23:02
7	15PPM BNA ST	15IC0518	15IC0518	05/18/02	23:54
8	20PPM BNA ST	20IC0518	20IC0518	05/19/02	00:46
9	25PPM BNA ST	25IC0518	25IC0518	05/19/02	01:38
10	2ND SOURCE	LCS0518B	LCS0518B	05/19/02	03:23

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0521A DFTPP Injection Date: 05/21/02

Instrument ID: 130 DFTPP Injection Time: 07:33

GC Column: ID: 0 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	34.3
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	29.0
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	26.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	28.6
365	Greater than 0.75% of mass 198	4.9
441	Present, but less than mass 443	9.2
442	40.0% - 110.0% of mass 198	51.8
443	15.0 - 24.0% of mass 442	11.1 (21.4) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	DFT0521A	DFT0521A	DFT0521A	05/21/02	07:33
2	CONT CAL STD	10C0521A	10C0521A	05/21/02	07:59
3	INSTR BLANK	BLK0521A	BLK0521A	05/21/02	08:50
4	METHOD BLANK	MPB121S	MPB121S	05/21/02	12:16
5	LAB FORT BLK	LFB121S	LFB121S	05/21/02	13:07
6	1ZFNS01001	305052	305052	05/21/02	13:58
7	14HWP01002	305053	305053	05/21/02	14:49
8	6FNP01003	305054	305054	05/21/02	15:40
9	6CNS01004	305055	305055	05/21/02	16:30
10	SCNS01005	305056	305056	05/21/02	17:21
11	2BNS01006	305057	305057	05/21/02	18:12
12	6BNS01007	305058	305058	05/21/02	19:03

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0521B DFTPP Injection Date: 05/21/02

Instrument ID: 133 DFTPP Injection Time: 19:48

GC Column: ID: 0 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	37.8
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	32.2
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	30.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.3
275	10.0 - 30.0% of mass 198	29.1
365	Greater than 0.75% of mass 198	4.2
441	Present, but less than mass 443	8.2
442	40.0% - 110.0% of mass 198	53.6
443	15.0 - 24.0% of mass 442	10.1 (18.9) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	DFT0521B	DFT0521B	DFT0521B	05/21/02	19:48
2	CONT CAL STD	10C0521B	10C0521B	05/21/02	20:13
3	INSTR BLANK	BLK0521B	BLK0521B	05/21/02	21:04
4	8ENS01008	305059	305059	05/21/02	21:55
5	8EANS01008	305060	305060	05/21/02	22:46
6	1DNS01010	305061	305061	05/21/02	23:37
7	6FNP01003 MS	305054MS	305054MS	05/22/02	00:27
8	6FNP01003MSD	305054MD	305054MD	05/22/02	01:19
9	5AWP01001	305316	305316	05/22/02	02:09
10	4BNP01002	305317	305317	05/22/02	03:00
11	3CWP01003	305318	305318	05/22/02	03:51
12	3CAWP01003	305319	305319	05/22/02	04:43
13	2BWP01004	305320	305320	05/22/02	05:34
14	1DWP01005	305321	305321	05/22/02	06:25
15	3DNS01006	305322	305322	05/22/02	07:17

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0522F DFTPP Injection Date: 05/22/02

Instrument ID: 13 DFTPP Injection Time: 16:21

GC Column: ID: 0 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	34.6
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	36.5
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	28.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	24.1
365	Greater than 0.75% of mass 198	5.8
441	Present, but less than mass 443	8.6
442	40.0% - 110.0% of mass 198	56.1
443	15.0 - 24.0% of mass 442	9.9 (17.6) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	DFT0522F	DFT0522F	DFT0522F	05/22/02	16:21
2	CONT CAL STD	10C0522A	10C0522A	05/22/02	16:44
3	INSTR BLANK	MPB122B	MPB122B	05/22/02	17:35
4	5CNS01007	305323	305323	05/22/02	20:06
5	2AWP01001	305324	305324	05/22/02	20:57
6	4AWP01002	305325	305325	05/22/02	21:48

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0515A DFTPP Injection Date: 05/15/02

Instrument ID: /1 DFTPP Injection Time: 08:23

GC Column: ID: 0 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	44.0
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	33.0
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	31.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	8.5
275	10.0 - 30.0% of mass 198	27.8
365	Greater than 0.75% of mass 198	4.0
441	Present, but less than mass 443	9.7
442	40.0% - 110.0% of mass 198	64.0
443	15.0 - 24.0% of mass 442	11.8 (18.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	DFT0515A	DFT0515A	DFT0515A	05/15/02	08:23
2	10PPM BNA	10C0515A	10C0515A	05/15/02	08:47
3	1PPM BNA	1IC0515	1IC0515	05/15/02	09:43
4	2PPM BNA	2IC0515	2IC0515	05/15/02	10:31
5	5PPM BNA	5IC0515	5IC0515	05/15/02	11:18
6	15PPM BNA	15IC0515	15IC0515	05/15/02	12:06
7	20PPM BNA	20IC0515	20IC0515	05/15/02	12:53
8	25PPM BNA	25IC0515	25IC0515	05/15/02	13:41

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0521B DFTPP Injection Date: 05/21/02

Instrument ID: 138 DFTPP Injection Time: 20:16

GC Column: ID: 0 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	51.0
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	37.0
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	39.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.3
275	10.0 - 30.0% of mass 198	28.9
365	Greater than 0.75% of mass 198	5.4
441	Present, but less than mass 443	9.6
442	40.0% - 110.0% of mass 198	64.7
443	15.0 - 24.0% of mass 442	12.3 (19.1) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	DFT0521B	DFT0521B	DFT0521B	05/21/02	20:16
2	10PPM BNA	10C0521B	10C0521B	05/21/02	20:39
3	METHOD BLK	MPB121S2	MPB121S2	05/21/02	21:25
4	LAB FORT BLK	LFB121S2	LFB121S2	05/21/02	22:12
5	6739 4BNP010	305326	305326	05/21/02	22:58
6	6739 5CWP010	305327	305327	05/21/02	23:44
7	5CWP01004 MS	305327MS	305327MS	05/22/02	00:30
8	6739 5CAWP01	305328	305328	05/22/02	02:03
9	6739 6AWP010	305329	305329	05/22/02	02:49
10	6739 6BWP010	305330	305330	05/22/02	03:35
11	6739 8AWP010	305331	305331	05/22/02	04:22
12	6739 9BWP010	305332	305332	05/22/02	05:08
13	6739 1ANS010	305333	305333	05/22/02	05:55
14	6739 2CNS010	305334	305334	05/22/02	06:41
15	6739 2CANS01	305335	305335	05/22/02	07:28

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0522A DFTPP Injection Date: 05/22/02

Instrument ID: 15 DFTPP Injection Time: 09:05

GC Column: ID: 0 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	45.5
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	38.6
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	35.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	26.5
365	Greater than 0.75% of mass 198	5.6
441	Present, but less than mass 443	6.1
442	40.0% - 110.0% of mass 198	68.1
443	15.0 - 24.0% of mass 442	11.9 (17.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	DFT0522A	DFT0522A	DFT0522A	05/22/02	09:05
2	10PPM BNA	10C0522A	10C0522A	05/22/02	09:28
3	INST BLK	BLK0522A	BLK0522A	05/22/02	10:20
4	5CWP01004 MD	305327DR	305327DR	05/22/02	11:05
5	6739 2DNS010	305336	305336	05/22/02	12:36
6	6739 1ENS010	305337	305337	05/22/02	13:21
7	6712 1CNP010	305338	305338	05/22/02	14:07
8	6712 1CANP01	305339	305339	05/22/02	14:53
9	6712 2ANP010	305341	305341	05/22/02	15:38
10	6712 4BNP010	305342	305342	05/22/02	16:24
11	6712 4DNP010	305343	305343	05/22/02	17:09
12	6712 4ANP010	305344	305344	05/22/02	17:55
13	6712 7BNP010	305345	305345	05/22/02	18:41

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0522C DFTPP Injection Date: 05/22/02

Instrument ID: 138 DFTPP Injection Time: 23:23

GC Column: ID: 0 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	42.8
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	37.9
70	Less than 2.0% of mass 69	0.5 (1.3) 1
127	25.0 - 75.0% of mass 198	34.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.8
275	10.0 - 30.0% of mass 198	29.7
365	Greater than 0.75% of mass 198	1.5
441	Present, but less than mass 443	9.8
442	40.0% - 110.0% of mass 198	57.9
443	15.0 - 24.0% of mass 442	12.3 (21.3) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	DFT0522C	DFT0522C	DFT0522C	05/22/02	23:23
2	10PPM BNA	10C0522B	10C0522B	05/22/02	23:45
3	INST BLK	MPB122MQ	MPB122MQ	05/23/02	00:30
4	6712 2DNP010	305340R	305340R	05/23/02	10:52

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270C

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID (Standard) : 10C0521A Date Analyzed: 05/21/02

Instrument ID: 133 Time Analyzed: 07:59

	IS1 AREA	#	RT	#	IS2 AREA	#	RT	#	IS3 AREA	#	RT	#
12 HOUR STD	1750910		10:29		5581814		13:39		3582998		18:09	
UPPER LIMIT	3501820		10:59		11163628		14:09		7165996		18:39	
LOWER LIMIT	875455		9:59		2790907		13:09		1791499		17:39	
EPA SAMPLE NO.												
INSTR BLANK	1560682		10:30		5195967		13:40		3341900		18:09	
METHOD BLAN	1518171		10:29		4932173		13:39		3277786		18:09	
LAB FORT BL	1493686		10:28		4760719		13:39		3044042		18:09	
1ZFNS01001	1463079		10:28		5014604		13:39		3123322		18:09	
14HWP01002	1382932		10:29		4778571		13:39		2845603		18:09	
6FNP01003	1304472		10:29		4554665		13:39		3012916		18:09	
6CNS01004	1277165		10:29		4231036		13:39		2700280		18:09	
SCNS01005	1288288		10:29		4166568		13:39		2850608		18:09	
2BNS01006	1236986		10:29		3897912		13:40		2515251		18:10	
6BNS01007	1299197		10:29		4491540		13:39		2932351		18:09	

IS1 = IS:D4-1,4-Dichlorobenzene
IS2 = IS:D8-Naphthalene
IS3 = IS:D10-Acenaphthene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270C

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID (Standard) : 10C0521A Date Analyzed: 05/21/02

Instrument ID: 133 Time Analyzed: 07:59

	IS4 AREA	#	RT	#	IS5 AREA	#	RT	#	IS6 AREA	#	RT	#
12 HOUR STD	5662879		20:48		4245717		25:28		5607326		31:01	
UPPER LIMIT	11325758		21:18		8491434		25:58		11214652		31:31	
LOWER LIMIT	2831440		20:18		2122859		24:58		2803663		30:31	
EPA SAMPLE NO.												
INSTR BLANK	5111869		20:48		4722476		25:27		4845517		31:00	
METHOD BLAN	4764596		20:48		4700184		25:28		4860609		31:04	
LAB FORT BL	4699870		20:48		3521036		25:29		4743323		31:04	
1ZFNS01001	4463704		20:48		4282556		25:28		4827994		31:05	
14HWP01002	4058759		20:48		3651730		25:28		4594915		31:04	
6FNP01003	4344652		20:48		4070262		25:29		4524316		31:06	
6CNS01004	4156608		20:48		3784022		25:29		4086580		31:04	
SCNS01005	4120063		20:48		4026378		25:29		4232841		31:06	
2BNS01006	3787600		20:48		3570900		25:29		3839470		31:05	
6BNS01007	4172903		20:48		4021306		25:28		4350114		31:05	

IS4 = IS:D10-Phenanthrene
IS5 = IS:D12-Chrysene
IS6 = IS:D12-Perylene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270

Lab Name: TRIMATRIX Contract: SATURN 3

Lab Code: GC/MS Case No.: ION TRAP SAS No.: SDG No.:

Lab File ID (Standard) : 10C0521B Date Analyzed: 05/21/02

iNSTRUMENT ID: 133 Time Analyzed: 20:13

GC Column: DB5MS ID: 0.32 (mm)

	IS 1. AREA	#	IS 1. RT	#	IS 2. AREA	#	IS 2. RT	#	IS 3. AREA	#	IS 3. RT	#
12 HOUR STD	1404769		10:29		4605356		13:39		2982560		18:09	
UPPER LIMIT	2809538		10:59		9210712		14:09		5965120		18:39	
LOWER LIMIT	702385		9:59		2302678		13:09		1491280		17:39	
EPA SAMPLE NO.												
INSTR BLANK	1374923		10:30		4672245		13:40		3080891		18:09	
8ENS01008	1410396		10:29		4635697		13:39		3041754		18:09	
8EANS01008	1388524		10:29		4480960		13:39		2899049		18:10	
1DNS01010	1357628		10:29		4503885		13:39		2877654		18:10	
6FNP01003 M	1387609		10:29		4510764		13:39		2897365		18:09	
6FNP01003MS	1252009		10:29		4299777		13:39		2925429		18:09	
5AWP01001	1247803		10:29		4145179		13:39		2708323		18:09	
4BNP01002	1345528		10:29		4301432		13:40		2753750		18:10	
3CWP01003	1267425		10:28		4307346		13:39		2672665		18:10	
3CAWP01003	1179068		10:29		3967133		13:40		2635439		18:10	
2BWP01004	1353824		10:29		4447447		13:40		2739891		18:10	
1DWP01005	1254681		10:29		4205341		13:40		2750372		18:09	
3DNS01006	1168252		10:29		3981483		13:40		2512102		18:10	

IS1 = IS:D4-1,4-Dichlorobenzene
IS2 = IS:D8-Naphthalene
IS3 = IS:D10-Acenaphthene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270

Lab Name: TRIMATRIX Contract: SATURN 3

Lab Code: GC/MS Case No.: ION TRAP SAS No.: SDG No.:

Lab File ID (Standard) : 10C0521B Date Analyzed: 05/21/02

iNSTRUMENT ID: 133 Time Analyzed: 20:13

GC Column: DB5MS ID: 0.32 (mm)

	IS4 AREA	#	IS4 RT	#	IS5 AREA	#	IS5 RT	#	IS6 AREA	#	IS6 RT	#
12 HOUR STD	4788885		20:48		3558808		25:29		4670648		31:03	
UPPER LIMIT	9577770		21:18		7117616		25:59		9341296		31:33	
LOWER LIMIT	2394443		20:18		1779404		24:59		2335324		30:33	
EPA SAMPLE NO.												
INSTR BLANK	4798063		20:48		4333718		25:29		4585630		31:07	
8ENS01008	4655795		20:48		4256196		25:28		4336573		31:02	
8EANS01008	4266409		20:48		3977952		25:29		4066663		31:03	
1DNS01010	4466329		20:48		4098252		25:29		4236755		31:06	
6FNP01003 M	4335024		20:48		3501946		25:29		4103534		31:05	
6FNP01003MS	4236433		20:48		3439162		25:30		4140454		31:06	
5AWP01001	4167939		20:48		3845981		25:29		3963394		31:06	
4BNP01002	4146840		20:49		3585137		25:29		3205307		31:03	
3CWP01003	3967334		20:48		3300349		25:29		2528105	*	31:03	
3CAWP01003	3674947		20:48		3358330		25:28		2415790	*	31:04	
2BWP01004	4195265		20:48		3745601		25:29		3889498		31:02	
1DWP01005	4188847		20:48		3500734		25:28		3575445		31:02	
3DNS01006	3779400		20:48		3543895		25:29		3689581		31:02	

IS4 = IS:D10-Phenanthrene
IS5 = IS:D12-Chrysene
IS6 = IS:D12-Perylene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270C

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID (Standard) : 10C0522A Date Analyzed: 05/22/02

Instrument ID: 133 Time Analyzed: 16:44

	IS1 AREA	#	RT	#	IS2 AREA	#	RT	#	IS3 AREA	#	RT	#
12 HOUR STD	1547033		10:25		5189746		13:36		3231734		18:07	
UPPER LIMIT	3094066		10:55		10379492		14:06		6463468		18:37	
LOWER LIMIT	773517		9:55		2594873		13:06		1615867		17:37	
EPA SAMPLE NO.												
INSTR BLANK	1531732		10:26		4921945		13:37		3184610		18:08	
5CNS01007	1462592		10:25		4647942		13:37		2986411		18:07	
2AWP01001	1374117		10:26		4500830		13:37		2916458		18:07	
4AWP01002	1383374		10:26		4573822		13:37		2933701		18:07	

IS1 = IS:D4-1,4-Dichlorobenzene
IS2 = IS:D8-Naphthalene
IS3 = IS:D10-Acenaphthene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270C

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID (Standard) : 10C0522A Date Analyzed: 05/22/02

Instrument ID: 133 Time Analyzed: 16:44

	IS4 AREA	#	RT	#	IS5 AREA	#	RT	#	IS6 AREA	#	RT	#
12 HOUR STD	4917525		20:46		4040345		25:23		5320227		30:42	
UPPER LIMIT	9835050		21:16		8080690		25:53		10640454		31:12	
LOWER LIMIT	2458763		20:16		2020173		24:53		2660114		30:12	
EPA SAMPLE NO.												
INSTR BLANK	4653223		20:47		4506025		25:24		4907457		30:44	
5CNS01007	4302484		20:46		4211338		25:23		4465401		30:42	
2AWP01001	4331554		20:46		4046031		25:23		4285699		30:43	
4AWP01002	4208950		20:46		3985012		25:24		4041233		30:43	

IS4 = IS:D10-Phenanthrene
IS5 = IS:D12-Chrysene
IS6 = IS:D12-Perylene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270

Lab Name: TRIMATRIX Contract: SATURN 3

Lab Code: GC/MS Case No.: ION TRAP SAS No.: SDG No.:

Lab File ID (Standard) : 10C0521B Date Analyzed: 05/21/02

iNSTRUMENT ID: 138 Time Analyzed: 20:39

GC Column: DB5MS ID: 0.32 (mm)

	IS4 AREA	#	IS4 RT	#	IS5 AREA	#	IS5 RT	#	IS6 AREA	#	IS6 RT	#
12 HOUR STD	2517957		20:48		1915509		25:21		2332810		30:32	
UPPER LIMIT	5035914		21:18		3831018		25:51		4665620		31:02	
LOWER LIMIT	1258979		20:18		957755		24:51		1166405		30:02	
EPA SAMPLE NO.												
METHOD BLK	1984897		20:48		1708533		25:20		1787281		30:32	
LAB FORT BL	2075432		20:47		1605093		25:21		2031439		30:31	
6739 4BNP01	2272954		20:48		2053066		25:23		1910798		30:36	
6739 5CWP01	2023797		20:47		1735515		25:19		1578463		30:29	
5CWP01004 M	2115162		20:47		1650511		25:20		1885231		30:30	
6739 5CAWP0	2145299		20:47		1961730		25:19		2037827		30:30	
6739 6AWP01	2336982		20:47		2044307		25:20		2041213		30:32	
6739 6BWP01	2003350		20:48		1599738		25:22		1296002		30:33	
6739 8AWP01	2088649		20:47		1805586		25:20		1727742		30:30	
6739 9BWP01	2074347		20:48		1799172		25:23		1494508		30:37	
6739 1ANS01	2155097		20:47		1828925		25:20		2046062		30:31	
6739 2CNS01	2182652		20:47		1935689		25:21		1913846		30:34	
6739 2CANS0	1775591		20:48		1470139		25:21		1529479		30:33	

IS4 = IS:D10-Phenanthrene
IS5 = IS:D12-Chrysene
IS6 = IS:D12-Perylene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270

Lab Name: TRIMATRIX Contract: SATURN 3

Lab Code: GC/MS Case No.: ION TRAP SAS No.: SDG No.:

Lab File ID (Standard) : 10C0521B Date Analyzed: 05/21/02

iNSTRUMENT ID: 138 Time Analyzed: 20:39

GC Column: DB5MS ID: 0.32 (mm)

	IS 1. AREA	#	RT	#	IS 2. AREA	#	RT	#	IS 3. AREA	#	RT	#
12 HOUR STD	834343		10:27		2664960		13:39		1570603		18:09	
UPPER LIMIT	1668686		10:57		5329920		14:09		3141206		18:39	
LOWER LIMIT	417172		9:57		1332480		13:09		785302		17:39	
EPA SAMPLE NO.												
METHOD BLK	634508		10:30		2081099		13:41		1315160		18:10	
LAB FORT BL	670990		10:27		2177897		13:38		1390485		18:08	
6739 4BNP01	806136		10:28		2509239		13:39		1508510		18:09	
6739 5CWP01	660326		10:28		2177165		13:38		1283956		18:08	
5CWP01004 M	660021		10:27		2195604		13:37		1372632		18:08	
6739 5CAWP0	744028		10:27		2390845		13:38		1486992		18:08	
6739 6AWP01	791574		10:27		2479793		13:38		1536485		18:08	
6739 6BWP01	680257		10:30		2256136		13:40		1327273		18:10	
6739 8AWP01	701853		10:27		2279668		13:38		1439751		18:09	
6739 9BWP01	723053		10:28		2264423		13:39		1363159		18:09	
6739 1ANS01	682024		10:27		2189961		13:38		1305892		18:08	
6739 2CNS01	769624		10:27		2406867		13:39		1505153		18:09	
6739 2CANS0	595404		10:30		1941893		13:40		1152501		18:10	

IS1 = IS:D4-1,4-Dichlorobenzene
IS2 = IS:D8-Naphthalene
IS3 = IS:D10-Acenaphthene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID (Standard) : 10C0522A Date Analyzed: 05/22/02

Instrument ID: 138 Time Analyzed: 09:28

	IS1 AREA	#	RT	#	IS2 AREA	#	RT	#	IS3 AREA	#	RT	#
12 HOUR STD	812787		10:17		2530952		13:27		1533785		17:58	
UPPER LIMIT	1625574		10:47		5061904		13:57		3067570		18:28	
LOWER LIMIT	406394		9:47		1265476		12:57		766893		17:28	
EPA SAMPLE NO.												
INST BLK	694586		10:18		2232519		13:27		1380908		17:59	
5CWP01004 M	704701		10:18		2152990		13:27		1341919		17:58	
6739 2DNS01	713787		10:16		2356482		13:27		1449793		17:58	
6739 1ENS01	705146		10:17		2237833		13:27		1393188		17:58	
6712 1CNP01	709608		10:16		2332989		13:26		1443425		17:58	
6712 1CANP0	736052		10:18		2368235		13:28		1431117		18:00	
6712 2ANP01	595144		10:17		1956911		13:27		1178430		17:58	
6712 4BNP01	610084		10:17		1925776		13:27		1172273		17:58	
6712 4DNP01	574985		10:19		1807118		13:30		1155541		18:01	
6712 4ANP01	615069		10:18		1950786		13:28		1146654		17:59	
6712 7BNP01	605183		10:18		1922753		13:28		1228894		18:00	

IS1 = IS:D4-1,4-Dichlorobenzene
IS2 = IS:D8-Naphthalene
IS3 = IS:D10-Acenaphthene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID (Standard) : 10C0522A Date Analyzed: 05/22/02

Instrument ID: 138 Time Analyzed: 09:28

	IS4 AREA	#	RT	#	IS5 AREA	#	RT	#	IS6 AREA	#	RT	#
12 HOUR STD	2511130		20:38		1802718		25:05		2290180		30:02	
UPPER LIMIT	5022260		21:08		3605436		25:35		4580360		30:32	
LOWER LIMIT	1255565		20:08		901359		24:35		1145090		29:32	
EPA SAMPLE NO.												
INST BLK	2014651		20:40		1777058		25:07		1807010		30:06	
5CWP01004 M	2150853		20:38		1613542		25:05		2014219		30:01	
6739 2DNS01	2163975		20:39		1976781		25:07		1994513		30:05	
6739 1ENS01	2041114		20:38		1755036		25:05		1469450		30:02	
6712 1CNP01	2201789		20:38		1953614		25:05		2092100		30:03	
6712 1CANP0	2125265		20:40		1978487		25:08		1986850		30:08	
6712 2ANP01	1865681		20:39		1523530		25:05		1605889		30:04	
6712 4BNP01	1880773		20:39		1593774		25:05		1588893		30:04	
6712 4DNP01	1618579		20:41		1494275		25:09		1460387		30:10	
6712 4ANP01	1746189		20:39		1599891		25:06		1579814		30:06	
6712 7BNP01	1716992		20:41		1522112		25:08		1559655		30:11	

IS4 = IS:D10-Phenanthrene
IS5 = IS:D12-Chrysene
IS6 = IS:D12-Perylene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID (Standard) : 10C0522B Date Analyzed: 05/22/02

Instrument ID: 138 Time Analyzed: 23:45

	IS1 AREA	#	RT	#	IS2 AREA	#	RT	#	IS3 AREA	#	RT	#
12 HOUR STD	760249		10:13		2341573		13:22		1398863		17:53	
UPPER LIMIT	1520498		10:43		4683146		13:52		2797726		18:23	
LOWER LIMIT	380125		9:43		1170787		12:52		699432		17:23	
EPA SAMPLE NO.												
INST BLK	626203		10:11		1984358		13:20		1252354		17:52	
6712 2DNP01	659062		10:12		2244403		13:22		1366626		17:54	

IS1 = IS:D4-1,4-Dichlorobenzene
IS2 = IS:D8-Naphthalene
IS3 = IS:D10-Acenaphthene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

EPA Method 8270

Lab Name: TRIMATRIX Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID (Standard) : 10C0522B Date Analyzed: 05/22/02

Instrument ID: 138 Time Analyzed: 23:45

	IS4 AREA	#	RT	#	IS5 AREA	#	RT	#	IS6 AREA	#	RT	#
12 HOUR STD	2174890		20:34		1620860		24:57		2074058		29:47	
UPPER LIMIT	4349780		21:04		3241720		25:27		4148116		30:17	
LOWER LIMIT	1087445		20:04		810430		24:27		1037029		29:17	
EPA SAMPLE NO.												
INST BLK	1901010		20:34		1640977		24:56		1704921		29:47	
6712 2DNP01	2032322		20:34		1735484		24:58		1927396		29:50	

IS4 = IS:D10-Phenanthrene
IS5 = IS:D12-Chrysene
IS6 = IS:D12-Perylene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SECTION - D

SAMPLE DATA

GC/MS
SEMI-VOLATILE ORGANIC COMPOUND
DATA

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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
12FNS01001

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 13:55
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305052
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	**0.002**		0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	**0.002**		0.001	0.002

000363

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Individual sample results relate only to the sample tested.

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
12FNS01001

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 13:55
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305052
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	**0.001**	J	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.14**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	**0.001**	J	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	**0.007**		0.001	0.004
120-12-7	Anthracene	**0.001**	J	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.045**	B	0.002	0.006
206-44-0	Fluoranthene	**0.002**	J	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.008**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.12**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.008**		0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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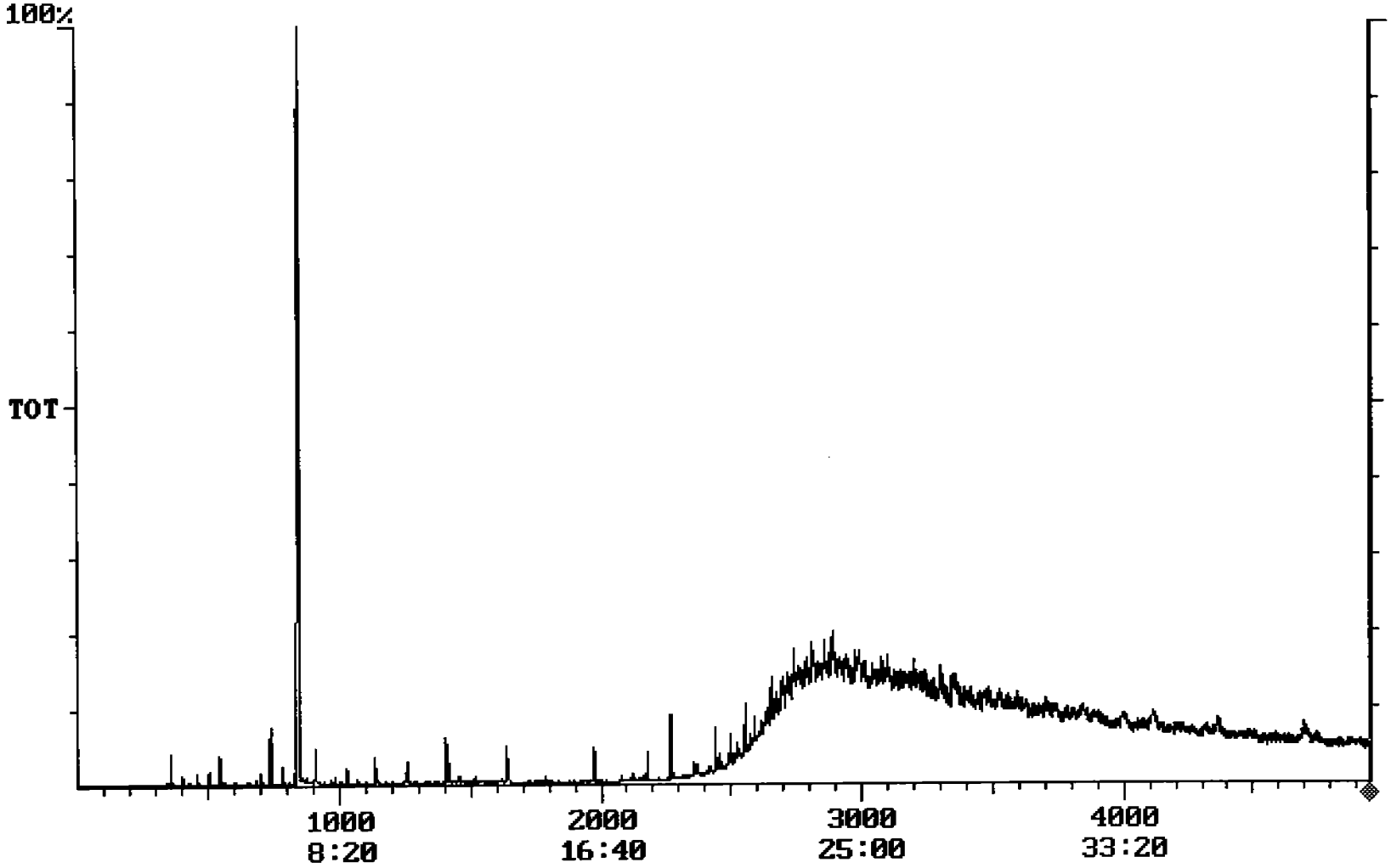
Chromatogram Plot C:\SATURN\DATA\305052 Date: 05/21/02 13:58:19
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 3607092 Masses: 41-355
Plotted: 1 to 4944 Range: 1 to 4944 100% = 69171175



Operator ID: JMK
Output File: 305052.1B2
Data File: 305052.MS
Name: 305052
Sample:

Quant Time: 05/21/02 15:24
Injected at: 05/21/02 13:58
Dilution Factor: 1.00
Instrument ID: 133

305 → 1m 1
100 Solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.47	1257	152	1463079	5.00	ng/ul	990	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	5014604	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.15	2178	162	3123322	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4463704	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.47	3057	240	4282556	5.00	ng/ul	687	1.000
6)	*IS:D12-Perylene	31.09	3731	264	4827994	5.00	ng/ul	811	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	4387227	10.20	ng/ul	997	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	6065879	12.30	ng/ul	797	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	1275564	4.36	ng/ul	993	0.469
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	960486	6.70	NG/UL	985	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	5405764	6.15	ng/ul	972	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	5300743	7.25	ng/ul	998	1.170
13)	BNSUR:O-Terphenyl	21.27	2553	230	4396795	6.63	ng/ul	982	0.774
14)	Pyridine	5.41	649	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.49	1139	94	0	0.00	ng/ul	0	1.572
16)	Aniline	0.00	1167	93	0	Not Found	ng/ul	228	0.000
17)	Bis(2-Chloroethyl)Ether	9.73	1168	92	0	0.00	ng/ul	265	0.833
18)	2-Chlorophenol	0.00	1202	128	0	Not Found	ng/ul	192	0.000
19)	1,3-Dichlorobenzene	10.36	1243	146	8271	0.02	ng/ul	806	1.660
20)	1,4-Dichlorobenzene	0.00	1268	146	0	Not Found	ng/ul	103	0.000
21)	Benzyl Alcohol	10.81	1297	108	0	0.00	ng/ul	361	0.554
22)	1,2-Dichlorobenzene	10.89	1307	146	7667	0.02	ng/ul	619	1.498
23)	2-Methylphenol	10.97	1316	108	0	0.00	ng/ul	247	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.12	1334	45	0	0.00	ng/ul	0	1.122
25)	4-Methylphenol	0.00	1359	108	0	Not Found	ng/ul	271	0.000
26)	N-Nitrosodi-N-Propylamine	0.00	1366	70	0	Not Found	ng/ul	361	0.000
27)	Hexachloroethane	0.00	1412	119	0	Not Found	ng/ul	944	0.000
28)	Nitrobenzene	0.00	1426	77	0	Not Found	ng/ul	336	0.000
29)	Isophorone	0.00	1496	82	0	Not Found	ng/ul	880	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	352	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305052.1B2
Data File: 305052.MS
Name: 305052
Sample:

Quant Time: 05/21/02 15:24
Injected at: 05/21/02 13:58
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	374	0.000	
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	482	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	598	0.000	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	197	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	42	0.000	
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	477	0.000	
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	515	0.000	
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	515	0.000	
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000	
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	959	0.000	
41)	2-Methylnaphthalene	15.51	1861	142	32482	0.05	ng/ul	973	0.639	0.0017 MS/MSD
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	0.00	1951	196	0	Not Found	ng/ul	169	0.000	
44)	2,4,5-Trichlorophenol	0.00	1962	196	0	Not Found	ng/ul	138	0.000	
45)	2-Chloronapthalene	16.79	2015	162	0	0.00	ng/ul	87	1.302	
46)	2-Nitroaniline	17.03	2044	138	701	0.00	ng/ul	594	0.409	
47)	Dimethyl Phthalate	17.45	2094	163	28957	0.02	ng/ul	825	1.919	
48)	2,6-Dinitrotoluene	17.61	2113	165	0	0.00	ng/ul	4	0.351	
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	457	0.000	
50)	3-Nitroaniline	18.01	2161	138	924	0.00	ng/ul	478	0.338	
51)	Acenaphthene	18.22	2187	152	41520	0.04	ng/ul	853	1.500	0.0015
52)	2,4-Dinitrophenol	18.25	2190	184	0	0.00	ng/ul	850	0.060	
53)	4-Nitrophenol	18.40	2208	65	0	0.00	ng/ul	0	0.119	
54)	Dibenzofuran	18.57	2229	168	33079	0.03	ng/ul	798	1.772	0.001
55)	2,4-Dinitrotoluene	18.40	2208	165	1365	0.00	ng/ul	709	0.547	
56)	Benzo(b)Fluoranthene	0.00	3523	252	0	Not Found	ng/ul	0	0.000	
57)	Diethyl Phthalate	18.92	2270	149	5557013	4.07	ng/ul	997	2.186	0.136
58)	Fluorene	19.23	2308	166	21262	0.03	ng/ul	792	1.161	0.001
59)	4-Chlorophenyl Phenyl Ether	19.16	2299	204	0	0.00	ng/ul	325	0.783	
60)	4-Nitroaniline	19.17	2300	108	0	0.00	ng/ul	191	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305052.1B2
Data File: 305052.MS
Name: 305052
Sample:

Quant Time: 05/21/02 15:24
Injected at: 05/21/02 13:58
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	77	0.000	
62)	N-Nitrosodiphenylamine	19.45	2334	169	0	0.00	ng/ul	0	0.509	
63)	1,2-Diphenylhydrazine	19.50	2340	77	61838	0.06	ng/ul	741	1.256	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	333	0.000	
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	127	0.000	
66)	Pentachlorophenol	0.00	2461	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.84	2501	178	213436	0.22	ng/ul	834	1.076	0.0074
68)	Anthracene	20.92	2511	178	38483	0.04	ng/ul	459	1.183	0.0012
69)	Carbazole	21.12	2534	167	37880	0.04	ng/ul	351	1.075	
70)	Di-n-Butyl Phthalate	21.46	2575	149	2372847	1.35	ng/ul	960	1.969	0.047
71)	Fluoranthene	22.58	2710	202	69917	0.07	ng/ul	725	1.113	0.0024
72)	Benzidine	22.62	2714	184	0	0.00	ng/ul	367	0.403	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	189	0.000	
74)	Butyl Benzyl Phthalate	23.82	2859	149	197617	0.23	ng/ul	516	1.013	0.0076
75)	3,3'-Dichlorobenzidine	0.00	3030	252	0	Not Found	ng/ul	176	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.95	2994	149	5163987	3.69	ng/ul	802	1.633	0.123
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	216	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	24	0.000	
79)	Di-n-Octylphthalate	26.89	3227	149	327894	0.23	ng/ul	544	1.630	0.0076
80)	Benzo(k)Fluoranthene	0.00	3538	252	0	Not Found	ng/ul	5	0.000	
81)	Benzo(a)Pyrene	0.00	3719	252	0	Not Found	ng/ul	176	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4554	276	0	Not Found	ng/ul	97	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4561	278	0	Not Found	ng/ul	86	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4820	276	0	Not Found	ng/ul	106	0.000	
85)	N-Nitrosodimethylamine	5.19	623	73	207	0.00	ng/ul	21	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	41	0.000	
87)	2,3-Dinitrotoluene	0.00	2197	165	0	Not Found	ng/ul	758	0.000	
88)	2,4-Diaminotoluene	16.85	2022	121	4639	0.03	ng/ul	664	0.184	
89)	2-Chloroaniline	12.57	1509	127	1552	0.00	ng/ul	593	0.613	
90)	5-Nitro-o-toluidine	19.12	2294	152	7178	0.03	ng/ul	571	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305052.1B2
Data File: 305052.MS
Name: 305052
Sample:

Quant Time: 05/21/02 15:24
Injected at: 05/21/02 13:58
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

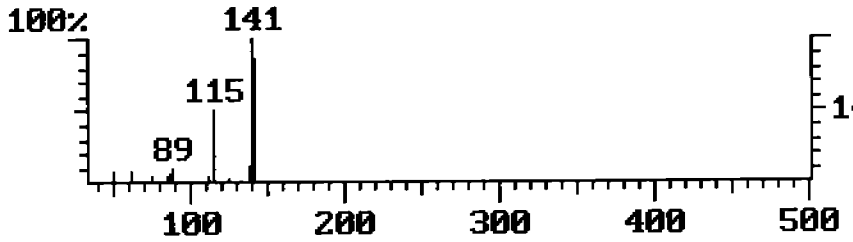
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.66	2239	143	8250	0.02	ng/ul	770	0.867
92)	Benzaldehyde	9.43	1132	105	0	0.00	ng/ul	412	2.400
93)	Acetophenone	11.40	1368	105	39966	0.04	ng/ul	892	0.909
94)	Caprolactam	14.79	1775	85	21600	0.28	ng/ul	877	0.079
95)	Biphenyl	16.72	2007	154	38689	0.04	ng/ul	924	1.531
96)	Atrazine	20.12	2415	200	0	0.00	ng/ul	311	0.437

* Compound is ISTD

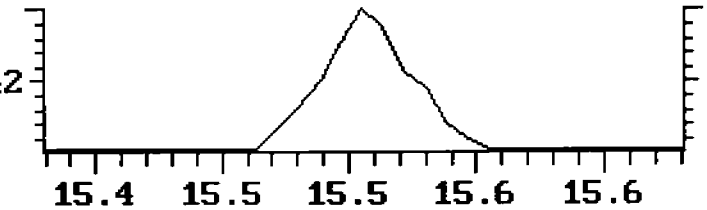
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 22 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

2-Methylnaphthalene SCAN#: 1861
AGC: 635

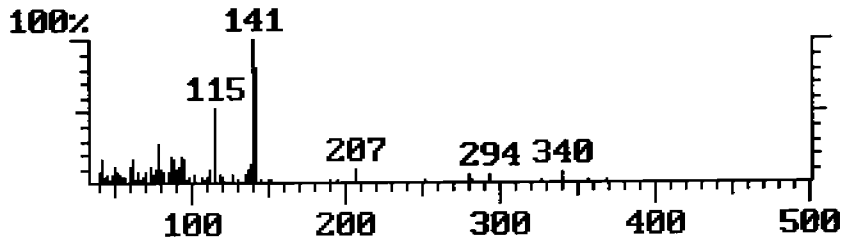
REFERENCE STANDARD SPECTRUM



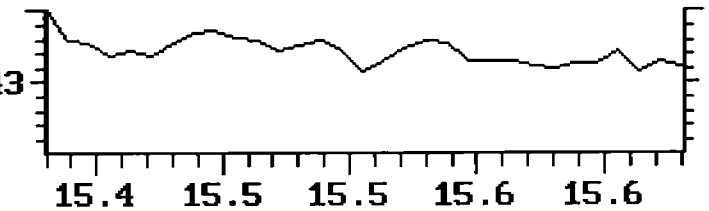
MASS 142 PLOT



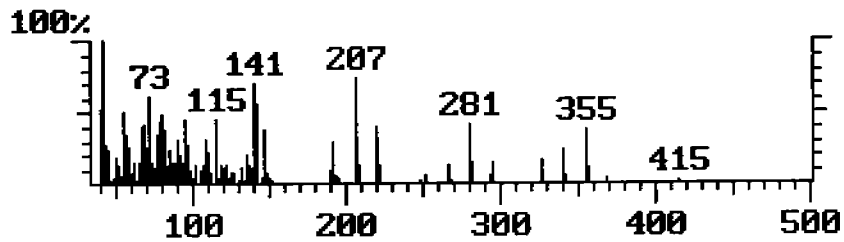
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



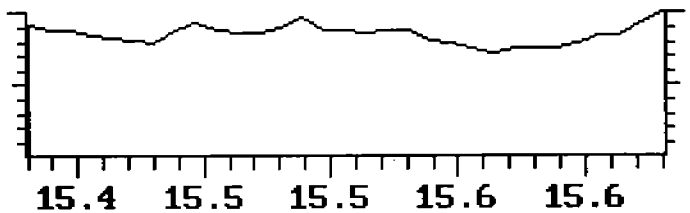
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

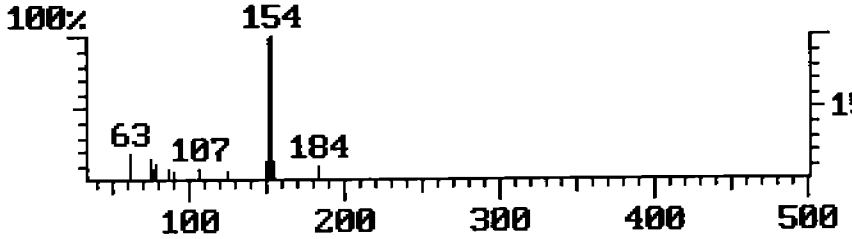


Approved_____ Date_____

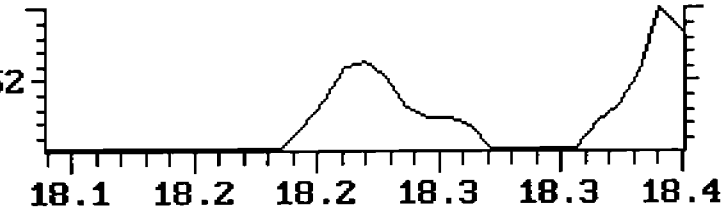
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 28 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Acenaphthene SCAN#: 2187
AGC: 385

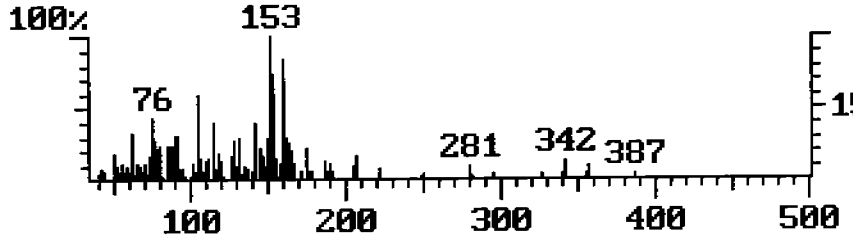
REFERENCE STANDARD SPECTRUM



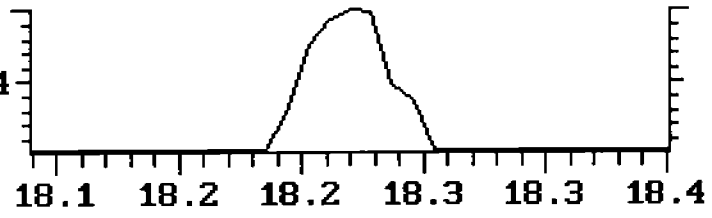
MASS 152 PLOT



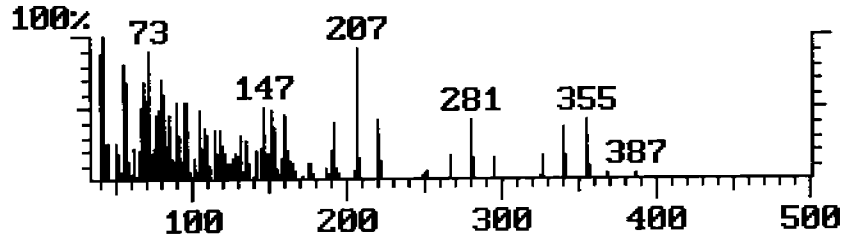
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



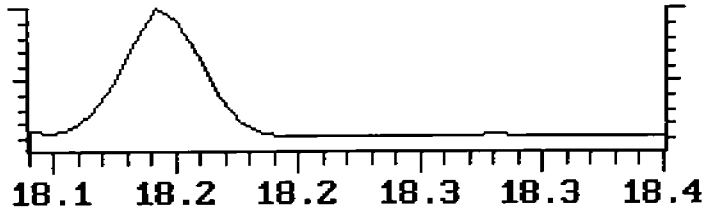
MASS 154 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

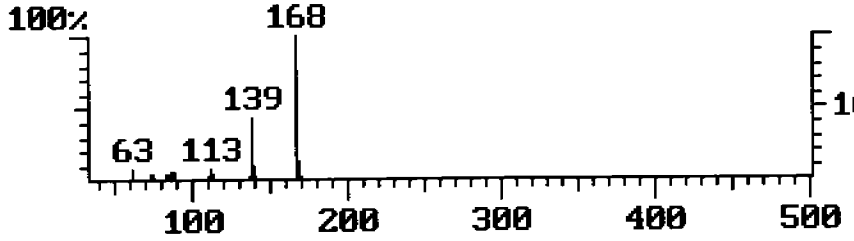


Approved_____ Date_____

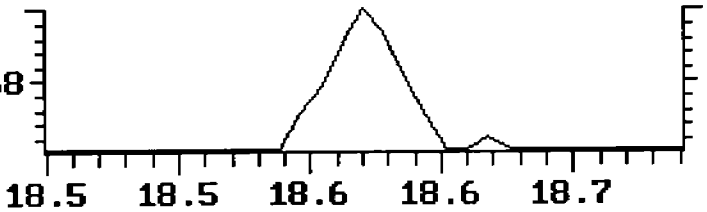
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 31 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Dibenzofuran SCAN#: 2229
AGC: 264

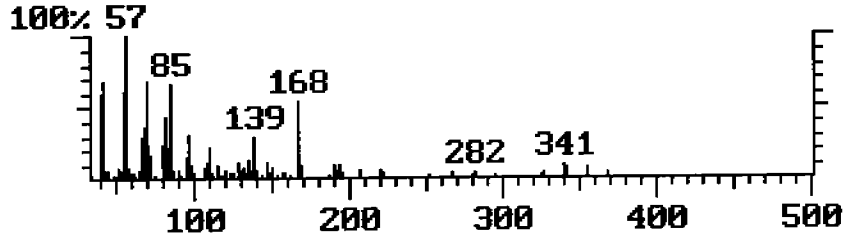
REFERENCE STANDARD SPECTRUM



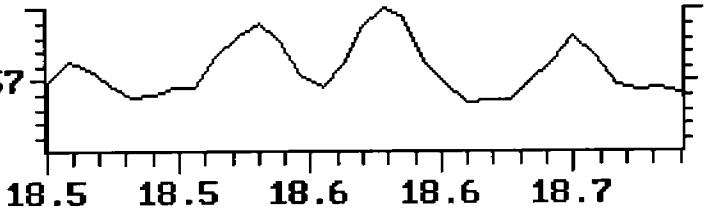
MASS 168 PLOT



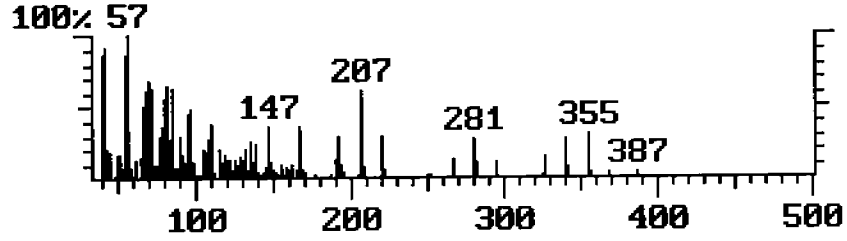
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



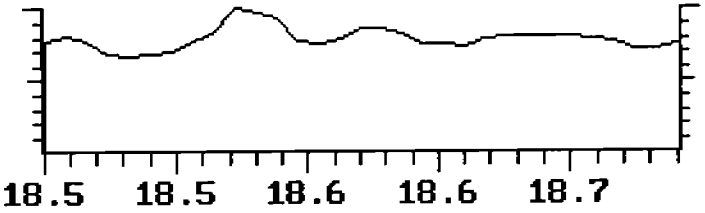
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

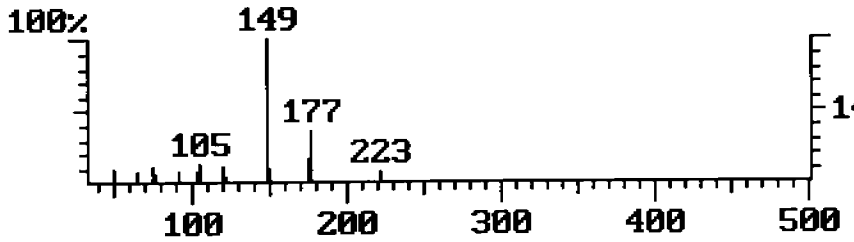


Approved_____ Date_____

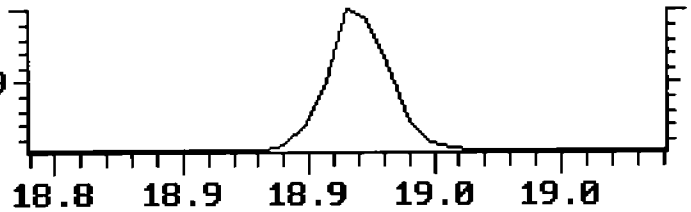
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 33 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2270
AGC: 21

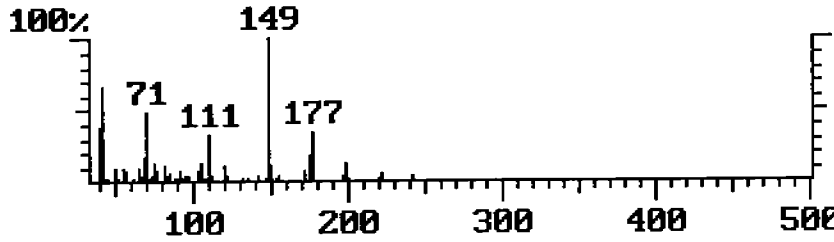
REFERENCE STANDARD SPECTRUM



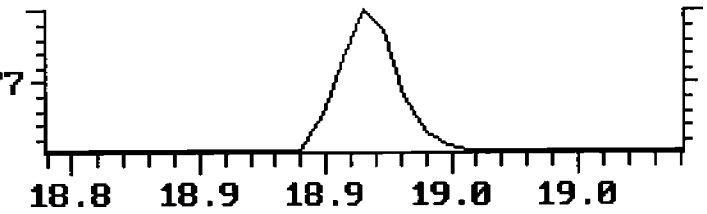
MASS 149 PLOT



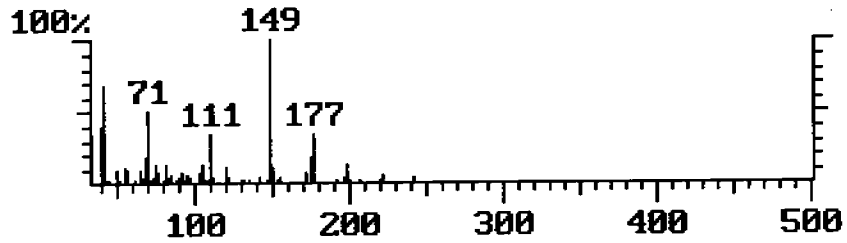
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



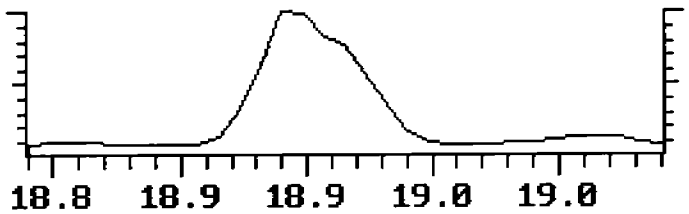
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



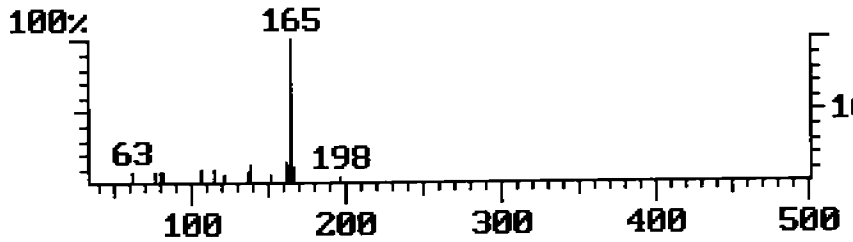
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 34 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

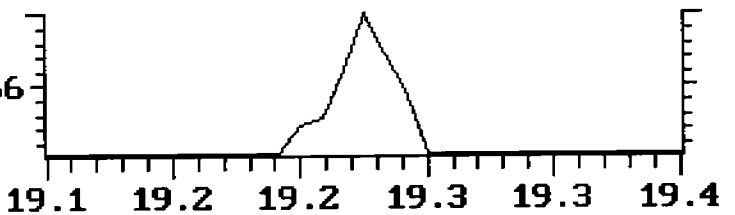
Fluorene

SCAN#: 2308
AGC: 239

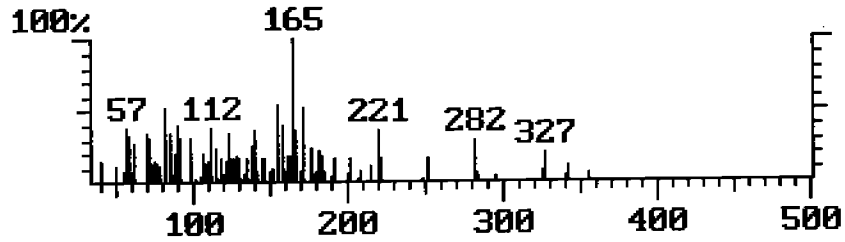
REFERENCE STANDARD SPECTRUM



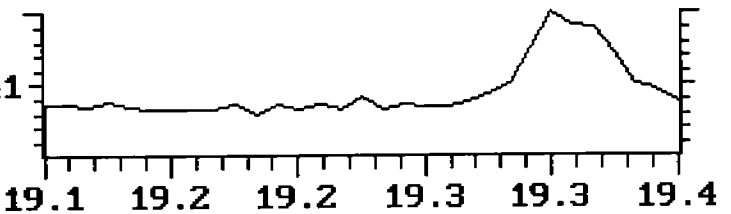
MASS 166 PLOT



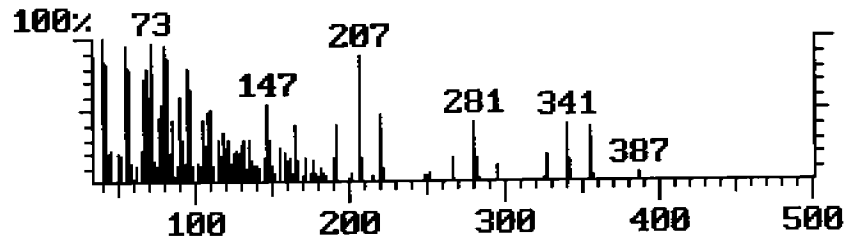
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



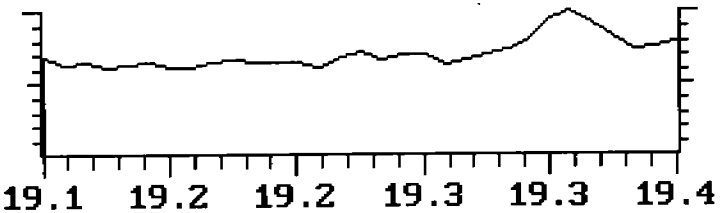
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



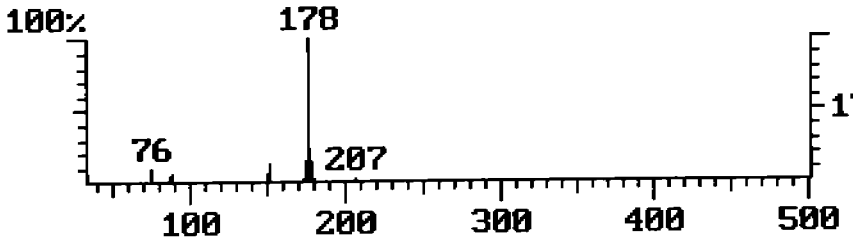
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

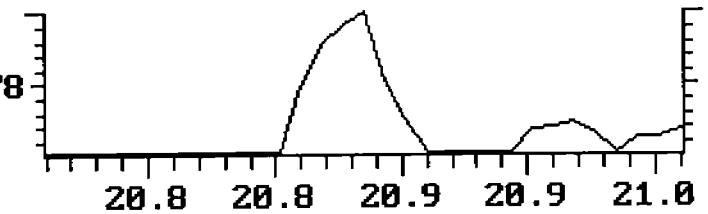
Phenanthrene

SCAN#: 2501
AGC: 56

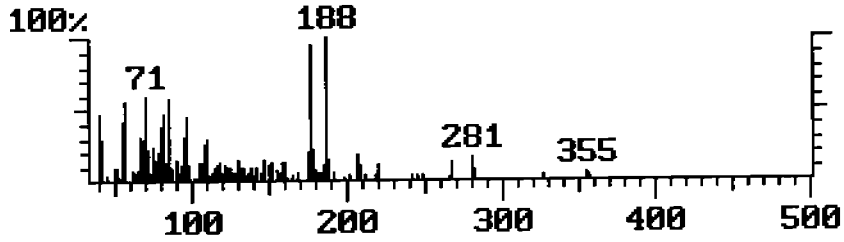
REFERENCE STANDARD SPECTRUM



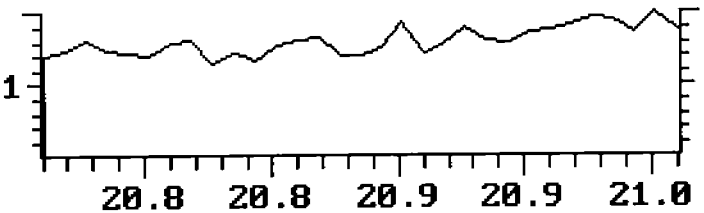
MASS 178 PLOT



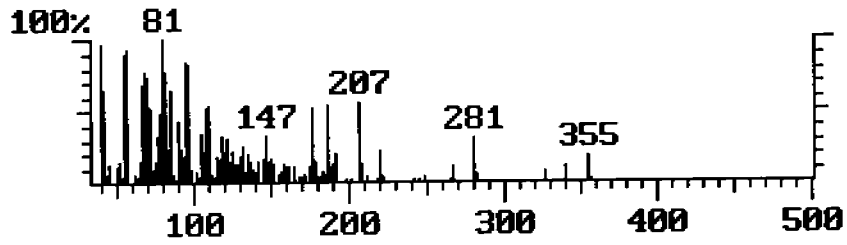
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



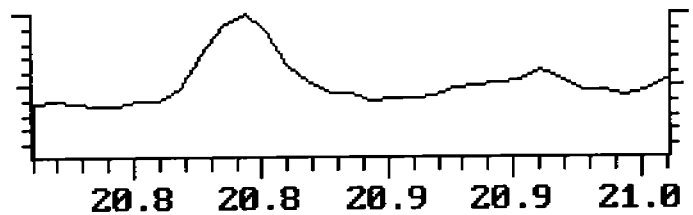
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



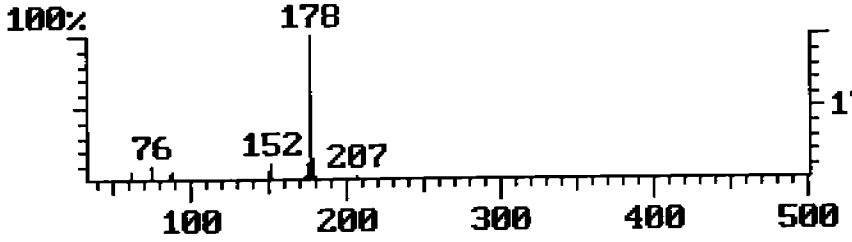
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 40 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

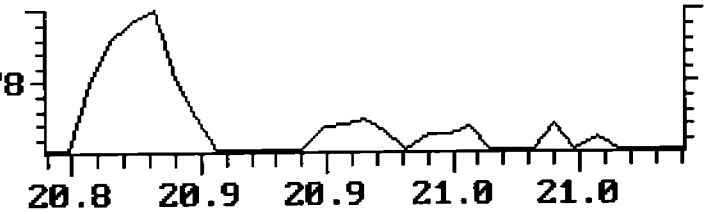
Anthracene

SCAN#: 2511
AGC: 43

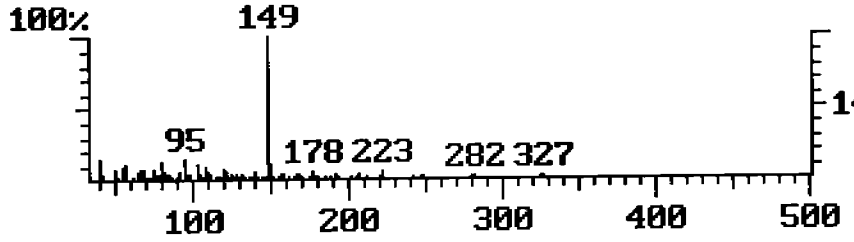
REFERENCE STANDARD SPECTRUM



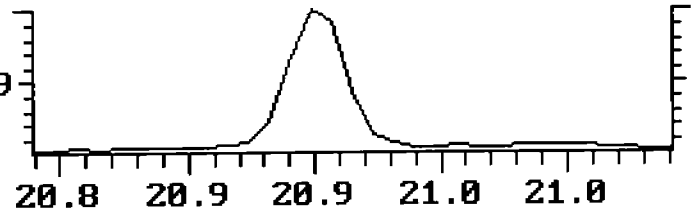
MASS 178 PLOT



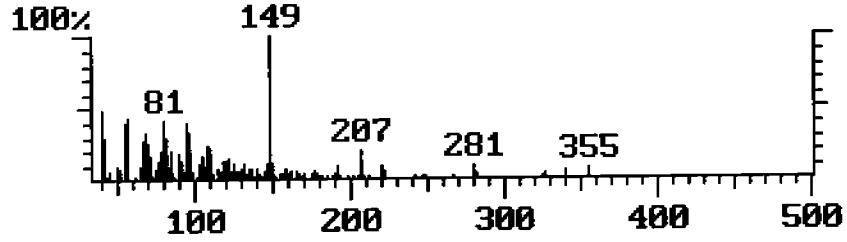
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



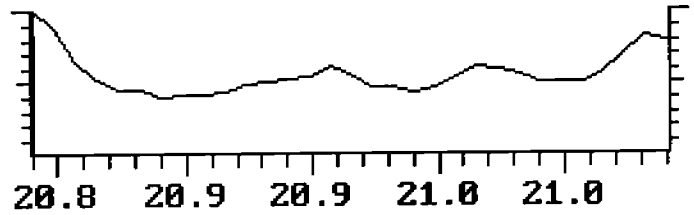
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



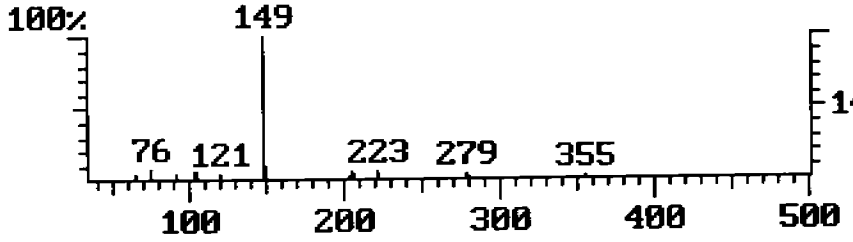
Approved _____ Date _____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 42 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

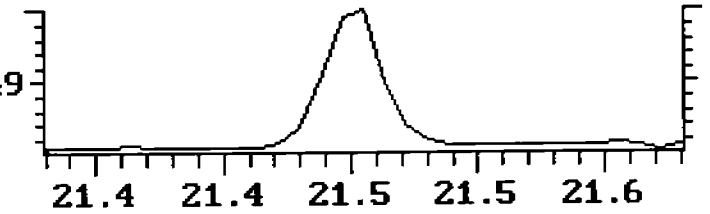
Di-n-Butyl Phthalate

SCAN#: 2575
AGC: 24

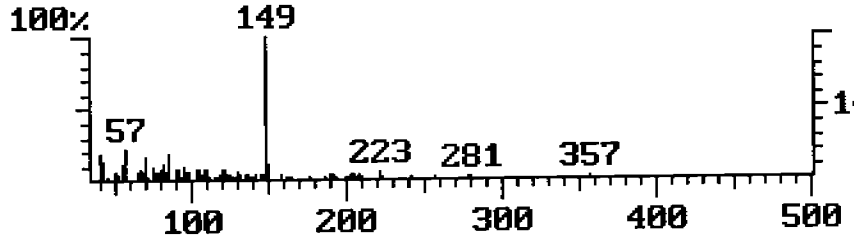
REFERENCE STANDARD SPECTRUM



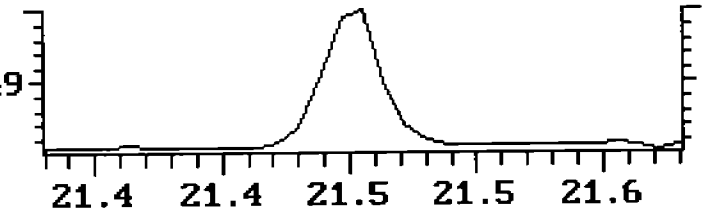
MASS 149 PLOT



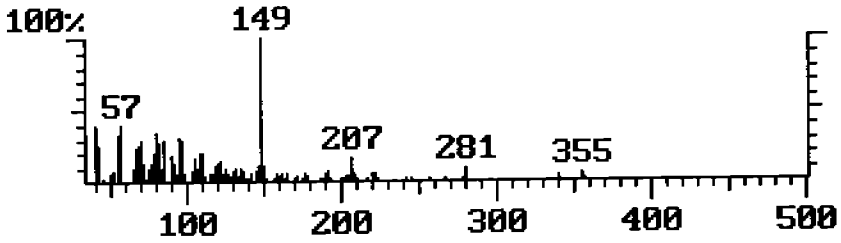
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



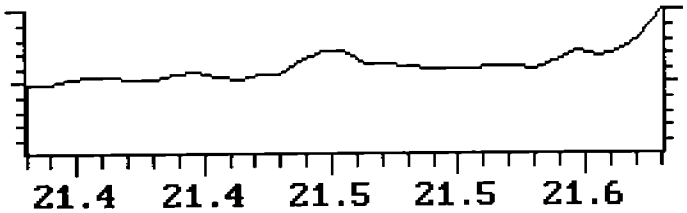
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

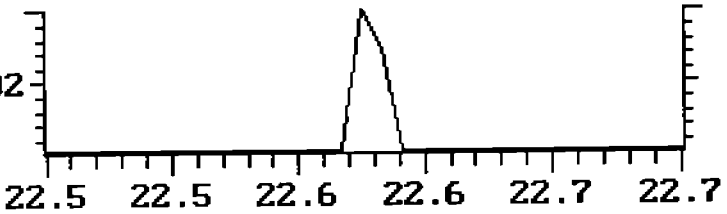
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 43 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Fluoranthene SCAN#: 2710
AGC: 13

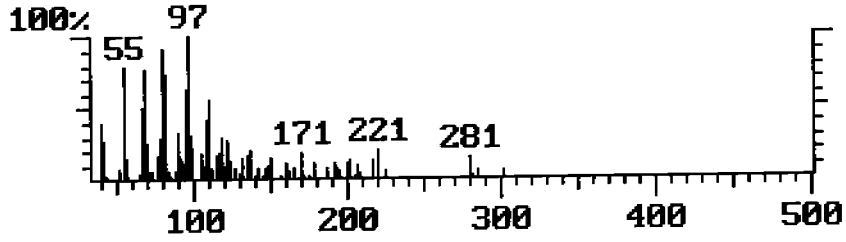
REFERENCE STANDARD SPECTRUM



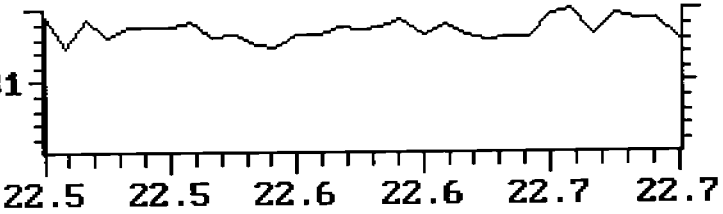
MASS 202 PLOT



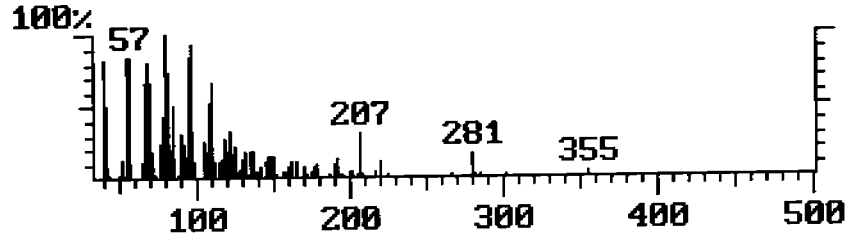
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



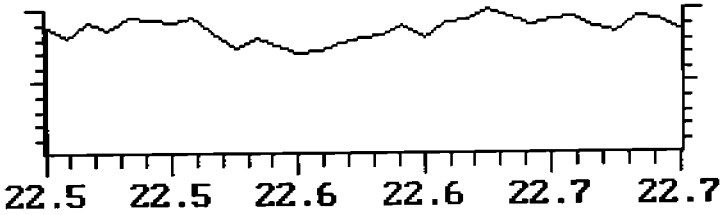
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

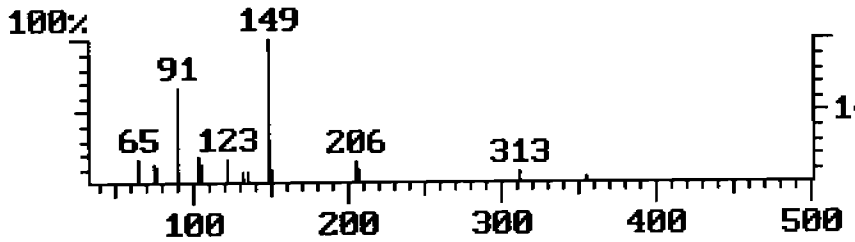


Approved _____ Date _____

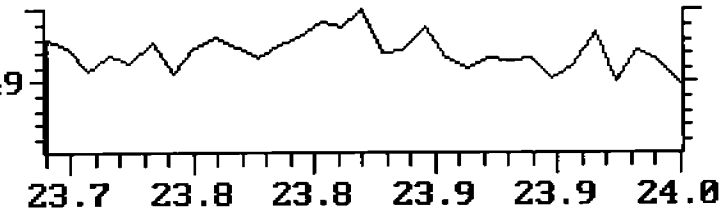
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2859
AGC: 10

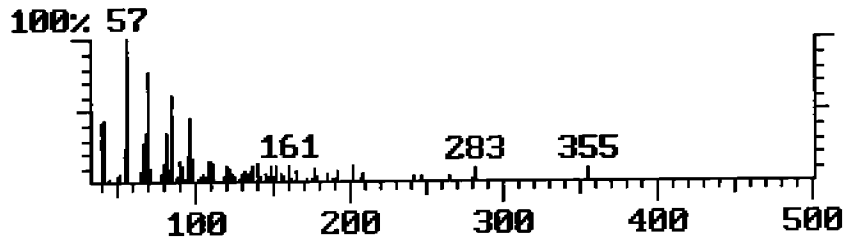
REFERENCE STANDARD SPECTRUM



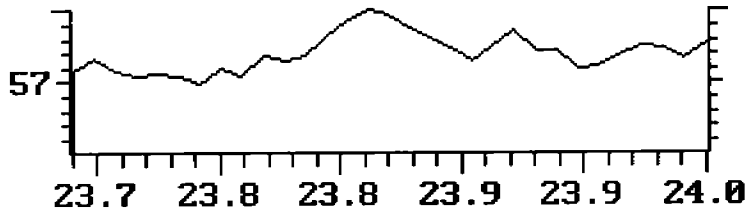
MASS 149 PLOT



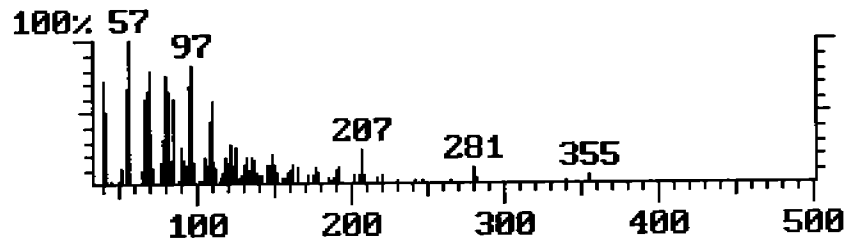
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



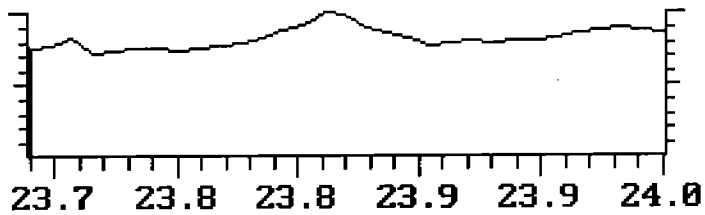
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



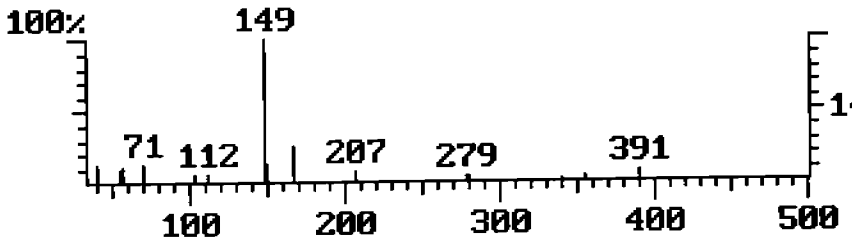
Approved _____ Date _____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

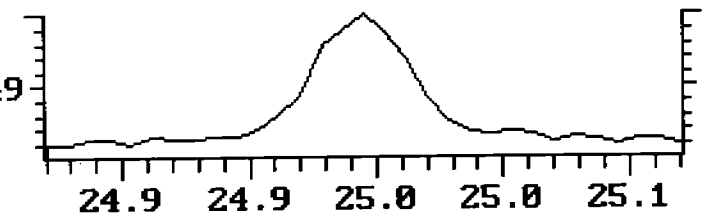
Bis(2-Ethylhexyl)Phthalate

SCAN#: 2994
AGC: 10

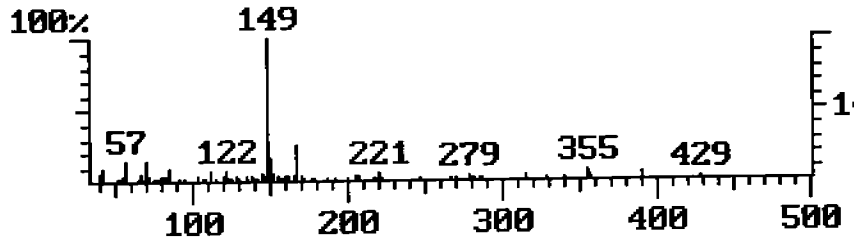
REFERENCE STANDARD SPECTRUM



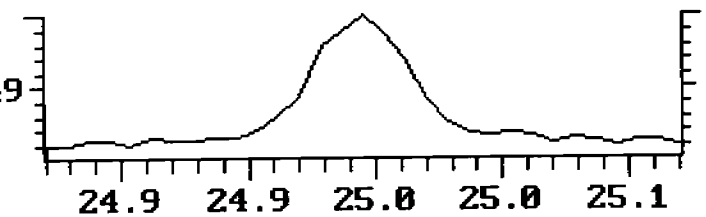
MASS 149 PLOT



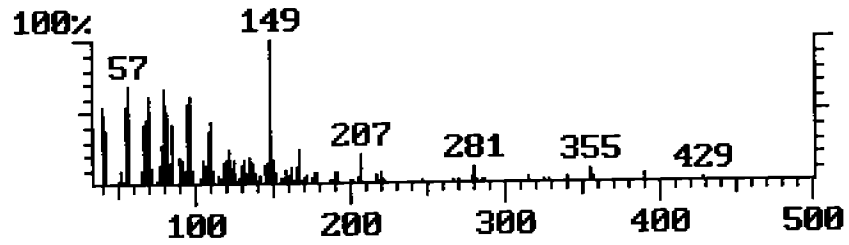
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



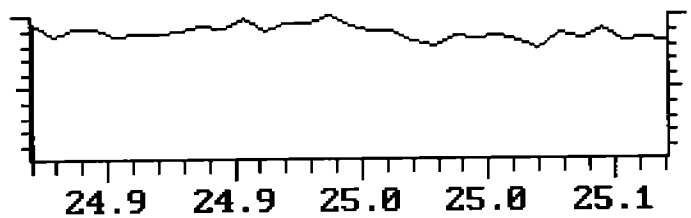
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

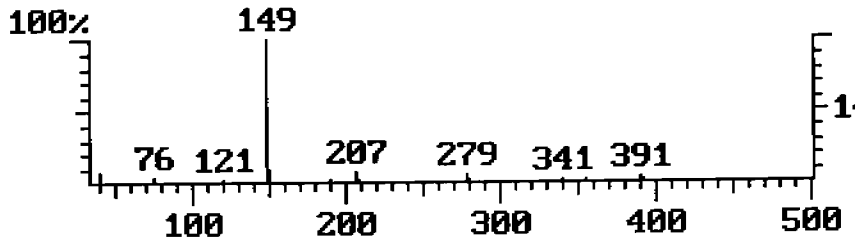


Approved_____ Date_____

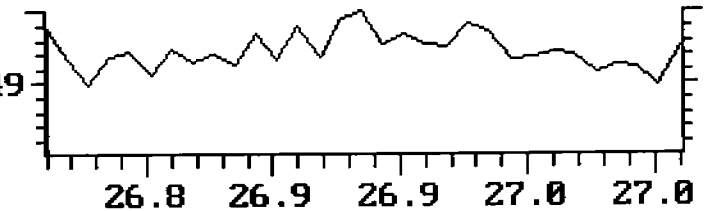
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 57
Data File: 305052 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 1:58 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3227
AGC: 11

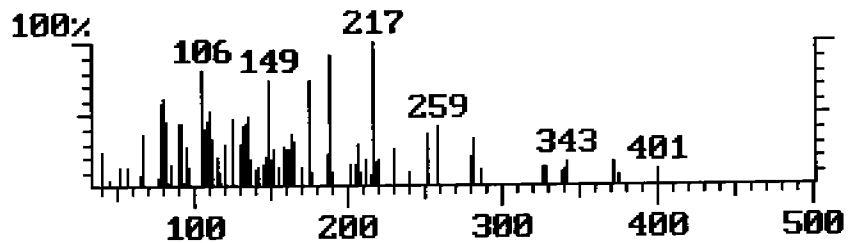
REFERENCE STANDARD SPECTRUM



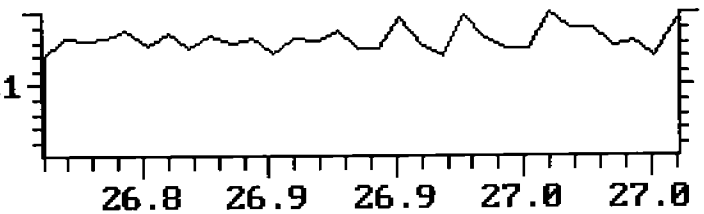
MASS 149 PLOT



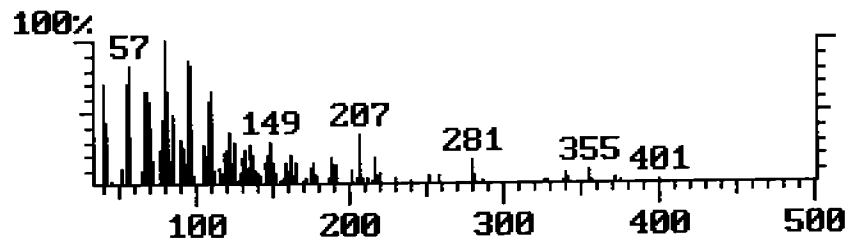
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



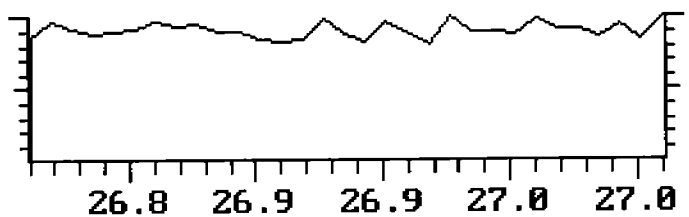
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
14HWP01002

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 13:58
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305053
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	**0.001**	J	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
14HWP01002

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 13:58
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305053
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.023**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	**0.001**	J	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	**0.005**		0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.040**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.006**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.089**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.002**	J	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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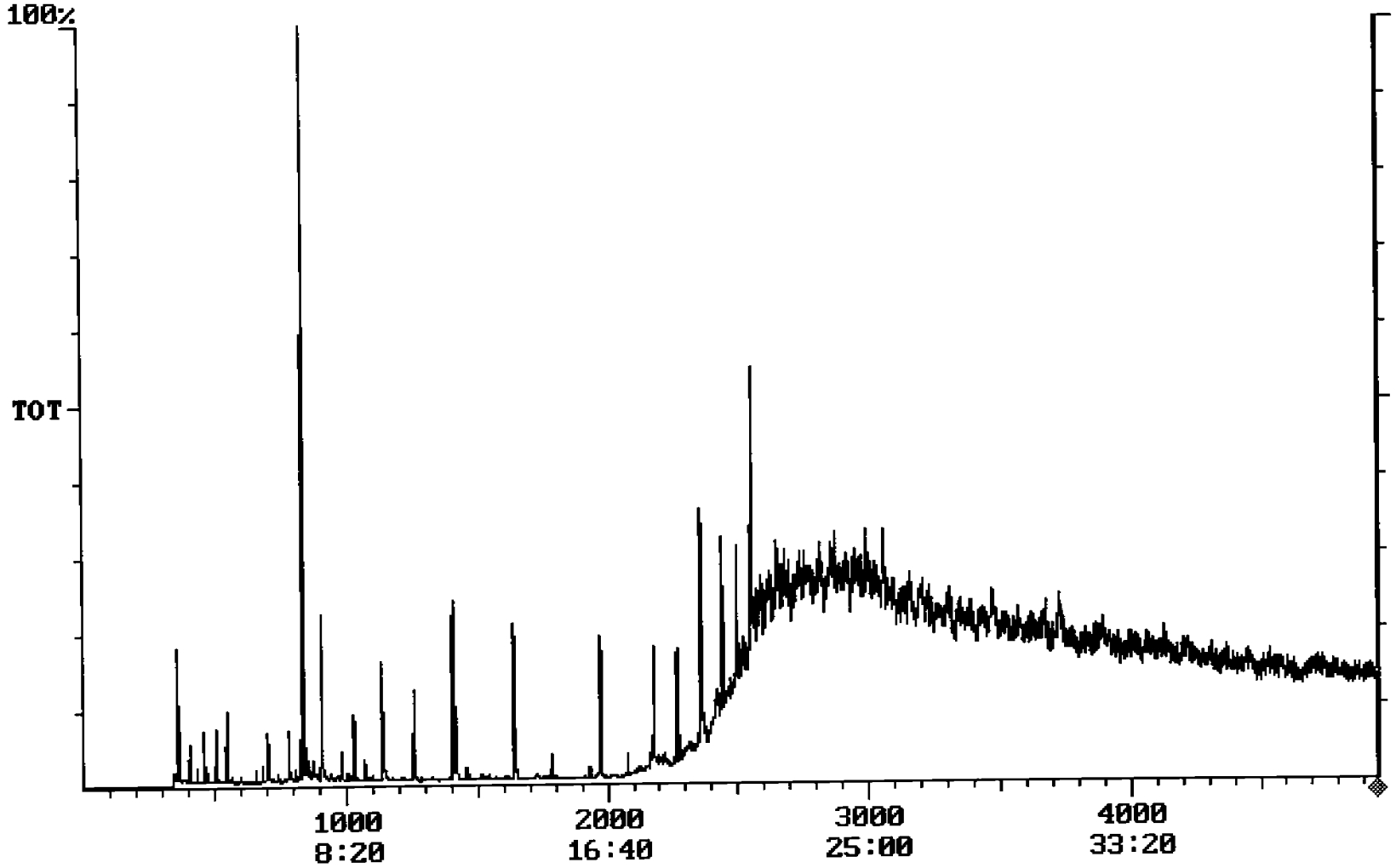
Chromatogram Plot C:\SATURN\DATA\305053 Date: 05/21/02 14:49:11
Comment: INSTRUMENT 133
Scan: 4943 Seg: 1 Group: 0 Retention: 41:12 RIC: 2177110 Masses: 41-387
Plotted: 1 to 4943 Range: 1 to 4943 100% = 15706867



Operator ID: JMK
Output File: 305053.1B2
Data File: 305053.MS
Name: 305053
Sample:

Quant Time: 05/21/02 15:37
Injected at: 05/21/02 14:49
Dilution Factor: 1.00
Instrument ID: 133

305 → 1m 1
9 < 2 SD 1:k

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1257	152	1382932	5.00	ng/ul	990	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	4778571	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.15	2178	162	2845603	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4058759	5.00	ng/ul	989	1.000
5)	*IS:D12-Chrysene	25.47	3057	240	3651730	5.00	ng/ul	636	1.000
6)	*IS:D12-Perylene	31.06	3728	264	4594915	5.00	ng/ul	843	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	4813244	11.84	ng/ul	999	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	6006703	12.88	ng/ul	775	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	3613712	13.54	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	887454	6.49	NG/UL	990	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	5161265	6.16	ng/ul	973	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	4872395	7.32	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.27	2553	230	4548942	7.93	ng/ul	998	0.786
14)	Pyridine	5.41	649	79	0	0.00	ng/ul	0	1.146
15)	Phenol	0.00	1143	94	0	Not Found	ng/ul	271	0.000
16)	Aniline	9.74	1169	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	9.89	1187	92	0	0.00	ng/ul	227	0.833
18)	2-Chlorophenol	10.00	1200	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.36	1243	146	7158	0.02	ng/ul	900	1.660
20)	1,4-Dichlorobenzene	10.52	1263	146	1981	0.00	ng/ul	314	1.616
21)	Benzyl Alcohol	10.72	1287	108	4173	0.03	ng/ul	819	0.554
22)	1,2-Dichlorobenzene	10.89	1307	146	6621	0.02	ng/ul	824	1.498
23)	2-Methylphenol	0.00	1316	108	0	Not Found	ng/ul	116	0.000
24)	Bis(2-Chloroisopropyl)Ether	11.28	1354	45	626	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.28	1353	108	348	0.00	ng/ul	734	1.246
26)	N-Nitrosodi-N-Propylamine	11.36	1363	70	539	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.80	1416	119	0	0.00	ng/ul	948	0.605
28)	Nitrobenzene	11.84	1421	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	0.00	1495	82	0	Not Found	ng/ul	429	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	461	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305053.1B2
Data File: 305053.MS
Name: 305053
Sample:

Quant Time: 05/21/02 15:37
Injected at: 05/21/02 14:49
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	523	0.000	
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	885	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	568	0.000	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	155	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	744	0.000	
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	393	0.000	
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	518	0.000	
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	272	0.000	
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000	
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	991	0.000	
41)	2-Methylnaphthalene	15.51	1861	142	8713	0.015	ng/ul	919	0.639	0.000526
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	274	0.000	
43)	2,4,6-Trichlorophenol	0.00	1950	196	0	Not Found	ng/ul	194	0.000	
44)	2,4,5-Trichlorophenol	0.00	1961	196	0	Not Found	ng/ul	130	0.000	
45)	2-Chloronapthalene	16.87	2025	162	0	0.00	ng/ul	0	1.302	
46)	2-Nitroaniline	17.06	2047	138	480	0.00	ng/ul	593	0.409	
47)	Dimethyl Phthalate	17.45	2094	163	19165	0.02	ng/ul	868	1.919	
48)	2,6-Dinitrotoluene	17.63	2116	165	0	0.00	ng/ul	0	0.351	
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	678	0.000	
50)	3-Nitroaniline	18.04	2165	138	0	0.00	ng/ul	0	0.338	
51)	Acenaphthene	18.27	2192	152	0	0.00	ng/ul	133	1.500	
52)	2,4-Dinitrophenol	18.24	2189	184	0	0.00	ng/ul	675	0.060	
53)	4-Nitrophenol	18.40	2208	65	0	0.00	ng/ul	0	0.119	
54)	Dibenzofuran	18.62	2234	168	0	0.00	ng/ul	0	1.772	
55)	2,4-Dinitrotoluene	18.59	2231	165	0	0.00	ng/ul	0	0.547	
56)	Benzo(b)Fluoranthene	29.29	3515	252	0	0.00	ng/ul	324	1.096	
57)	Diethyl Phthalate	18.92	2270	149	819089	0.66	ng/ul	983	2.186	0.923
58)	Fluorene	19.24	2309	166	16772	0.03	ng/ul	452	1.161	0.00291
59)	4-Chlorophenyl Phenyl Ether	19.10	2292	204	1767	0.00	ng/ul	343	0.783	
60)	4-Nitroaniline	19.22	2307	108	0	0.00	ng/ul	346	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305053.1B2
Data File: 305053.MS
Name: 305053
Sample:

Quant Time: 05/21/02 15:37
Injected at: 05/21/02 14:49
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	151	0.000	
62)	N-Nitrosodiphenylamine	19.43	2332	169	0	0.00	ng/ul	0	0.509	
63)	1,2-Diphenylhydrazine	0.00	2340	77	0	Not Found	ng/ul	752	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	0	0.000	
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	69	0.000	
66)	Pentachlorophenol	0.00	2460	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.84	2501	178	116128	0.13	ng/ul	769	1.076	0.0047
68)	Anthracene	20.88	2506	178	18270	0.02	ng/ul	497	1.183	
69)	Carbazole	21.12	2535	167	0	0.00	ng/ul	0	1.075	
70)	Di-n-Butyl Phthalate	21.46	2575	149	1852537	1.15	ng/ul	948	1.988	0.040
71)	Fluoranthene	22.57	2709	202	42175	0.05	ng/ul	553	1.113	
72)	Benzidine	0.00	2727	184	0	Not Found	ng/ul	244	0.000	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	83	0.000	
74)	Butyl Benzyl Phthalate	23.79	2855	149	133626	0.18	ng/ul	502	1.013	0.0064
75)	3,3'-Dichlorobenzidine	0.00	3030	252	0	Not Found	ng/ul	277	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.95	2994	149	3008108	2.52	ng/ul	862	1.633	0.069
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	271	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	52	0.000	
79)	Di-n-Octylphthalate	26.86	3223	149	77916	0.07	ng/ul	680	1.619	0.0023
80)	Benzo(k)Fluoranthene	0.00	3537	252	0	Not Found	ng/ul	49	0.000	
81)	Benzo(a)Pyrene	0.00	3719	252	0	Not Found	ng/ul	126	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4553	276	0	Not Found	ng/ul	35	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4560	278	0	Not Found	ng/ul	36	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4819	276	0	Not Found	ng/ul	125	0.000	
85)	N-Nitrosodimethylamine	5.27	633	73	771	0.01	ng/ul	151	0.325	
86)	2,3,4,6-tetrachlorophenol	18.96	2276	232	1277	0.01	ng/ul	313	0.433	
87)	2,3-Dinitrotoluene	0.00	2194	165	0	Not Found	ng/ul	483	0.000	
88)	2,4-Diaminotoluene	16.57	1988	121	7573	0.04	ng/ul	658	0.184	
89)	2-Chloroaniline	12.58	1510	127	342	0.00	ng/ul	515	0.613	
90)	5-Nitro-o-toluidine	19.10	2292	152	5231	0.02	ng/ul	610	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305053.1B2
Data File: 305053.MS
Name: 305053
Sample:

Quant Time: 05/21/02 15:37
Injected at: 05/21/02 14:49
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

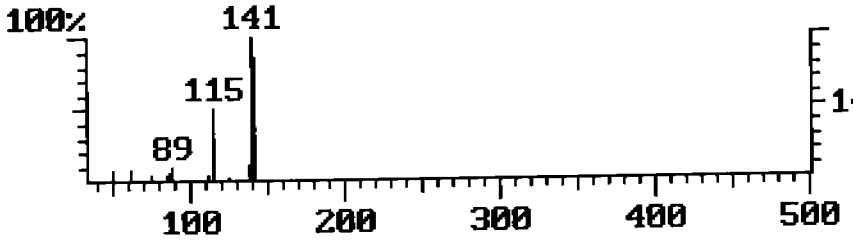
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.70	2244	143	0	0.00	ng/ul	0	0.867
92)	Benzaldehyde	9.53	1144	105	0	0.00	ng/ul	382	2.400
93)	Acetophenone	11.41	1369	105	18678	0.02	ng/ul	886	0.909
94)	Caprolactam	14.65	1758	85	145237	1.82	ng/ul	872	0.084
95)	Biphenyl	16.72	2007	154	16533	0.02	ng/ul	892	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	94	0.000

* Compound is ISTD

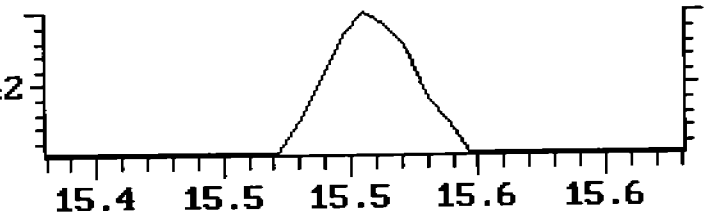
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 27 of 61
Data File: 305053 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 2:49 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

2-Methylnaphthalene SCAN#: 1861
AGC: 1002

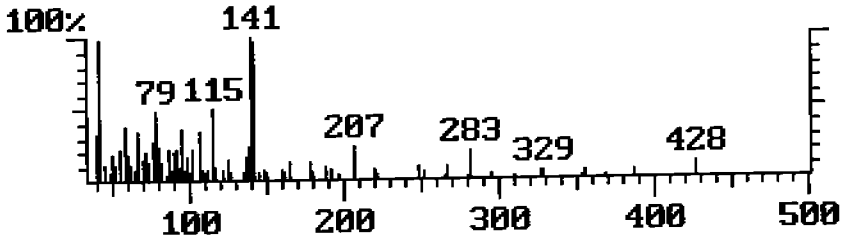
REFERENCE STANDARD SPECTRUM



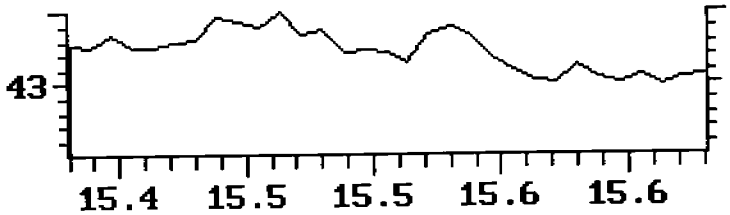
MASS 142 PLOT



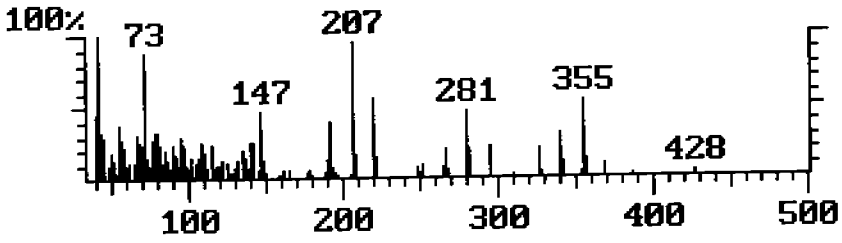
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



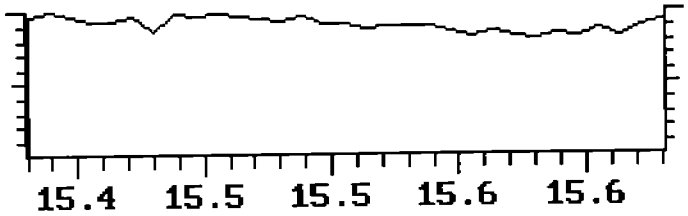
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

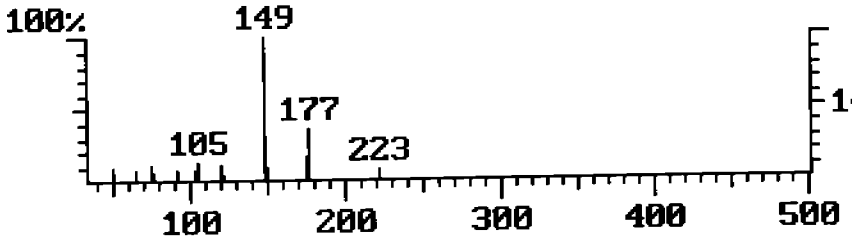


Approved_____ Date_____

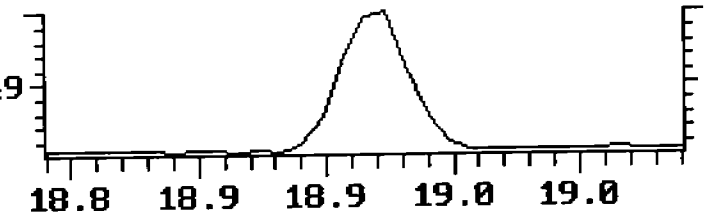
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 61
Data File: 305053 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 2:49 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2270
AGC: 65

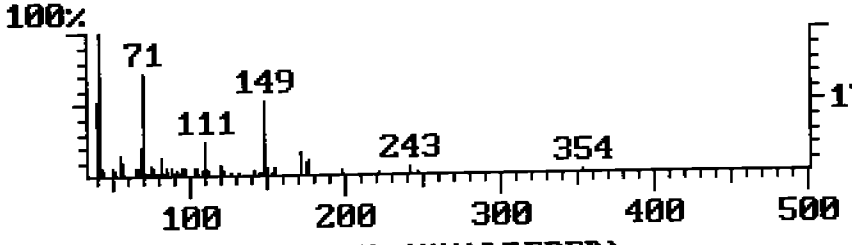
REFERENCE STANDARD SPECTRUM



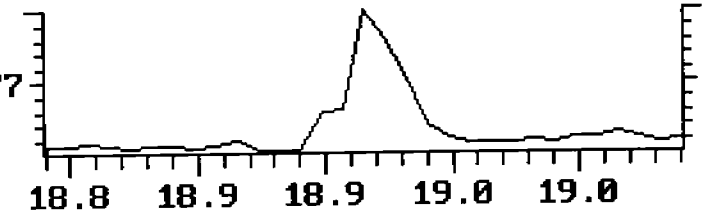
MASS 149 PLOT



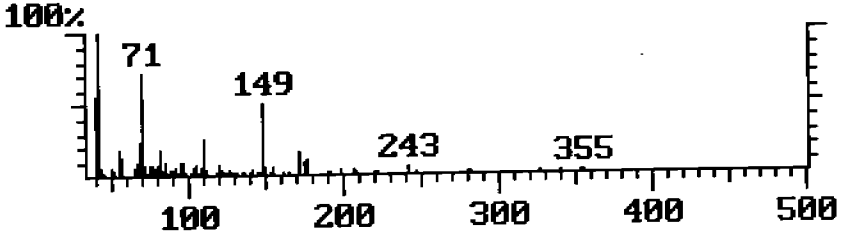
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



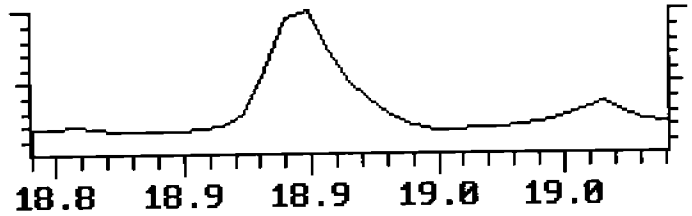
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



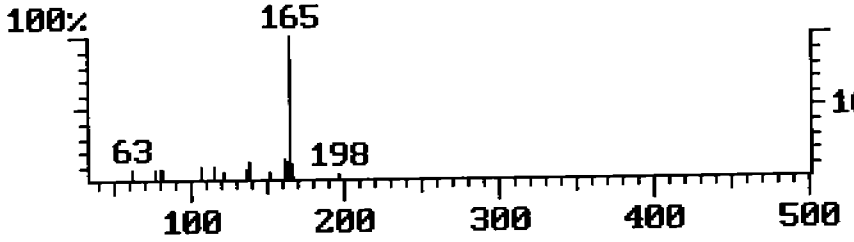
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 40 of 61
Data File: 305053 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 2:49 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

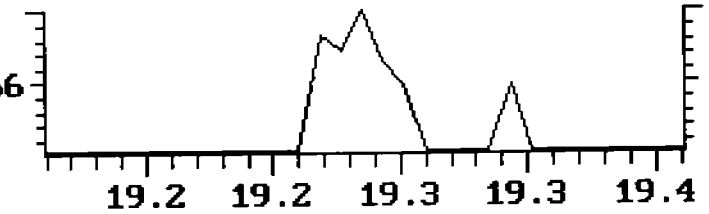
Fluorene

SCAN#: 2309
AGC: 169

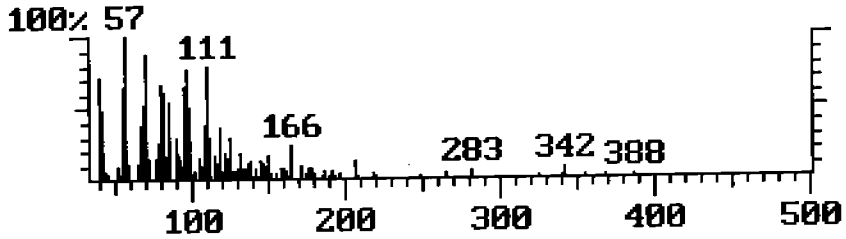
REFERENCE STANDARD SPECTRUM



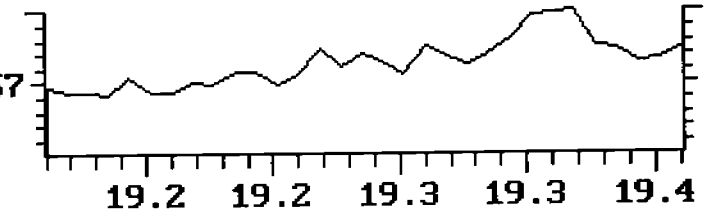
MASS 166 PLOT



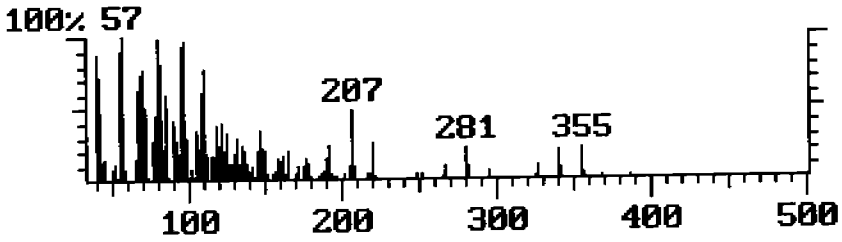
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



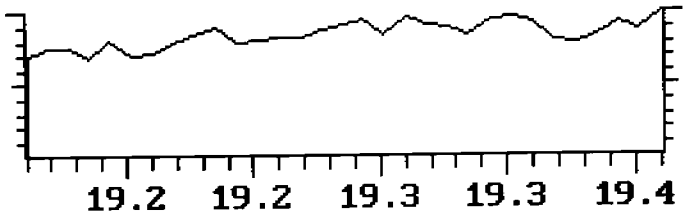
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



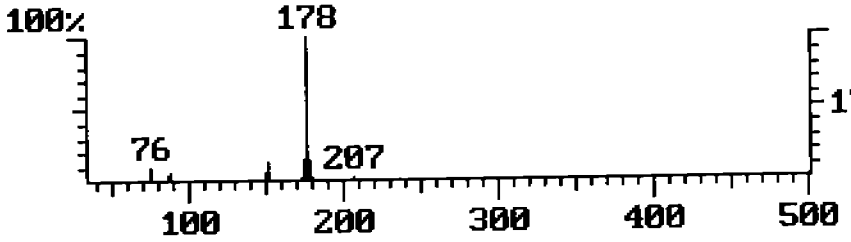
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 61
Data File: 305053 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 2:49 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

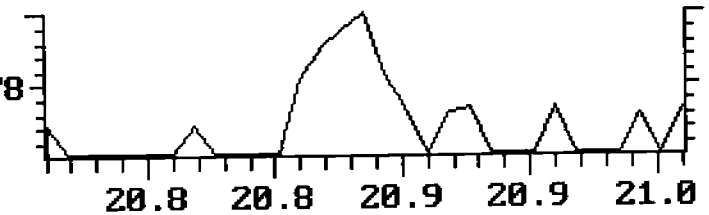
Phenanthrene

SCAN#: 2501
AGC: 51

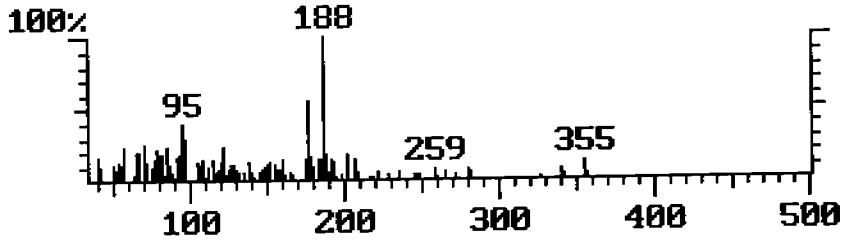
REFERENCE STANDARD SPECTRUM



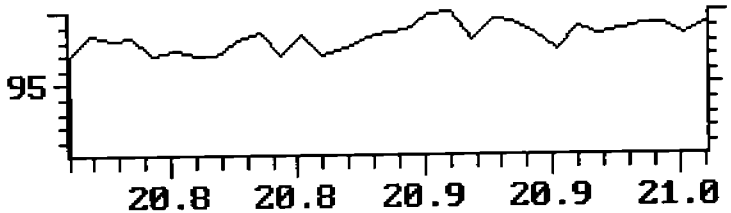
MASS 178 PLOT



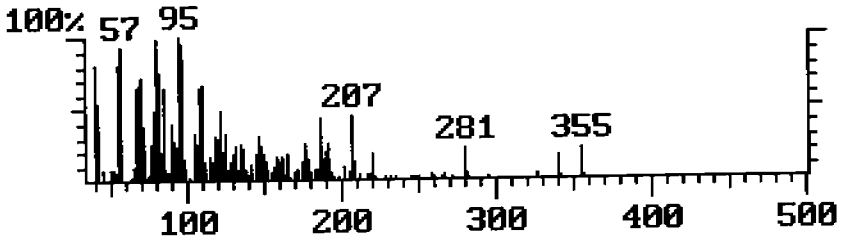
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



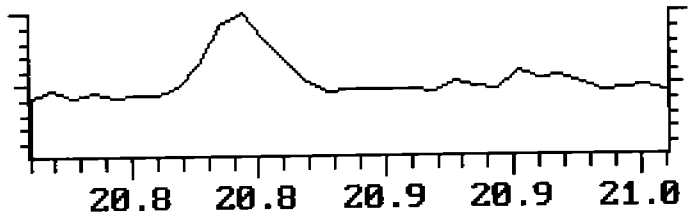
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

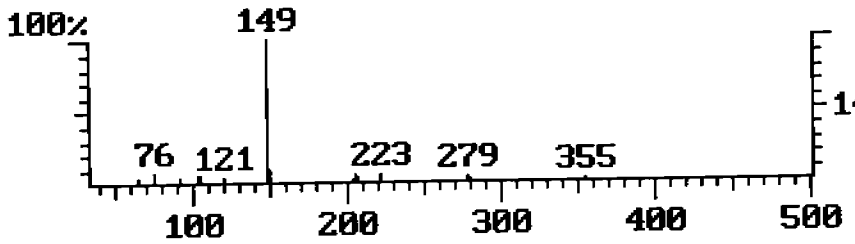


Approved_____ Date_____

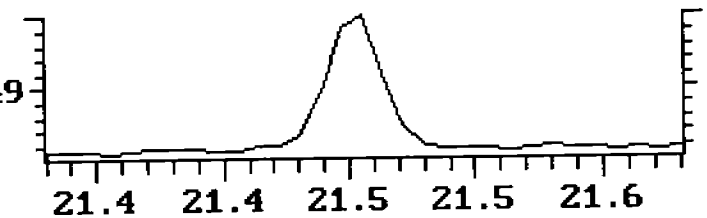
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 61
Data File: 305053 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 2:49 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2575
AGC: 29

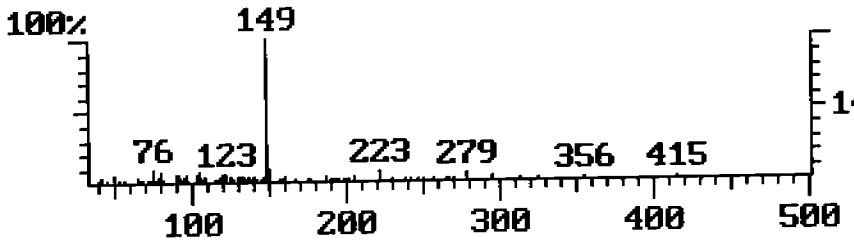
REFERENCE STANDARD SPECTRUM



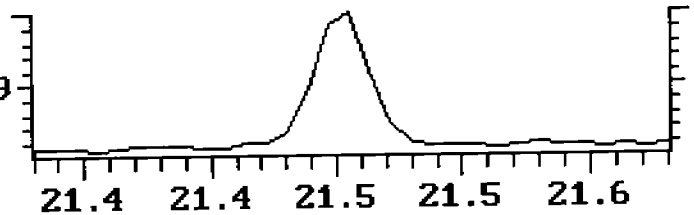
MASS 149 PLOT



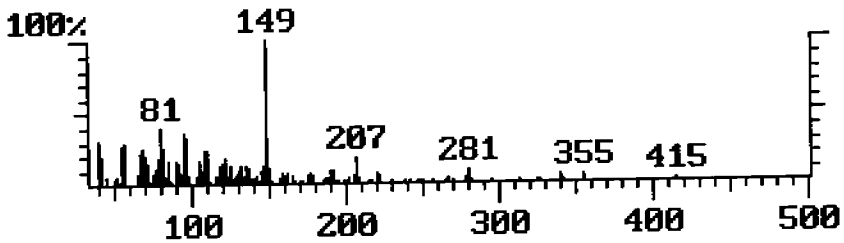
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



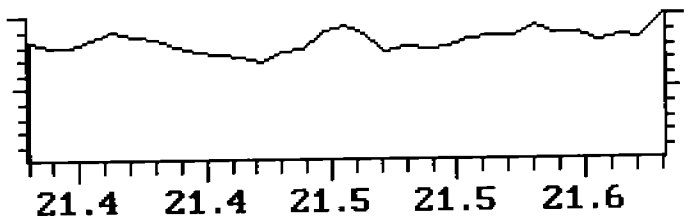
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



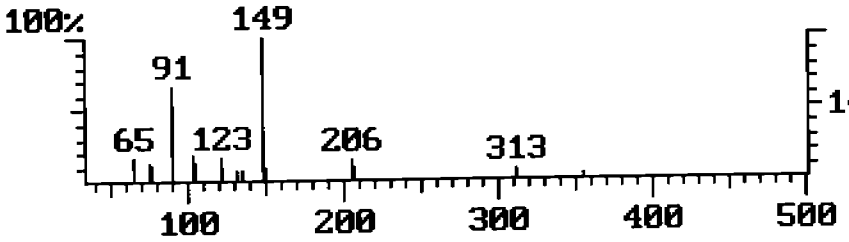
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 61
Data File: 305053 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 2:49 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

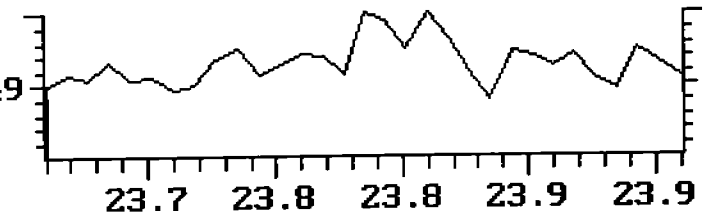
Butyl Benzyl Phthalate

SCAN#: 2855
AGC: 24

REFERENCE STANDARD SPECTRUM

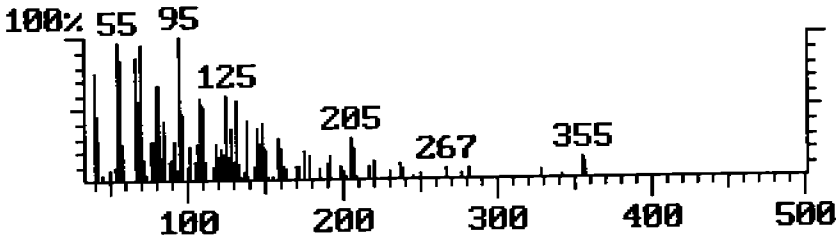


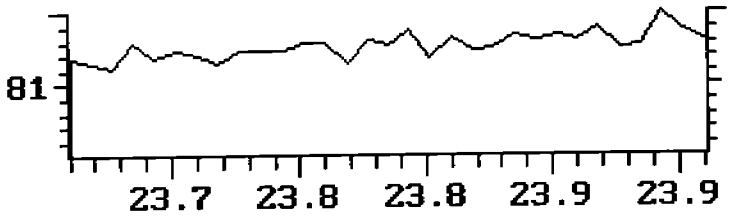
MASS 149 PLOT



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

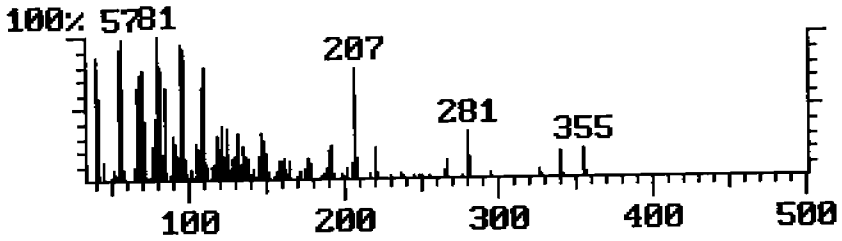
BASE PEAK MASS PLOT

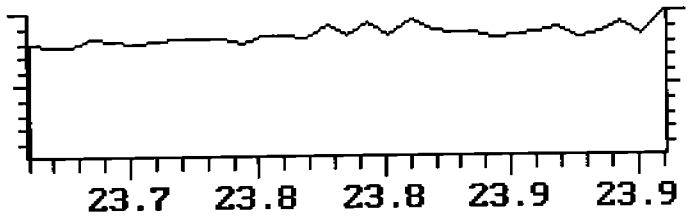




SAMPLE SPECTRUM (UNALTERED)

TOTAL ION PLOT



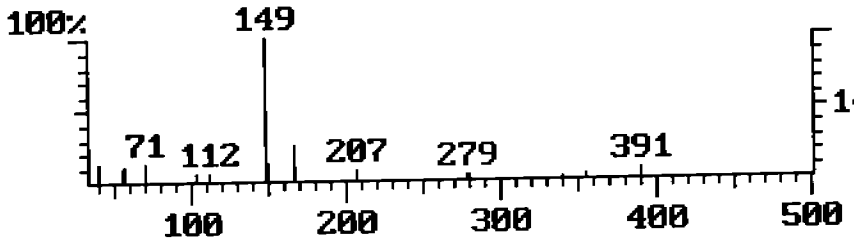


Approved _____ Date _____

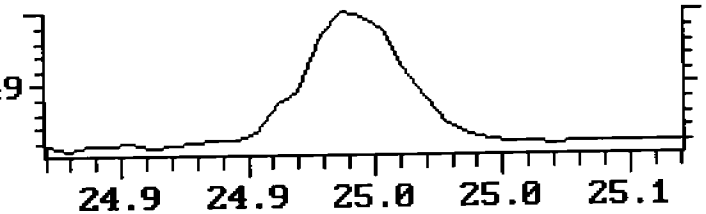
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 61
Data File: 305053 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 2:49 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2994
AGC: 23

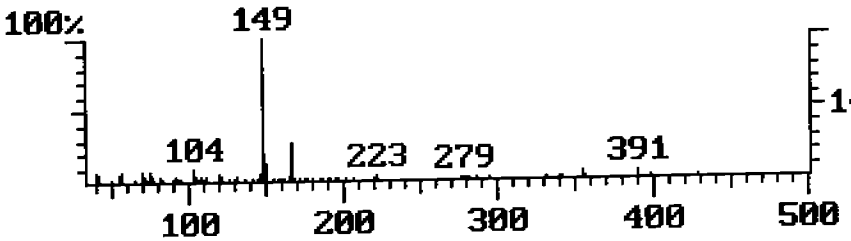
REFERENCE STANDARD SPECTRUM



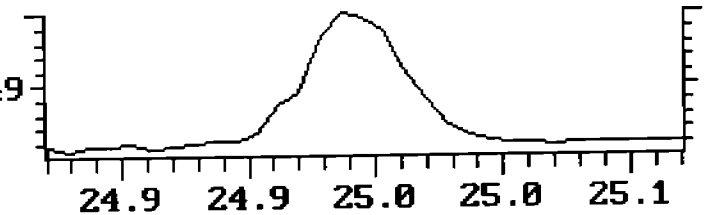
MASS 149 PLOT



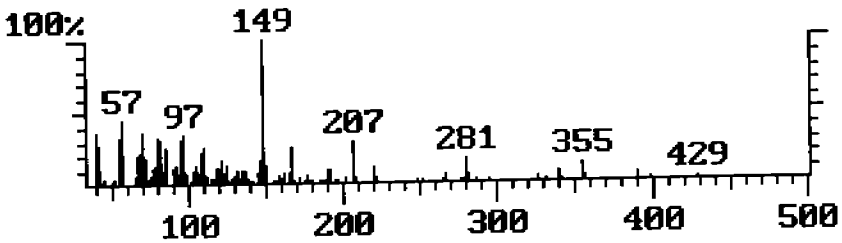
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



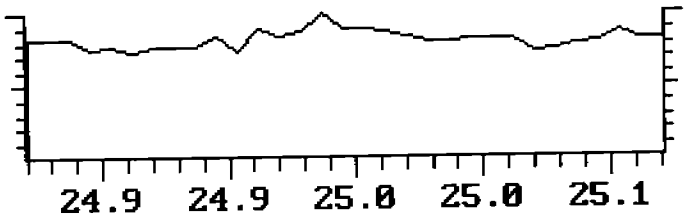
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

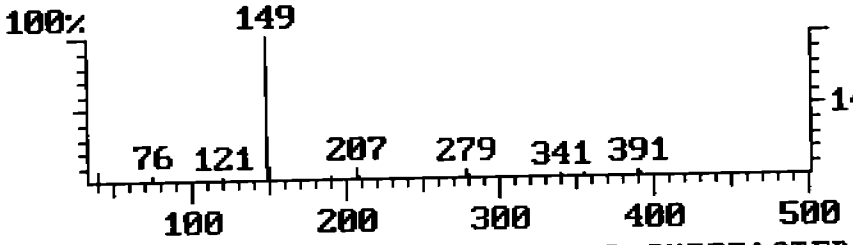


Approved _____ Date _____

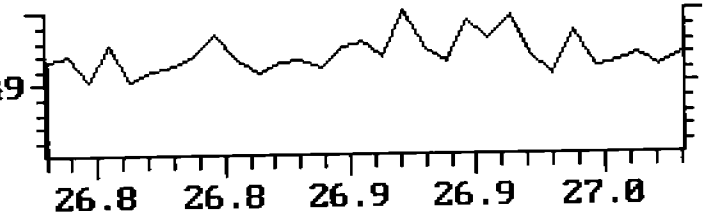
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 51 of 61
Data File: 305053 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 2:49 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3223
AGC: 32

REFERENCE STANDARD SPECTRUM

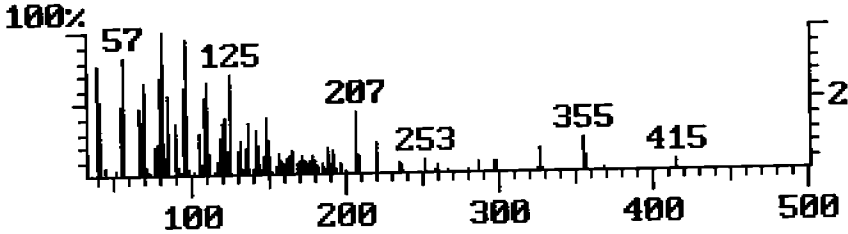


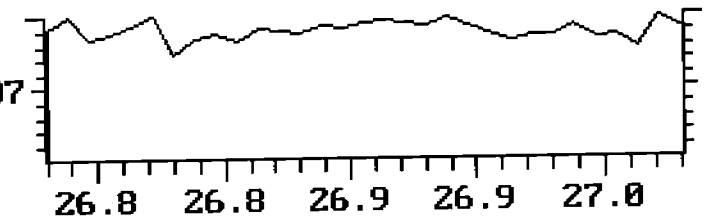
MASS 149 PLOT



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

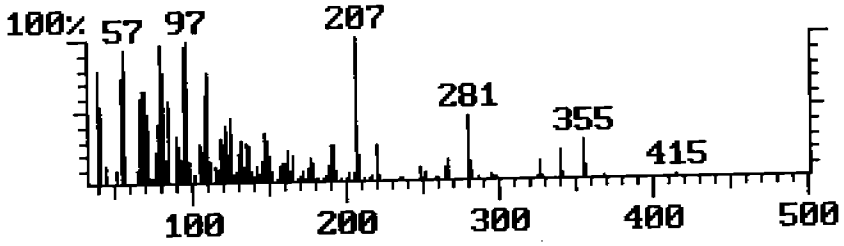
BASE PEAK MASS PLOT

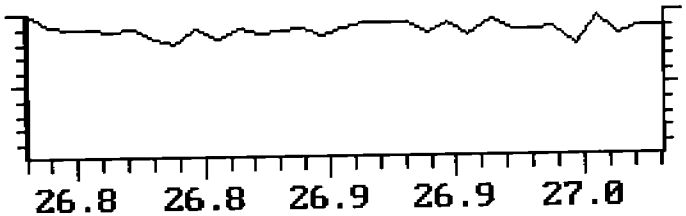




SAMPLE SPECTRUM (UNALTERED)

TOTAL ION PLOT





Approved _____ Date _____

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
6FNP01003

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:05
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305054
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	**0.001**	J	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
6FNP01003

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:05
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305054
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.006**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.031**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.003**	J	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.012**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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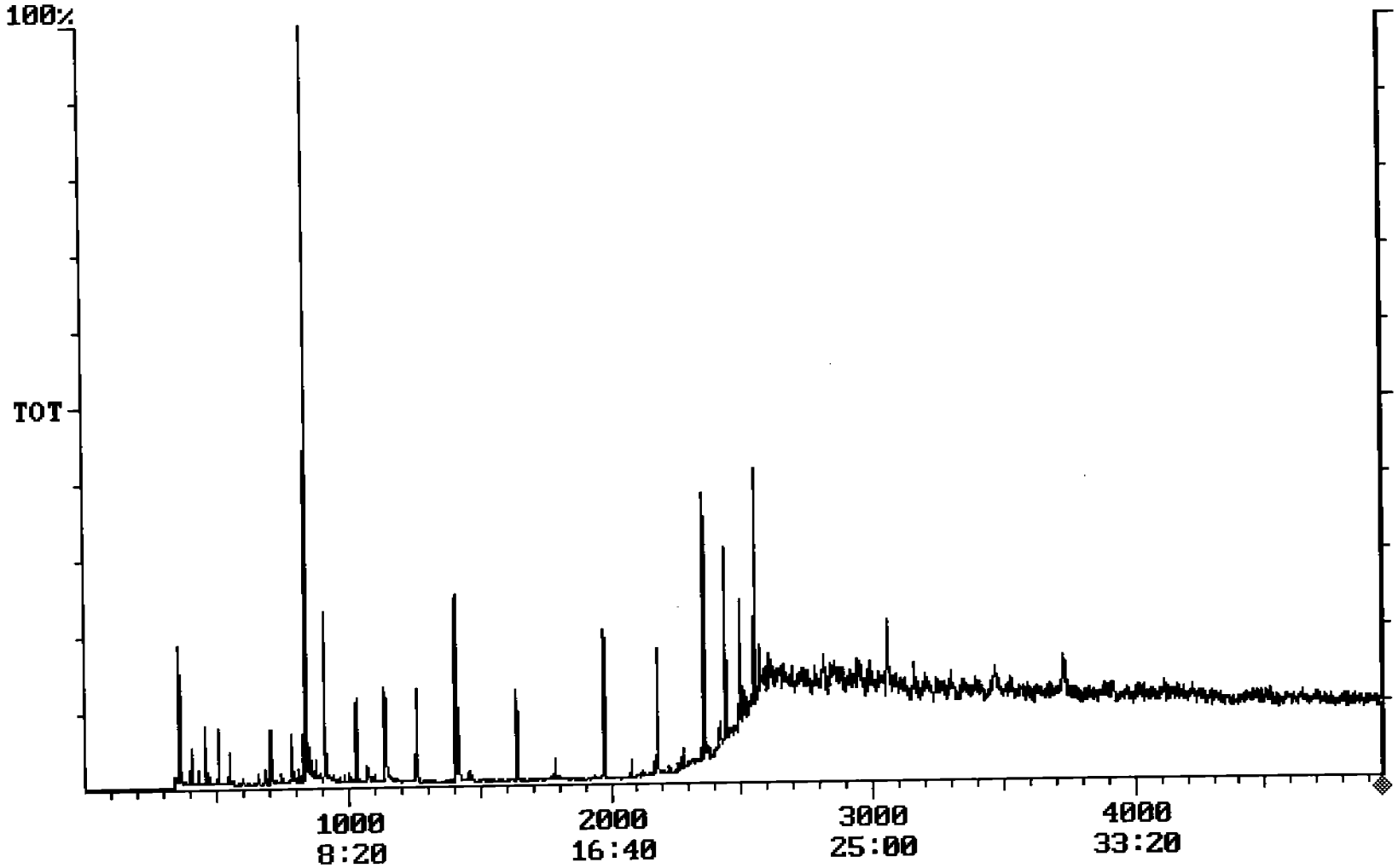
0003399

Chromatogram Plot C:\SATURN\DATA\305054 Date: 05/21/02 15:40:00
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1546496 Masses: 40-399
Plotted: 1 to 4944 Range: 1 to 4944 100% = 15999306



Operator ID: JMK
Output File: 305054.1B2
Data File: 305054.MS
Name: 305054
Sample:

Quant Time: 05/21/02 16:39
Injected at: 05/21/02 15:40
Dilution Factor: 1.00
Instrument ID: 133

305 → 1m l
9L2 solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1304472	5.00	ng/ul	995	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	4554665	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	3012916	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4344652	5.00	ng/ul	985	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	4070262	5.00	ng/ul	572	1.000
6)	*IS:D12-Perylene	31.09	3731	264	4524316	5.00	ng/ul	833	1.000
7)	ACSUR:2-Fluorophenol	7.57	909	112	5339846	13.92	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1137	99	6548782	14.89	ng/ul	819	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	3793337	13.43	ng/ul	997	0.469
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	1019334	7.82	NG/UL	987	0.144
11)	BNSUR:Decafluorobiphenyl	11.73	1407	334	5572534	6.98	ng/ul	973	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	5059855	7.18	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2553	230	4741826	7.46	ng/ul	994	0.782
14)	Pyridine	5.44	653	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.43	1131	94	0	0.00	ng/ul	358	1.572
16)	Aniline	9.86	1183	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	9.85	1182	92	0	0.00	ng/ul	0	0.833
18)	2-Chlorophenol	10.03	1204	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.37	1244	146	9828	0.02	ng/ul	865	1.660
20)	1,4-Dichlorobenzene	10.54	1265	146	3973	0.01	ng/ul	355	1.616
21)	Benzyl Alcohol	10.74	1289	108	326	0.00	ng/ul	580	0.554
22)	1,2-Dichlorobenzene	10.89	1307	146	9568	0.02	ng/ul	912	1.498
23)	2-Methylphenol	10.97	1317	108	0	0.00	ng/ul	400	1.299
24)	Bis(2-Chloroisopropyl)Ether	10.88	1306	45	11	0.00	ng/ul	93	1.122
25)	4-Methylphenol	0.00	1359	108	0	Not Found	ng/ul	601	0.000
26)	N-Nitrosodi-N-Propylamine	0.00	1366	70	0	Not Found	ng/ul	613	0.000
27)	Hexachloroethane	0.00	1412	119	0	Not Found	ng/ul	958	0.000
28)	Nitrobenzene	0.00	1426	77	0	Not Found	ng/ul	429	0.000
29)	Isophorone	0.00	1496	82	0	Not Found	ng/ul	638	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	430	0.000

(0.00087)

* Compound is ISTD

Operator ID: JMK
Output File: 305054.1B2
Data File: 305054.MS
Name: 305054
Sample:

Quant Time: 05/21/02 16:39
Injected at: 05/21/02 15:40
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	447	0.000
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	411	0.000
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	230	0.000
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	18	0.000
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	812	0.000
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	338	0.000
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	705	0.000
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	634	0.000
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	993	0.000
41)	2-Methylnaphthalene	15.52	1862	142	2142	0.00	ng/ul	745	0.639
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	299	0.000
43)	2,4,6-Trichlorophenol	16.24	1949	196	991	0.00	ng/ul	655	0.450
44)	2,4,5-Trichlorophenol	16.33	1960	196	0	0.00	ng/ul	0	0.486
45)	2-Chloronapthalene	16.85	2022	162	0	0.00	ng/ul	10	1.302
46)	2-Nitroaniline	17.03	2044	138	0	0.00	ng/ul	0	0.409
47)	Dimethyl Phthalate	17.45	2094	163	19529	0.02	ng/ul	961	1.919
48)	2,6-Dinitrotoluene	17.58	2110	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	17.85	2142	152	3015	0.00	ng/ul	730	1.715
50)	3-Nitroaniline	17.99	2159	138	0	0.00	ng/ul	0	0.338
51)	Acenaphthene	18.23	2188	152	0	0.00	ng/ul	0	1.500
52)	2,4-Dinitrophenol	18.27	2192	184	0	0.00	ng/ul	754	0.060
53)	4-Nitrophenol	18.27	2192	65	0	0.00	ng/ul	0	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	217	0.000
55)	2,4-Dinitrotoluene	18.56	2227	165	0	0.00	ng/ul	0	0.547
56)	Benzo(b)Fluoranthene	0.00	3523	252	0	Not Found	ng/ul	122	0.000
57)	Diethyl Phthalate	18.92	2271	149	217772	0.17	ng/ul	986	2.186
58)	Fluorene	19.27	2312	166	0	0.00	ng/ul	0	1.161
59)	4-Chlorophenyl Phenyl Ether	19.21	2305	204	1132	0.00	ng/ul	464	0.783
60)	4-Nitroaniline	19.16	2299	108	0	0.00	ng/ul	0	0.736

0.0056

* Compound is ISTD

Operator ID: JMK
Output File: 305054.1B2
Data File: 305054.MS
Name: 305054
Sample:

Quant Time: 05/21/02 16:39
Injected at: 05/21/02 15:40
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.27	2313	198	0	0.00	ng/ul	0	0.116	
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	172	0.000	
63)	1,2-Diphenylhydrazine	19.50	2340	77	12670	0.01	ng/ul	758	1.257	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	370	0.000	
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	108	0.000	
66)	Pentachlorophenol	0.00	2461	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.84	2501	178	21039	0.023	ng/ul	712	1.076	0.00277
68)	Anthracene	20.89	2507	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	21.06	2528	167	0	0.00	ng/ul	0	1.075	
70)	Di-n-Butyl Phthalate	21.46	2575	149	1576419	0.90	ng/ul	962	2.011	0.081
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	112	0.000	
72)	Benzidine	22.83	2739	184	0	0.00	ng/ul	302	0.403	
73)	Pyrene	22.98	2758	202	6695	0.01	ng/ul	582	1.244	
74)	Butyl Benzyl Phthalate	23.81	2857	149	67095	0.082	ng/ul	577	1.013	0.0024
75)	3,3'-Dichlorobenzidine	0.00	3030	252	0	Not Found	ng/ul	253	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.94	2993	149	469385	0.354	ng/ul	660	1.633	0.012
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	247	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	7	0.000	
79)	Di-n-Octylphthalate	26.90	3228	149	33130	0.03	ng/ul	744	1.616	
80)	Benzo(k)Fluoranthene	0.00	3538	252	0	Not Found	ng/ul	156	0.000	
81)	Benzo(a)Pyrene	30.88	3706	252	4794	0.00	ng/ul	579	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4554	276	0	Not Found	ng/ul	2	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4561	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4820	276	0	Not Found	ng/ul	72	0.000	
85)	N-Nitrosodimethylamine	0.00	609	73	0	Not Found	ng/ul	814	0.000	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	41	0.000	
87)	2,3-Dinitrotoluene	18.45	2214	165	812	0.00	ng/ul	504	0.540	
88)	2,4-Diaminotoluene	16.66	1999	121	4963	0.03	ng/ul	739	0.184	
89)	2-Chloroaniline	12.45	1494	127	725	0.00	ng/ul	749	0.613	
90)	5-Nitro-o-toluidine	19.27	2313	152	4795	0.02	ng/ul	576	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305054.1B2
Data File: 305054.MS
Name: 305054
Sample:

Quant Time: 05/21/02 16:39
Injected at: 05/21/02 15:40
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

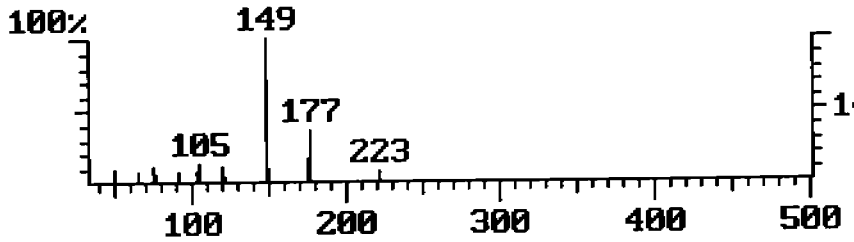
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.68	2242	143	1575	0.00	ng/ul	740	0.867
92)	Benzaldehyde	9.42	1130	105	6152	0.01	ng/ul	675	2.400
93)	Acetophenone	11.41	1369	105	19250	0.02	ng/ul	859	0.909
94)	Caprolactam	14.71	1766	85	66430	0.91	ng/ul	819	0.081
95)	Biphenyl	16.73	2008	154	12052	0.01	ng/ul	912	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	116	0.000

* Compound is ISTD

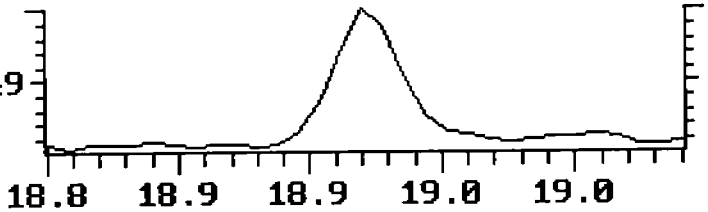
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 62
Data File: 305054 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 3:40 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2271
AGC: 204

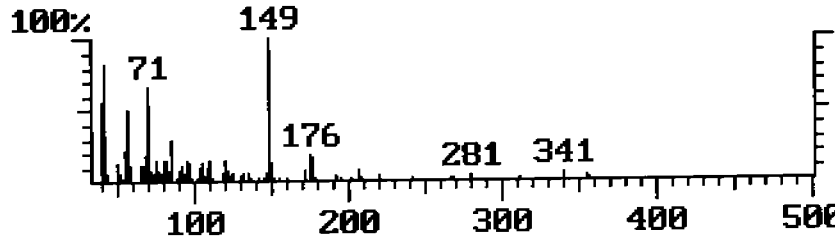
REFERENCE STANDARD SPECTRUM



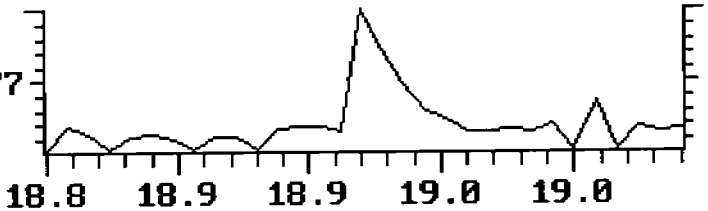
MASS 149 PLOT



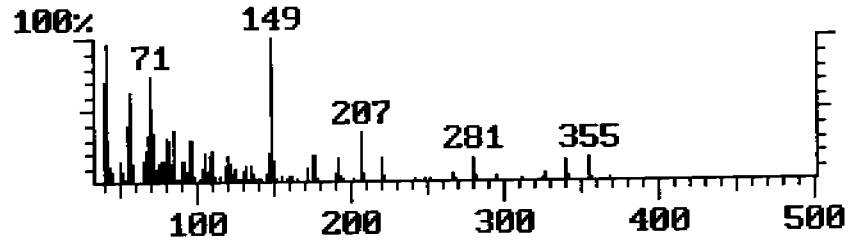
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



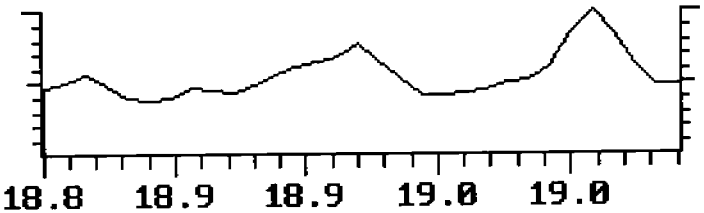
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

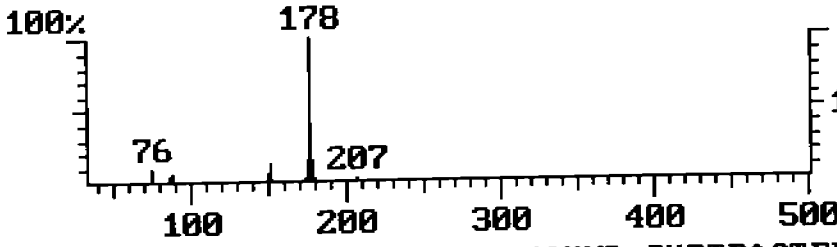


Approved_____ Date_____

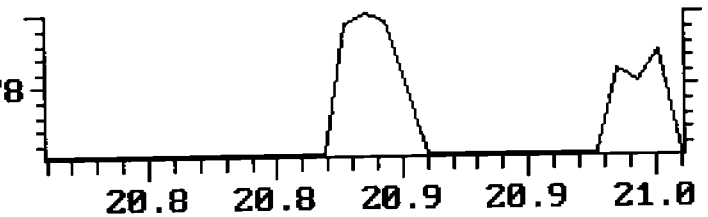
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 62
Data File: 305054 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 3:40 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Phenanthrene SCAN#: 2501
AGC: 93

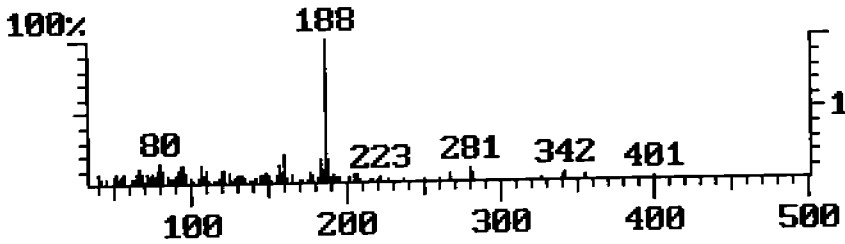
REFERENCE STANDARD SPECTRUM



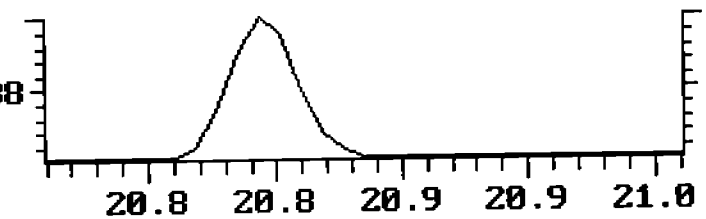
MASS 178 PLOT



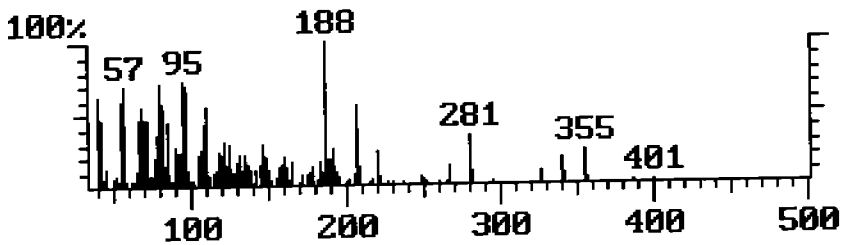
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



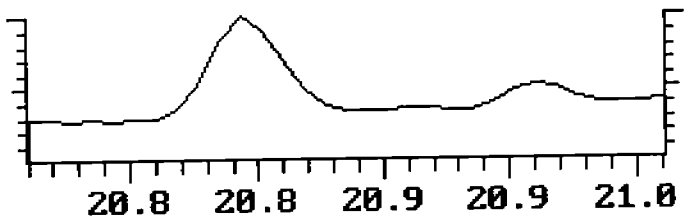
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

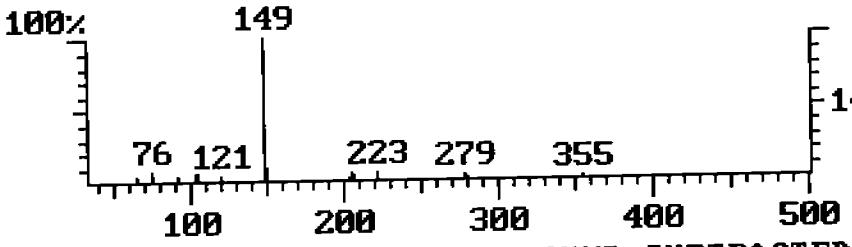


Approved _____ Date _____

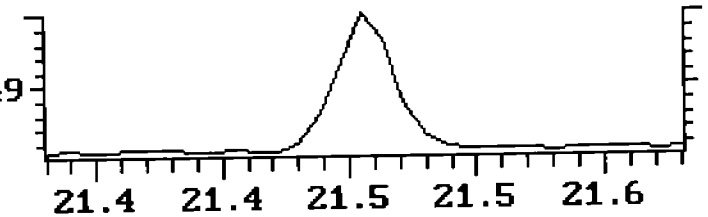
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 62
TRIMATRIX
Data File: 305054 Calibration File: CCC8270
Date: 05/21/02 3:40 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2575
AGC: 43

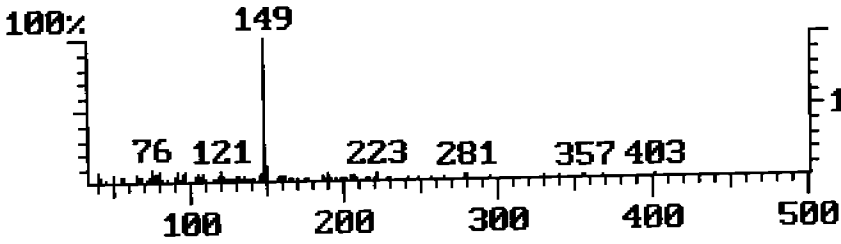
REFERENCE STANDARD SPECTRUM



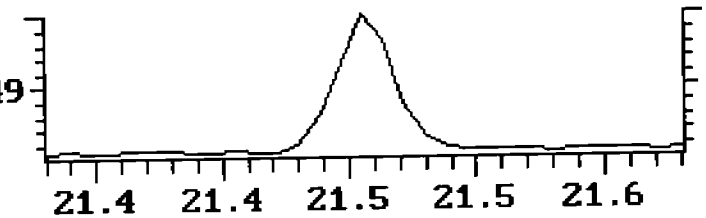
MASS 149 PLOT



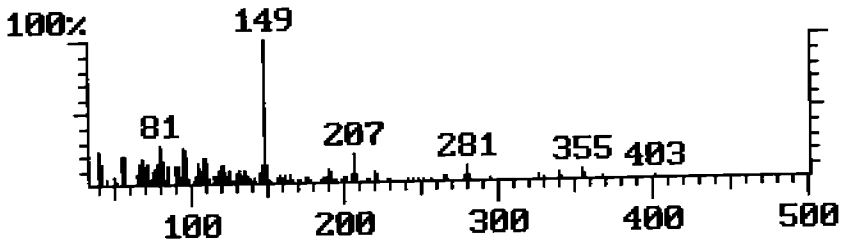
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



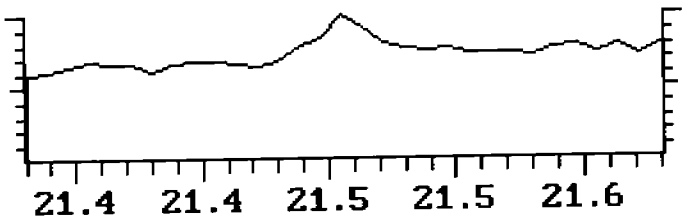
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



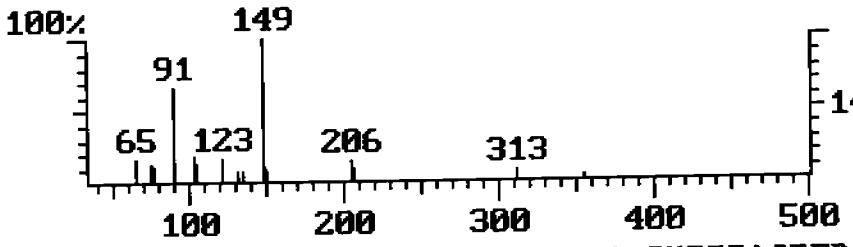
Approved _____ Date _____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 62
Data File: 305054 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 3:40 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

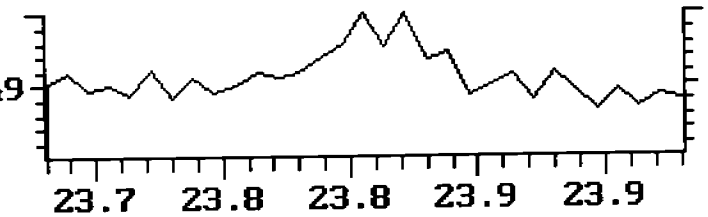
Butyl Benzyl Phthalate

SCAN#: 2857
AGC: 51

REFERENCE STANDARD SPECTRUM

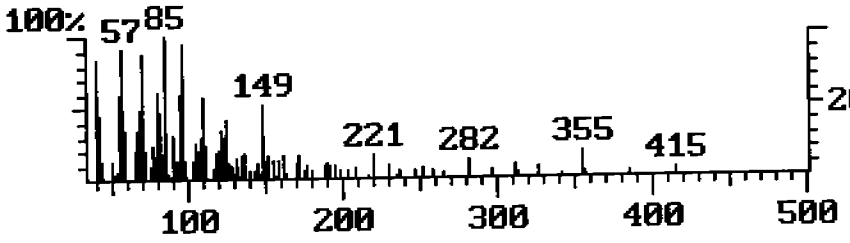


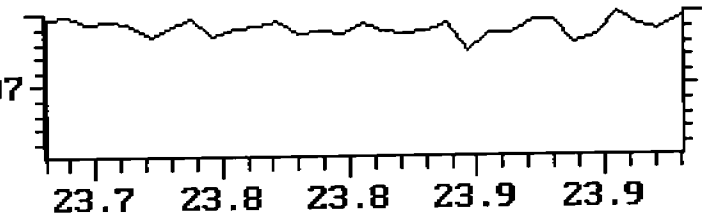
MASS 149 PLOT



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

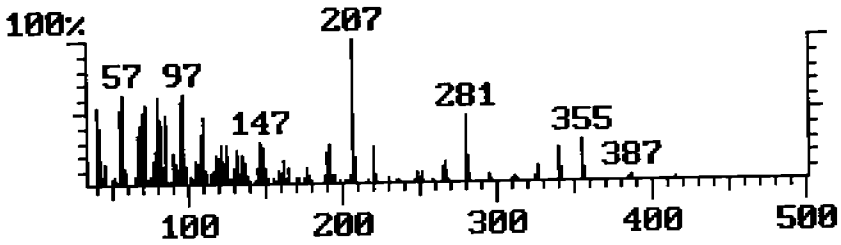
BASE PEAK MASS PLOT

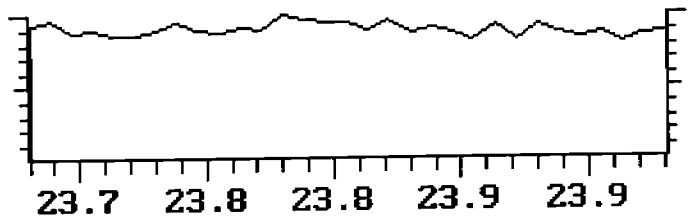




SAMPLE SPECTRUM (UNALTERED)

TOTAL ION PLOT



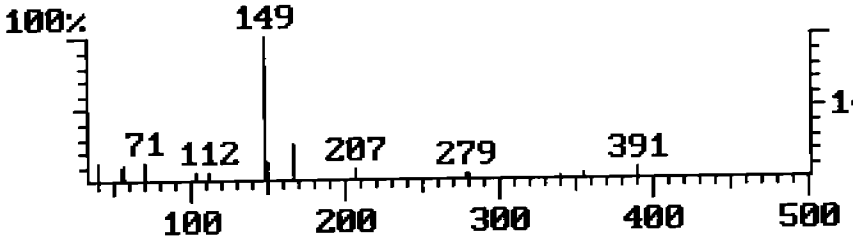


Approved _____ Date _____

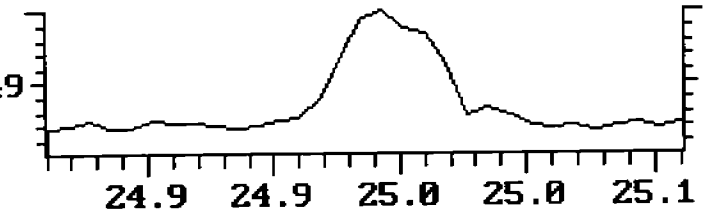
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 51 of 62
Data File: 305054 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 3:40 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2993
AGC: 50

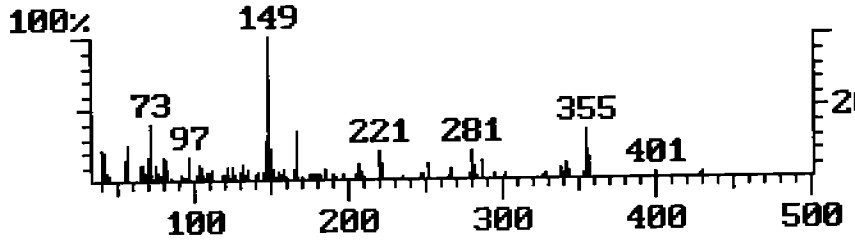
REFERENCE STANDARD SPECTRUM



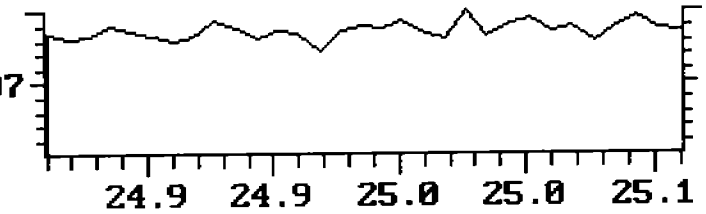
MASS 149 PLOT



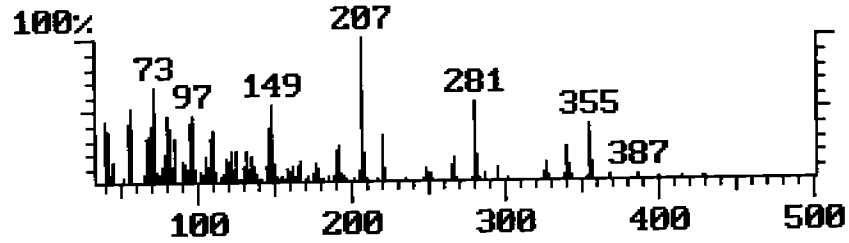
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



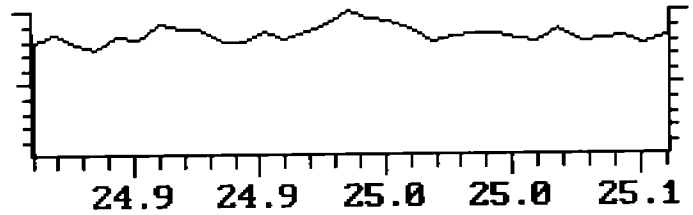
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
6CNS01004

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:07
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305055
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
6CNS01004

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:07
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305055
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.005**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.038**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.003**	J	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.016**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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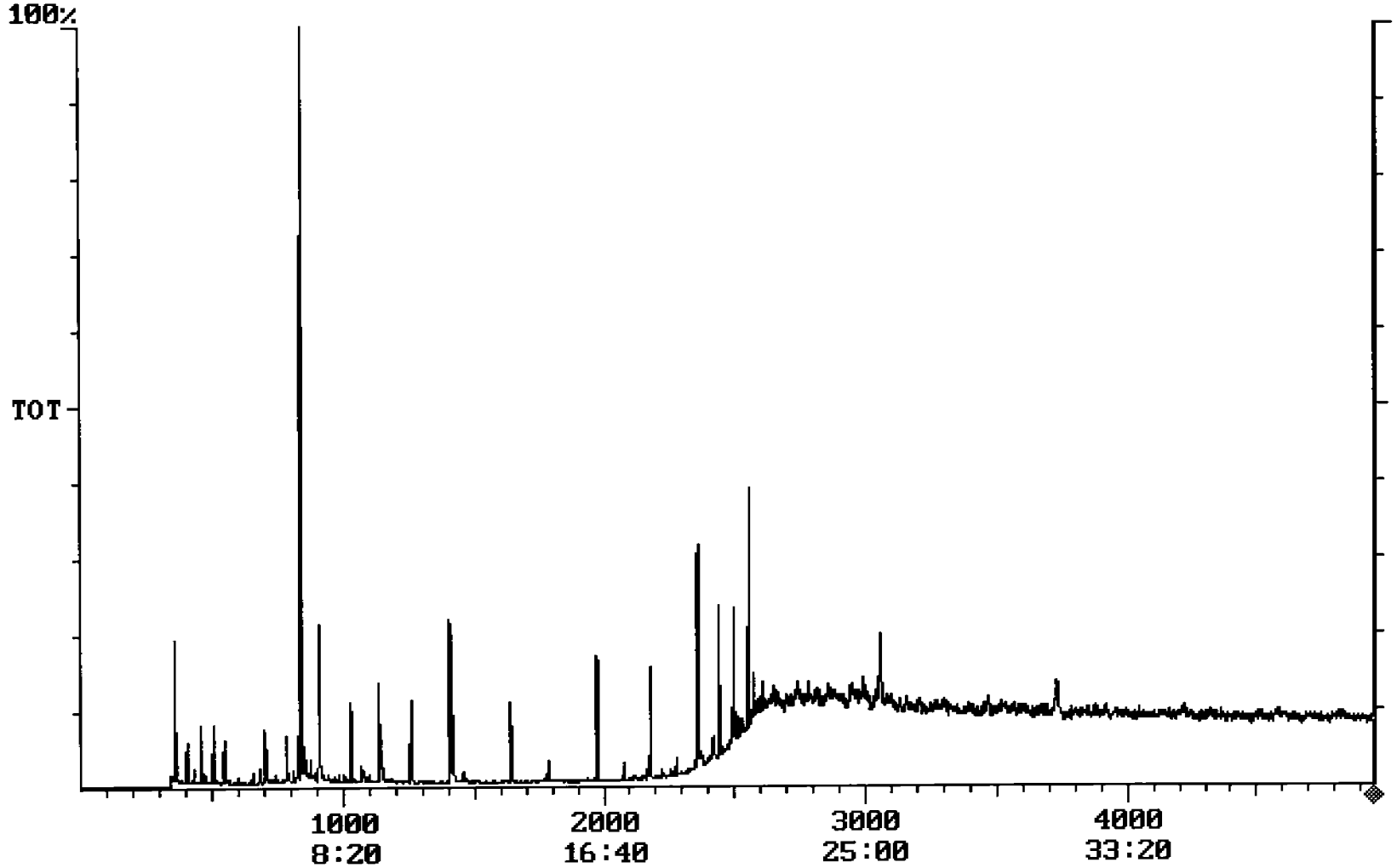
Chromatogram Plot C:\SATURN\DATA\305055 Date: 05/21/02 16:30:27
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1335378 Masses: 41-415
Plotted: 1 to 4944 Range: 1 to 4944 100% = 15689371



QUANT REPORT

Operator ID: JMK
Output File: 305055.1B2
Data File: 305055.MS
Name: 305055
Sample:

Quant Time: 05/21/02 17:39
Injected at: 05/21/02 16:30
Dilution Factor: 1.00
Instrument ID: 133

305 → 1 ml
96% solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1277165	5.00	ng/ul	996	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	4231036	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2700280	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4156608	5.00	ng/ul	993	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	3784022	5.00	ng/ul	666	1.000
6)	*IS:D12-Perylene	31.07	3728	264	4086580	5.00	ng/ul	731	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	4841898	12.89	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	5948884	13.81	ng/ul	839	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	3701699	14.62	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	867860	7.17	NG/UL	988	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	5115602	6.90	ng/ul	972	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	4750378	7.52	ng/ul	998	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4578026	7.72	ng/ul	995	0.784
14)	Pyridine	5.31	637	79	0	0.00	ng/ul	285	1.146
15)	Phenol	9.42	1130	94	0	0.00	ng/ul	496	1.572
16)	Aniline	9.73	1168	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	9.83	1180	92	0	0.00	ng/ul	0	0.833
18)	2-Chlorophenol	9.98	1198	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.37	1244	146	7416	0.02	ng/ul	810	1.660
20)	1,4-Dichlorobenzene	10.52	1262	146	3383	0.01	ng/ul	333	1.616
21)	Benzyl Alcohol	10.76	1291	108	0	0.00	ng/ul	0	0.554
22)	1,2-Dichlorobenzene	10.89	1307	146	7821	0.02	ng/ul	895	1.498
23)	2-Methylphenol	10.87	1304	108	0	0.00	ng/ul	294	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.05	1326	45	597	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.25	1350	108	0	0.00	ng/ul	467	1.246
26)	N-Nitrosodi-N-Propylamine	11.37	1364	70	0	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.81	1417	119	0	0.00	ng/ul	888	0.605
28)	Nitrobenzene	11.83	1420	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	12.48	1498	82	0	0.00	ng/ul	0	0.714
30)	2-Nitrophenol	12.76	1531	109	0	0.00	ng/ul	18	0.286

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 17:39
Output File: 305055.1B2 Injected at: 05/21/02 16:30
Data File: 305055.MS Dilution Factor: 1.00
Name: 305055 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	669	0.000
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	499	0.000
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	352	0.000
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	352	0.000
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	836	0.000
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	662	0.000
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	615	0.000
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	556	0.000
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	987	0.000
41)	2-Methylnaphthalene	15.52	1862	142	5111	0.01	ng/ul	879	0.639
42)	Hexachlorocyclopentadiene	15.92	1911	237	0	0.00	ng/ul	0	0.414
43)	2,4,6-Trichlorophenol	0.00	1950	196	0	Not Found	ng/ul	88	0.000
44)	2,4,5-Trichlorophenol	0.00	1961	196	0	Not Found	ng/ul	64	0.000
45)	2-Chloronapthalene	0.00	2019	162	0	Not Found	ng/ul	658	0.000
46)	2-Nitroaniline	17.00	2040	138	0	0.00	ng/ul	0	0.409
47)	Dimethyl Phthalate	17.46	2095	163	22703	0.02	ng/ul	941	1.919
48)	2,6-Dinitrotoluene	17.62	2115	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	323	0.000
50)	3-Nitroaniline	18.03	2164	138	0	0.00	ng/ul	0	0.338
51)	Acenaphthene	18.23	2187	152	2575	0.00	ng/ul	663	1.500
52)	2,4-Dinitrophenol	18.25	2190	184	0	0.00	ng/ul	740	0.060
53)	4-Nitrophenol	18.23	2188	65	0	0.00	ng/ul	42	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	576	0.000
55)	2,4-Dinitrotoluene	18.56	2228	165	0	0.00	ng/ul	0	0.547
56)	Benzo(b)Fluoranthene	0.00	3522	252	0	Not Found	ng/ul	45	0.000
57)	Diethyl Phthalate	18.92	2271	149	156443	0.133	ng/ul	975	2.186
58)	Fluorene	19.27	2313	166	0	0.00	ng/ul	0	1.161
59)	4-Chlorophenyl Phenyl Ether	0.00	2306	204	0	Not Found	ng/ul	189	0.000
60)	4-Nitroaniline	19.18	2302	108	0	0.00	ng/ul	0	0.736

0.0096

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 17:39
Output File: 305055.1B2 Injected at: 05/21/02 16:30
Data File: 305055.MS Dilution Factor: 1.00
Name: 305055 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	256	0.000	
62)	N-Nitrosodiphenylamine	19.42	2330	169	0	0.00	ng/ul	0	0.509	
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	699	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	225	0.000	
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	177	0.000	
66)	Pentachlorophenol	0.00	2460	266	0	Not Found	ng/ul	98	0.000	
67)	Phenanthrene	0.00	2503	178	0	Not Found	ng/ul	251	0.000	
68)	Anthracene	20.90	2508	178	3431	0.00	ng/ul	272	1.183	
69)	Carbazole	21.10	2532	167	6938	0.01	ng/ul	365	1.075	
70)	Di-n-Butyl Phthalate	21.46	2575	149	1797812	1.08	ng/ul	962	1.994	0.03K
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	235	0.000	
72)	Benzidine	0.00	2727	184	0	Not Found	ng/ul	242	0.000	
73)	Pyrene	23.04	2765	202	4451	0.00	ng/ul	471	1.244	
74)	Butyl Benzyl Phthalate	23.81	2857	149	56563	0.07	ng/ul	385	1.013	0.002L
75)	3,3'-Dichlorobenzidine	25.20	3024	252	9022	0.02	ng/ul	398	0.520	
76)	Bis(2-Ethylhexyl)Phthalate	24.96	2995	149	567445	0.46	ng/ul	840	1.633	0.01L
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	253	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	71	0.000	
79)	Di-n-Octylphthalate	27.08	3250	149	15733	0.01	ng/ul	509	1.616	
80)	Benzo(k)Fluoranthene	0.00	3537	252	0	Not Found	ng/ul	81	0.000	
81)	Benzo(a)Pyrene	30.93	3712	252	3370	0.00	ng/ul	635	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4553	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4560	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4819	276	0	Not Found	ng/ul	115	0.000	
85)	N-Nitrosodimethylamine	5.02	603	73	0	0.00	ng/ul	0	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	27	0.000	
87)	2,3-Dinitrotoluene	0.00	2188	165	0	Not Found	ng/ul	670	0.000	
88)	2,4-Diaminotoluene	16.82	2019	121	0	0.00	ng/ul	0	0.184	
89)	2-Chloroaniline	12.66	1519	127	0	0.00	ng/ul	0	0.613	
90)	5-Nitro-o-toluidine	19.17	2301	152	0	0.00	ng/ul	0	0.435	

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 17:39
Output File: 305055.1B2 Injected at: 05/21/02 16:30
Data File: 305055.MS Dilution Factor: 1.00
Name: 305055 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

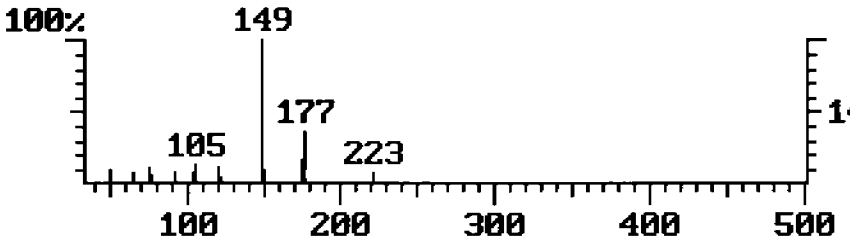
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.68	2241	143	0	0.00	ng/ul	0	0.867
92)	Benzaldehyde	9.51	1141	105	0	0.00	ng/ul	403	2.400
93)	Acetophenone	11.40	1368	105	20119	0.03	ng/ul	851	0.909
94)	Caprolactam	14.59	1751	85	297	0.00	ng/ul	333	0.078
95)	Biphenyl	16.72	2007	154	13154	0.02	ng/ul	916	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	153	0.000

* Compound is ISTD

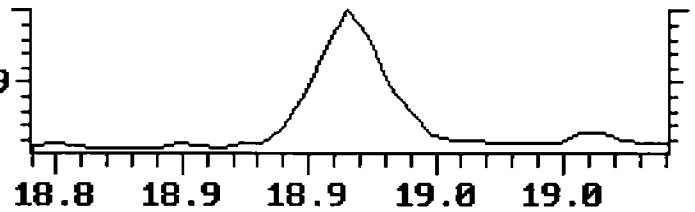
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 41 of 62
Data File: 305055 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 4:30 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2271
AGC: 249

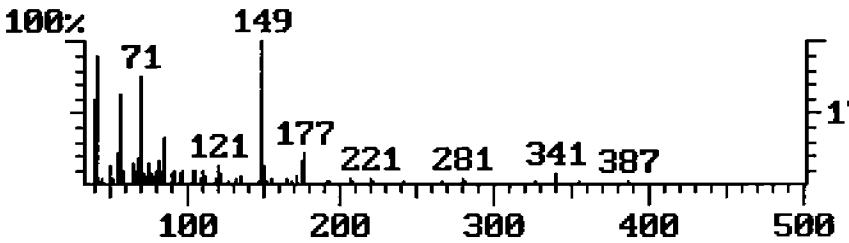
REFERENCE STANDARD SPECTRUM



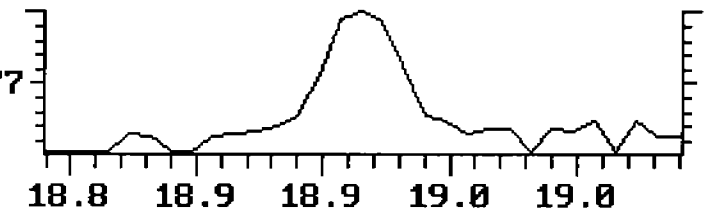
MASS 149 PLOT



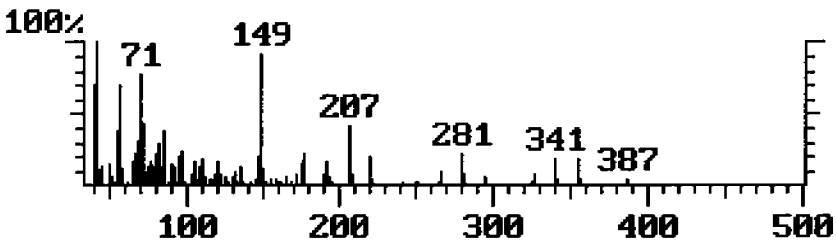
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



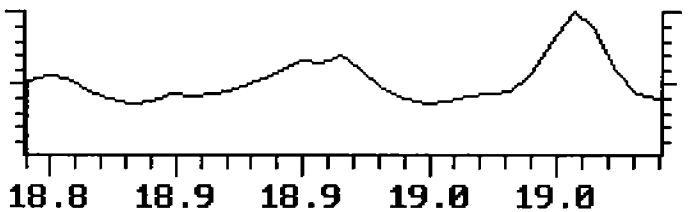
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

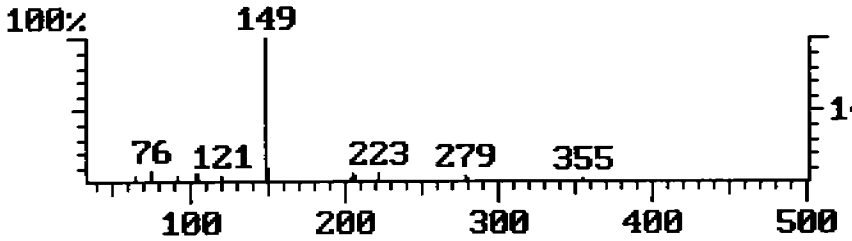


Approved_____ Date_____

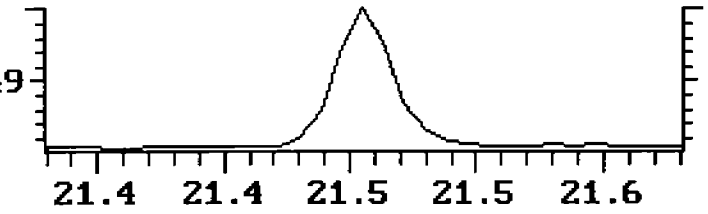
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 62
Data File: 305055 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 4:30 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2575
AGC: 54

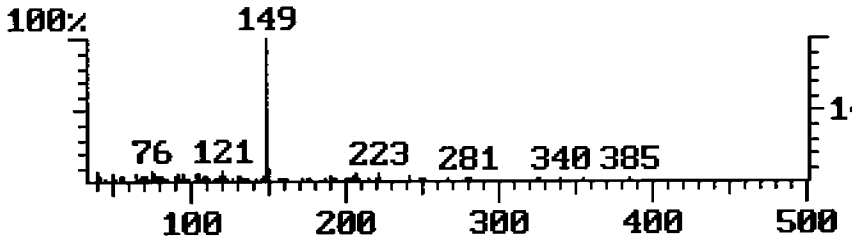
REFERENCE STANDARD SPECTRUM



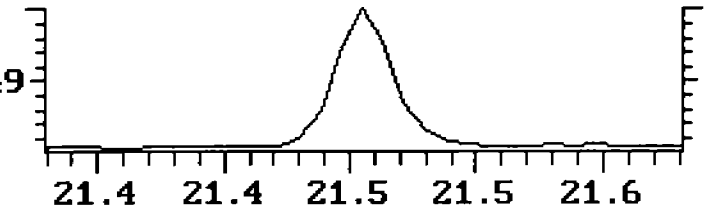
MASS 149 PLOT



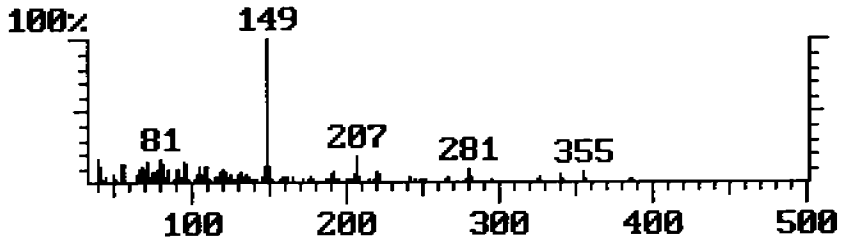
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



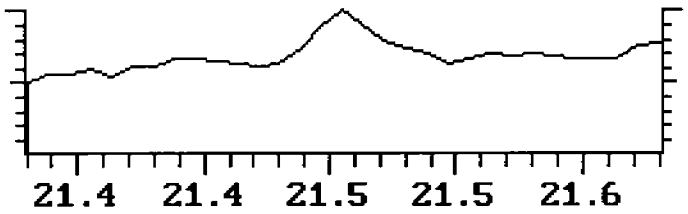
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

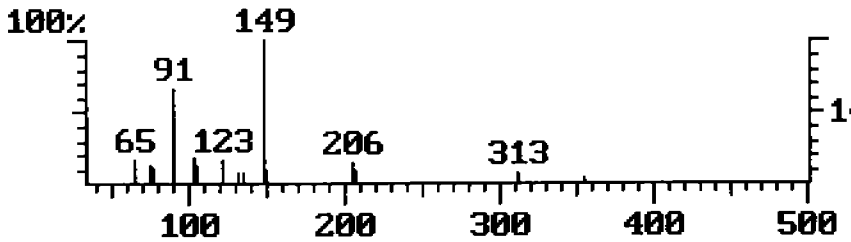


Approved_____ Date_____

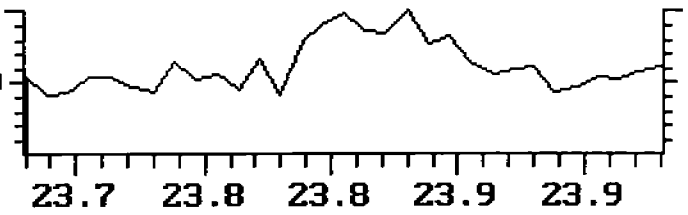
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 62
Data File: 305055 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 4:30 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2857
AGC: 64

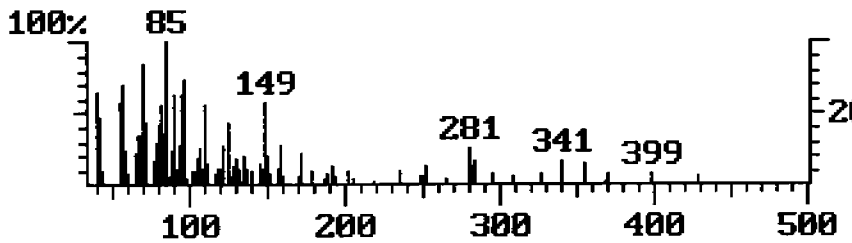
REFERENCE STANDARD SPECTRUM



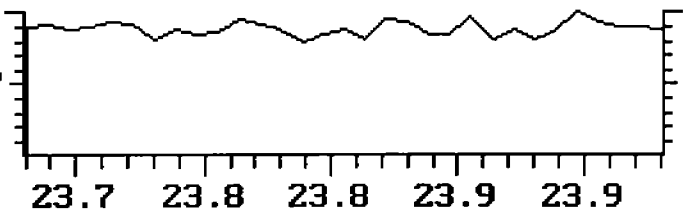
MASS 149 PLOT



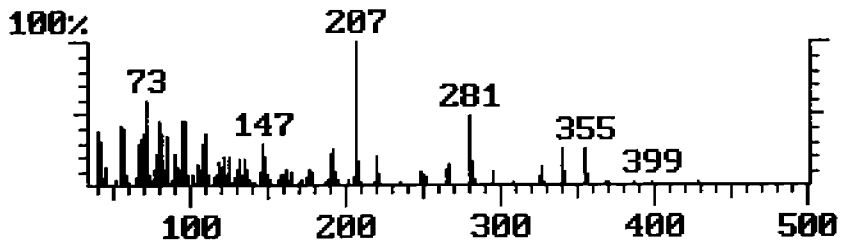
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



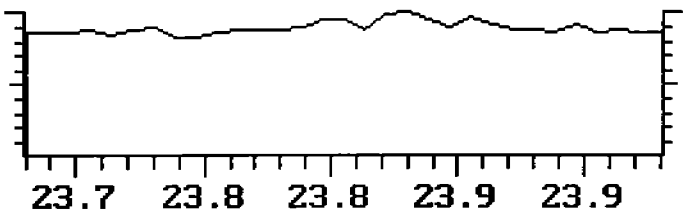
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

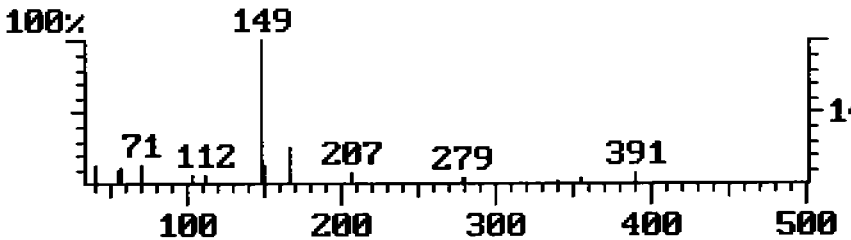


Approved_____ Date_____

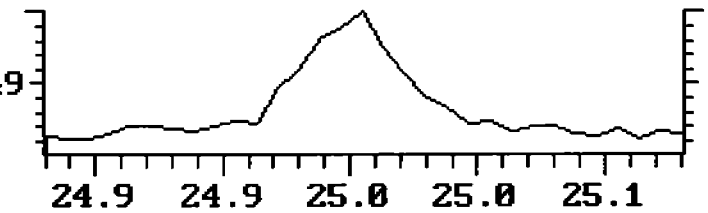
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 51 of 62
Data File: 305055 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 4:30 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2995
AGC: 58

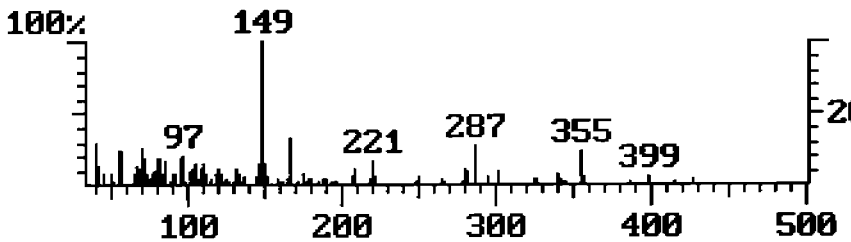
REFERENCE STANDARD SPECTRUM



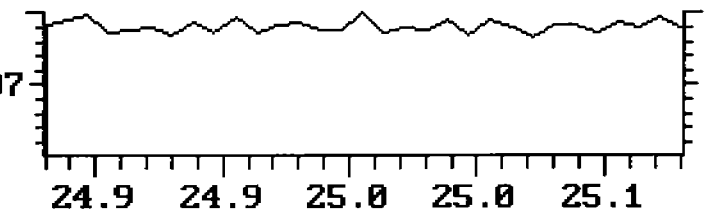
MASS 149 PLOT



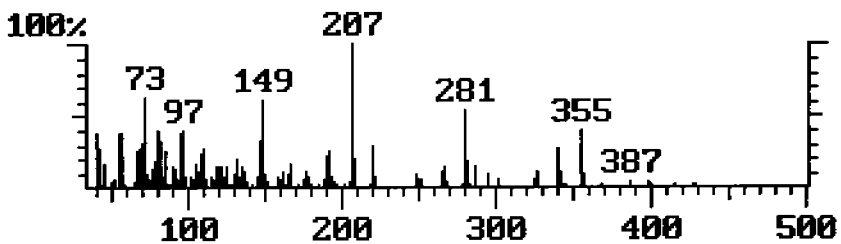
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



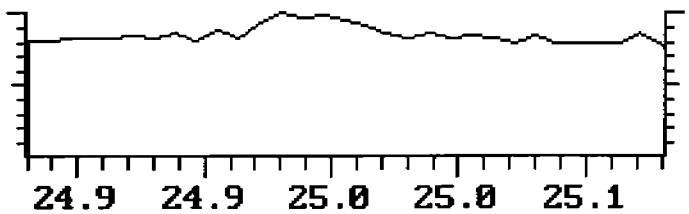
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
3CNS01005

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:09
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305056
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
3CNS01005

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:09
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305056
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.013**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.031**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.003**	J	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.020**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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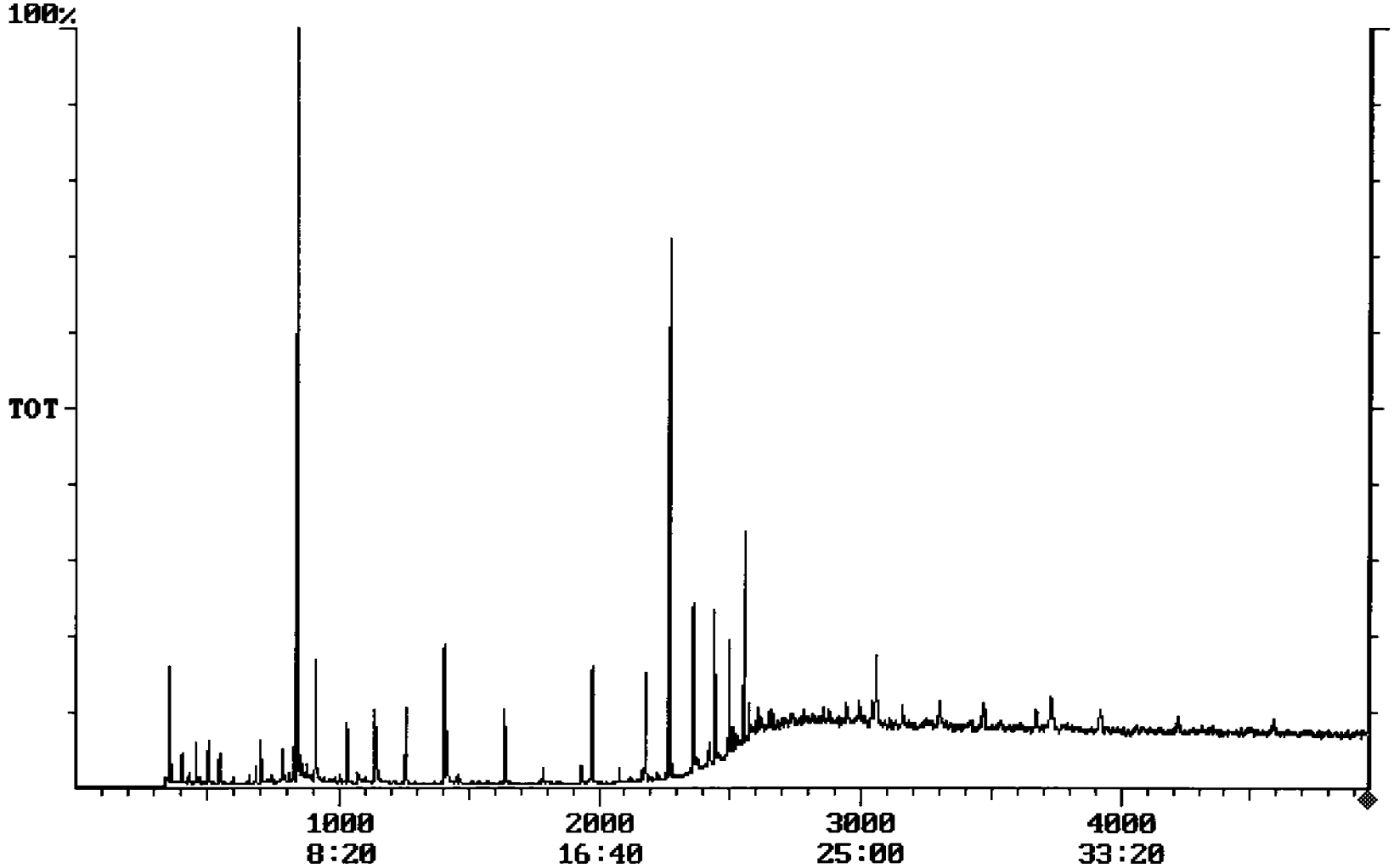
Chromatogram Plot C:\SATURN\DATA\305056 Date: 05/21/02 17:21:19
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1256234 Masses: 41-415
Plotted: 1 to 4944 Range: 1 to 4944 100% = 17998908



QUANT REPORT

Operator ID: JMK
Output File: 305056.1B2
Data File: 305056.MS
Name: 305056
Sample:

Quant Time: 05/21/02 18:22
Injected at: 05/21/02 17:21
Dilution Factor: 1.00
Instrument ID: 133

305 → 10 ml
98% solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1288288	5.00	ng/ul	994	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	4166568	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2850608	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4120063	5.00	ng/ul	993	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	4026378	5.00	ng/ul	614	1.000
6)	*IS:D12-Perylene	31.09	3731	264	4232841	5.00	ng/ul	787	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	4622335	12.20	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1137	99	5752701	13.24	ng/ul	785	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	2826006	10.57	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	850257	7.13	NG/UL	989	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	4802146	6.57	ng/ul	974	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	4627760	6.94	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4480597	7.15	ng/ul	995	0.779
14)	Pyridine	5.37	644	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.42	1130	94	377	0.00	ng/ul	432	1.572
16)	Aniline	0.00	1167	93	0	Not Found	ng/ul	265	0.000
17)	Bis(2-Chloroethyl)Ether	9.93	1192	92	0	0.00	ng/ul	0	0.833
18)	2-Chlorophenol	10.01	1201	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.35	1242	146	7241	0.02	ng/ul	868	1.660
20)	1,4-Dichlorobenzene	10.72	1286	146	440	0.00	ng/ul	650	1.616
21)	Benzyl Alcohol	10.76	1291	108	436	0.00	ng/ul	552	0.554
22)	1,2-Dichlorobenzene	10.90	1308	146	7200	0.02	ng/ul	782	1.498
23)	2-Methylphenol	11.01	1321	108	277	0.00	ng/ul	516	1.299
24)	Bis(2-Chloroisopropyl)Ether	0.00	1330	45	0	Not Found	ng/ul	255	0.000
25)	4-Methylphenol	11.33	1360	108	0	0.00	ng/ul	277	1.246
26)	N-Nitrosodi-N-Propylamine	11.37	1364	70	403	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.81	1417	119	0	0.00	ng/ul	957	0.605
28)	Nitrobenzene	11.82	1418	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	0.00	1496	82	0	Not Found	ng/ul	463	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	380	0.000

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 18:22
Output File: 305056.1B2 Injected at: 05/21/02 17:21
Data File: 305056.MS Dilution Factor: 1.00
Name: 305056 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	416	0.000	
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	349	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	693	0.000	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	170	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	820	0.000	
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	451	0.000	
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	536	0.000	
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	522	0.000	
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000	
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	996	0.000	
41)	2-Methylnaphthalene	15.51	1862	142	5146	0.01	ng/ul	911	0.639	
42)	Hexachlorocyclopentadiene	15.89	1907	237	207	0.00	ng/ul	407	0.414	
43)	2,4,6-Trichlorophenol	0.00	1951	196	0	Not Found	ng/ul	194	0.000	
44)	2,4,5-Trichlorophenol	0.00	1962	196	0	Not Found	ng/ul	164	0.000	
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	417	0.000	
46)	2-Nitroaniline	17.12	2054	138	0	0.00	ng/ul	79	0.409	
47)	Dimethyl Phthalate	17.46	2095	163	19210	0.02	ng/ul	875	1.919	
48)	2,6-Dinitrotoluene	17.63	2116	165	0	0.00	ng/ul	0	0.351	
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	506	0.000	
50)	3-Nitroaniline	18.02	2163	138	0	0.00	ng/ul	0	0.338	
51)	Acenaphthene	18.22	2187	152	1701	0.00	ng/ul	647	1.500	
52)	2,4-Dinitrophenol	18.26	2191	184	0	0.00	ng/ul	568	0.060	
53)	4-Nitrophenol	18.19	2183	65	0	0.00	ng/ul	0	0.119	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	545	0.000	
55)	2,4-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	796	0.000	
56)	Benzo(b)Fluoranthene	0.00	3523	252	0	Not Found	ng/ul	453	0.000	
57)	Diethyl Phthalate	18.93	2272	149	485548	0.39	ng/ul	954	2.186	0.013
58)	Fluorene	19.24	2309	166	1930	0.00	ng/ul	776	1.161	
59)	4-Chlorophenyl Phenyl Ether	0.00	2307	204	0	Not Found	ng/ul	244	0.000	
60)	4-Nitroaniline	19.25	2310	108	0	0.00	ng/ul	214	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305056.1B2
Data File: 305056.MS
Name: 305056
Sample:

Quant Time: 05/21/02 18:22
Injected at: 05/21/02 17:21
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.25	2310	198	0	0.00	ng/ul	404	0.116	
62)	N-Nitrosodiphenylamine	19.39	2327	169	0	0.00	ng/ul	0	0.509	
63)	1,2-Diphenylhydrazine	19.67	2361	77	0	0.00	ng/ul	0	1.258	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	40	0.000	
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	256	0.000	
66)	Pentachlorophenol	0.00	2461	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	0.00	2503	178	0	Not Found	ng/ul	486	0.000	
68)	Anthracene	0.00	2511	178	0	Not Found	ng/ul	637	0.000	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	96	0.000	
70)	Di-n-Butyl Phthalate	21.46	2575	149	1527822	0.92	ng/ul	949	2.009	0.531
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	274	0.000	
72)	Benzidine	0.00	2728	184	0	Not Found	ng/ul	273	0.000	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	15	0.000	
74)	Butyl Benzyl Phthalate	23.81	2857	149	63056	0.08	ng/ul	637	1.013	0.0026
75)	3,3'-Dichlorobenzidine	0.00	3030	252	0	Not Found	ng/ul	256	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.95	2994	149	766806	0.58	ng/ul	830	1.633	0.150
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	76	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	111	0.000	
79)	Di-n-Octylphthalate	26.93	3231	149	53523	0.04	ng/ul	709	1.617	
80)	Benzo(k)Fluoranthene	29.50	3540	252	0	0.00	ng/ul	0	1.249	
81)	Benzo(a)Pyrene	30.97	3716	252	4254	0.00	ng/ul	650	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4554	276	0	Not Found	ng/ul	2	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4561	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4820	276	0	Not Found	ng/ul	82	0.000	
85)	N-Nitrosodimethylamine	5.27	632	73	185	0.00	ng/ul	563	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	41	0.000	
87)	2,3-Dinitrotoluene	0.00	2216	165	0	Not Found	ng/ul	769	0.000	
88)	2,4-Diaminotoluene	16.62	1994	121	2965	0.02	ng/ul	661	0.184	
89)	2-Chloroaniline	12.42	1490	127	291	0.00	ng/ul	547	0.613	
90)	5-Nitro-o-toluidine	19.33	2320	152	1014	0.00	ng/ul	537	0.435	

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 18:22
Output File: 305056.1B2 Injected at: 05/21/02 17:21
Data File: 305056.MS Dilution Factor: 1.00
Name: 305056 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

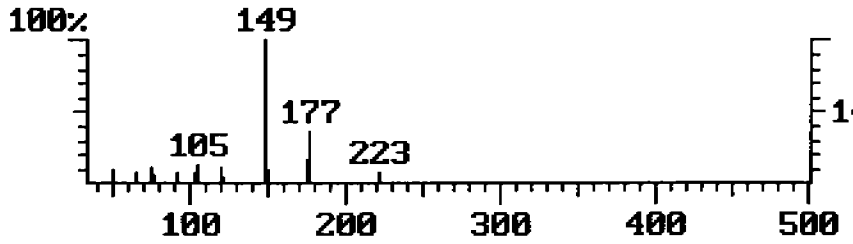
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.80	2256	143	0	0.00	ng/ul	0	0.867
92)	Benzaldehyde	9.36	1123	105	958	0.00	ng/ul	674	2.400
93)	Acetophenone	11.41	1369	105	18402	0.02	ng/ul	850	0.909
94)	Caprolactam	14.83	1780	85	2012	0.03	ng/ul	361	0.078
95)	Biphenyl	16.73	2008	154	13167	0.02	ng/ul	901	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

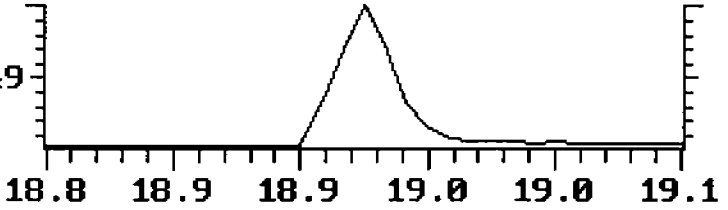
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 36 of 56
Data File: 305056 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 5:21 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2272
AGC: 77

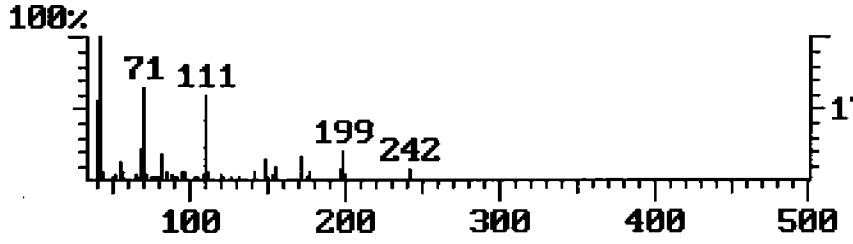
REFERENCE STANDARD SPECTRUM



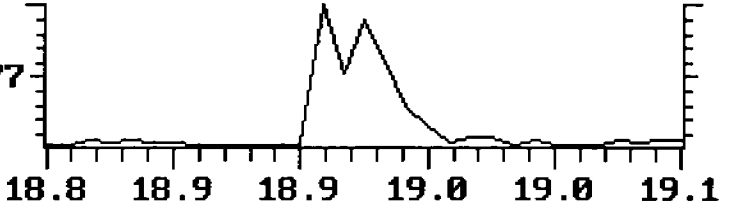
MASS 149 PLOT



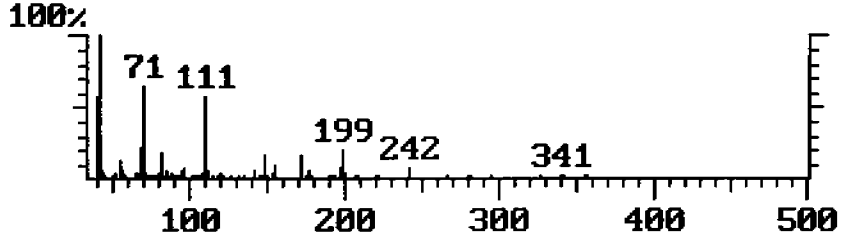
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



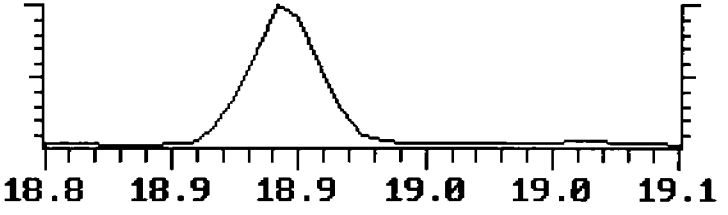
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

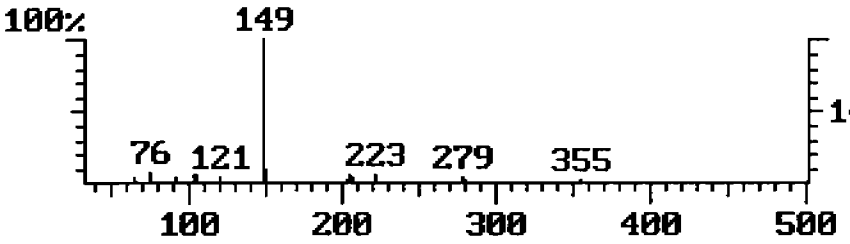


Approved_____ Date_____

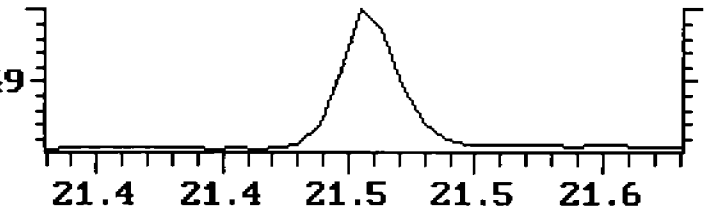
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 42 of 56
Data File: 305056 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 5:21 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2575
AGC: 65

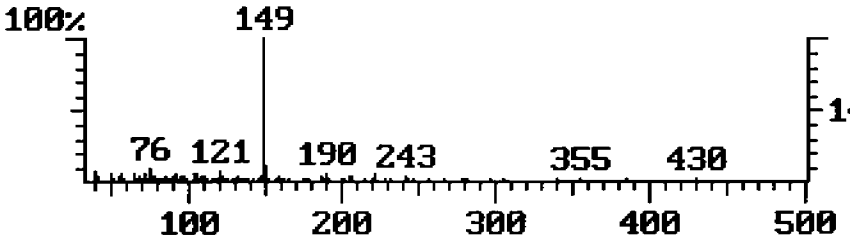
REFERENCE STANDARD SPECTRUM



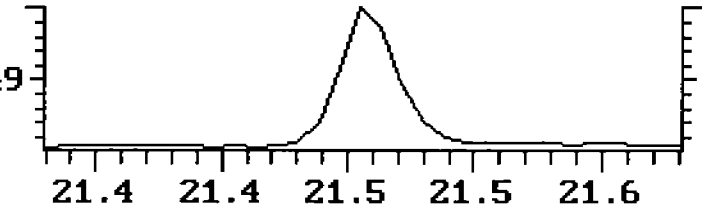
MASS 149 PLOT



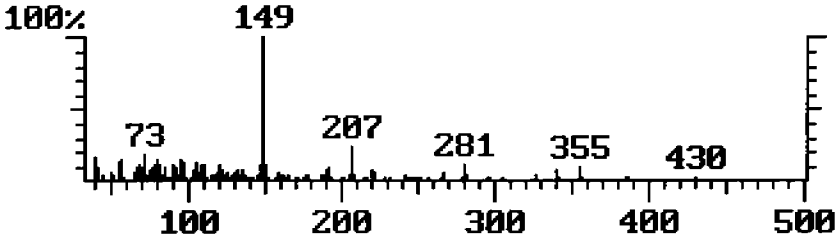
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



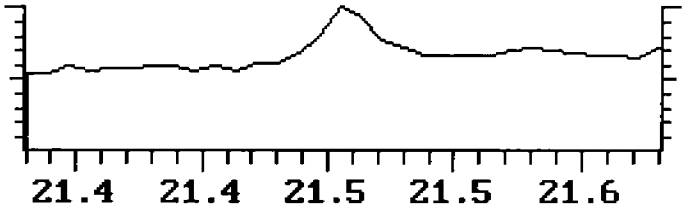
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

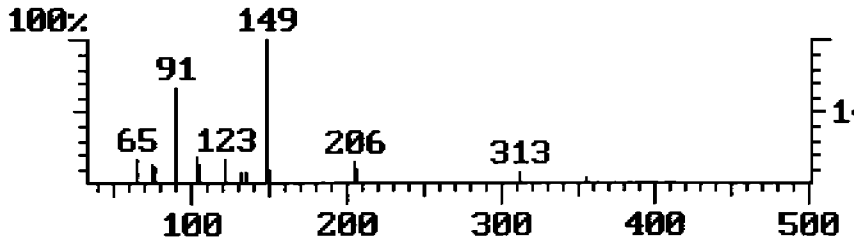


Approved_____ Date_____

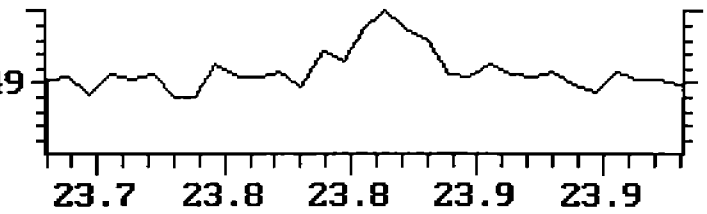
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 43 of 56
Data File: 305056 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 5:21 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2857
AGC: 67

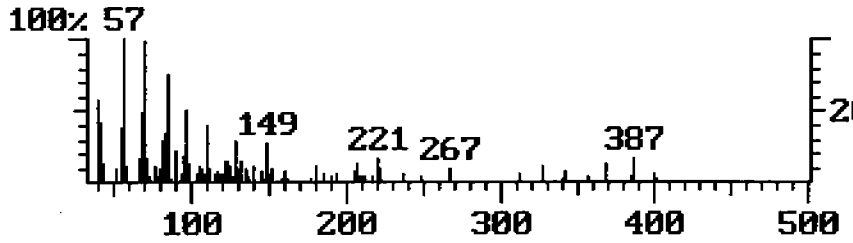
REFERENCE STANDARD SPECTRUM



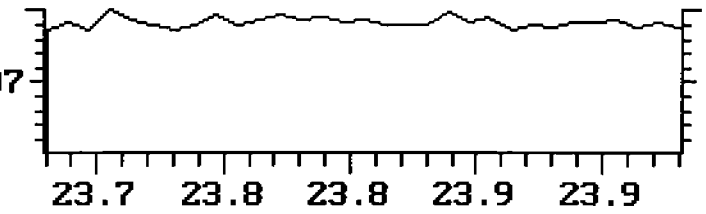
MASS 149 PLOT



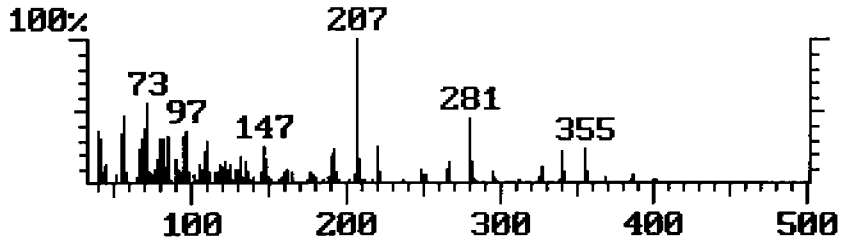
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



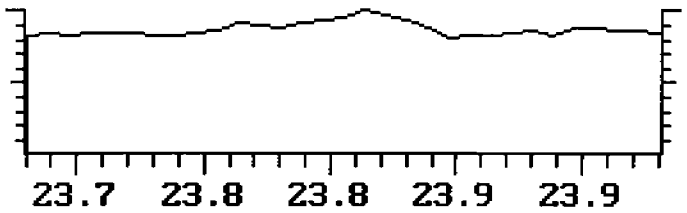
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

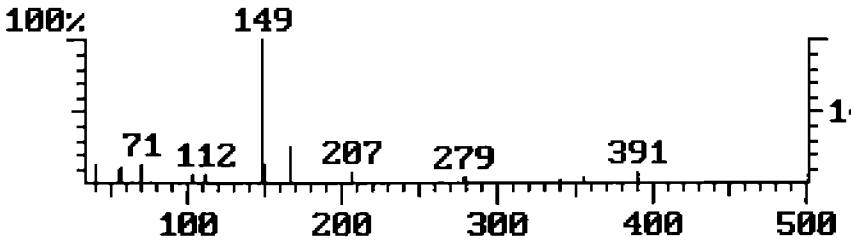


Approved_____ Date_____

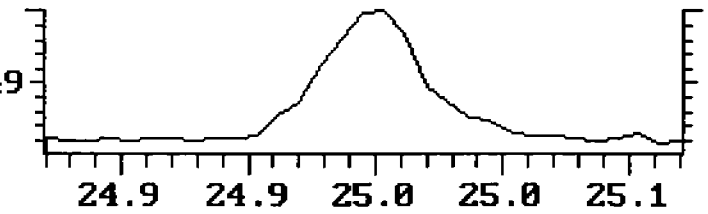
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 56
Data File: 305056 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 5:21 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2994
AGC: 61

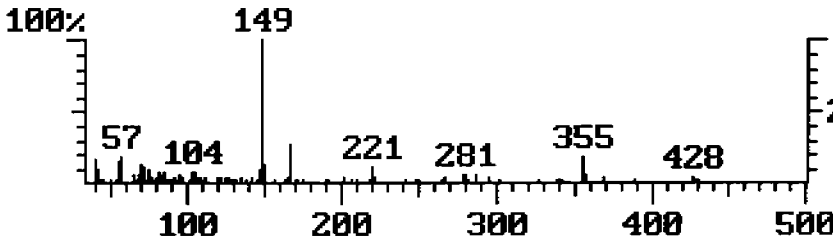
REFERENCE STANDARD SPECTRUM



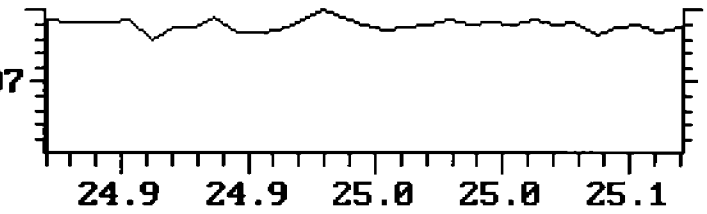
MASS 149 PLOT



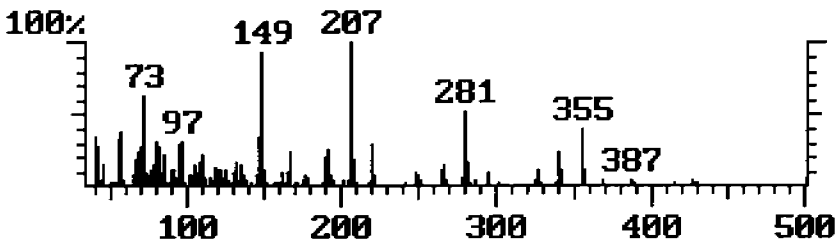
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



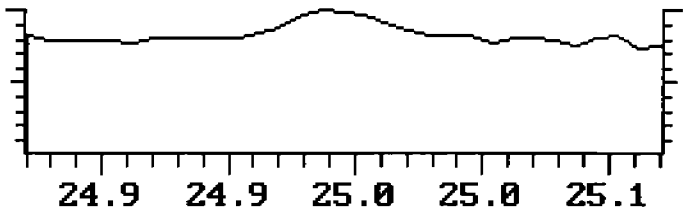
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
2BNS01006

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:15
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305057
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
2BNS01006

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:15
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305057
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.004**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.032**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.004**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.011**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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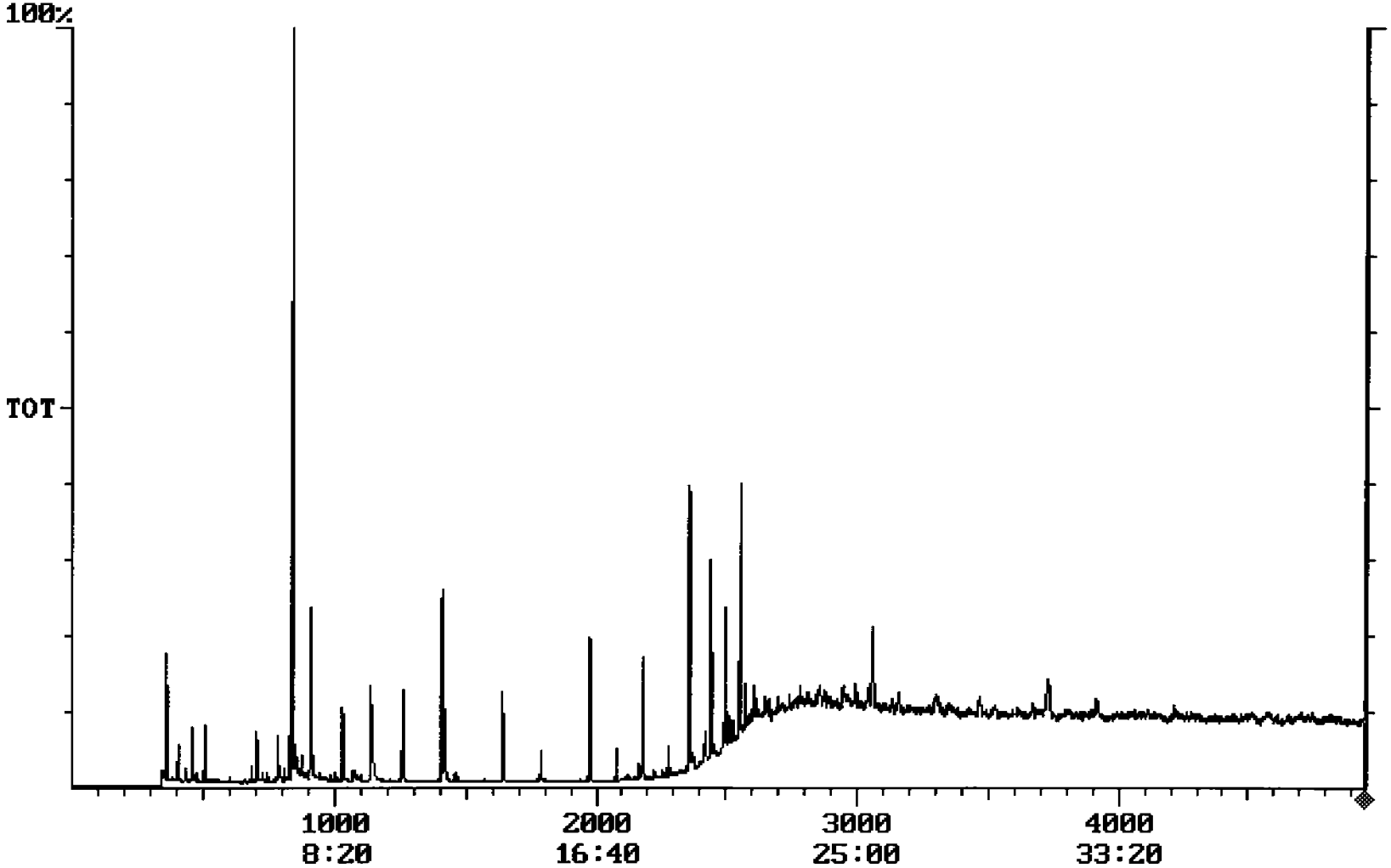
Chromatogram Plot C:\SATURN\DATA\305057 Date: 05/21/02 18:12:20
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1229971 Masses: 41-431
Plotted: 1 to 4944 Range: 1 to 4944 100% = 13972212



Operator ID: JMK
Output File: 305057.1B2
Data File: 305057.MS
Name: 305057
Sample:

Quant Time: 05/21/02 19:15
Injected at: 05/21/02 18:12
Dilution Factor: 1.00
Instrument ID: 133

305-1m1
95 Soil

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1236986	5.00	ng/ul	992	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	3897912	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2515251	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	3787600	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	3570900	5.00	ng/ul	598	1.000
6)	*IS:D12-Perylene	31.08	3730	264	3839470	5.00	ng/ul	865	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	5061514	13.92	ng/ul	996	1.471
8)	ACSUR:D6-Phenol	9.47	1137	99	5904367	14.16	ng/ul	644	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	3560754	15.10	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	938582	8.42	NG/UL	986	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	5134891	7.51	ng/ul	974	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	4530488	7.70	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4155914	7.45	ng/ul	996	0.782
14)	Pyridine	5.41	649	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.46	1135	94	0	0.00	ng/ul	0	1.572
16)	Aniline	9.85	1182	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	9.83	1180	92	0	0.00	ng/ul	0	0.833
18)	2-Chlorophenol	10.07	1209	128	0	0.00	ng/ul	39	1.661
19)	1,3-Dichlorobenzene	10.36	1243	146	7132	0.02	ng/ul	773	1.660
20)	1,4-Dichlorobenzene	10.55	1266	146	0	0.00	ng/ul	0	1.616
21)	Benzyl Alcohol	10.78	1294	108	0	0.00	ng/ul	149	0.554
22)	1,2-Dichlorobenzene	10.90	1308	146	7554	0.02	ng/ul	847	1.498
23)	2-Methylphenol	10.85	1302	108	0	0.00	ng/ul	332	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.04	1325	45	678	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.29	1355	108	0	0.00	ng/ul	312	1.246
26)	N-Nitrosodi-N-Propylamine	11.35	1362	70	303	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.83	1420	119	0	0.00	ng/ul	2	0.605
28)	Nitrobenzene	11.82	1419	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	12.61	1513	82	0	0.00	ng/ul	0	0.714
30)	2-Nitrophenol	12.74	1529	109	0	0.00	ng/ul	67	0.286

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 19:15
Output File: 305057.1B2 Injected at: 05/21/02 18:12
Data File: 305057.MS Dilution Factor: 1.00
Name: 305057 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	468	0.000	
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	946	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	672	0.000	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	180	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	669	0.000	
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	633	0.000	
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	589	0.000	
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	375	0.000	
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000	
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	997	0.000	
41)	2-Methylnaphthalene	15.53	1864	142	2295	0.00	ng/ul	801	0.639	
42)	Hexachlorocyclopentadiene	16.01	1921	237	0	0.00	ng/ul	388	0.414	
43)	2,4,6-Trichlorophenol	0.00	1951	196	0	Not Found	ng/ul	167	0.000	
44)	2,4,5-Trichlorophenol	16.23	1948	196	267	0.00	ng/ul	320	0.486	
45)	2-Chloronapthalene	16.89	2027	162	0	0.00	ng/ul	0	1.302	
46)	2-Nitroaniline	17.05	2046	138	258	0.00	ng/ul	639	0.409	
47)	Dimethyl Phthalate	17.46	2095	163	17049	0.02	ng/ul	893	1.919	
48)	2,6-Dinitrotoluene	17.66	2119	165	0	0.00	ng/ul	0	0.351	
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	0	0.000	
50)	3-Nitroaniline	0.00	2163	138	0	Not Found	ng/ul	225	0.000	
51)	Acenaphthene	18.24	2189	152	0	0.00	ng/ul	0	1.500	
52)	2,4-Dinitrophenol	0.00	2189	184	0	Not Found	ng/ul	257	0.000	
53)	4-Nitrophenol	18.22	2187	65	0	0.00	ng/ul	0	0.119	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	214	0.000	
55)	2,4-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	808	0.000	
56)	Benzo(b)Fluoranthene	0.00	3523	252	0	Not Found	ng/ul	374	0.000	
57)	Diethyl Phthalate	18.93	2272	149	115495	0.11	ng/ul	922	2.186	0.0367
58)	Fluorene	19.15	2298	166	465	0.00	ng/ul	520	1.161	
59)	4-Chlorophenyl Phenyl Ether	19.38	2326	204	0	0.00	ng/ul	326	0.783	
60)	4-Nitroaniline	19.23	2308	108	0	0.00	ng/ul	206	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305057.1B2
Data File: 305057.MS
Name: 305057
Sample:

Quant Time: 05/21/02 19:15
Injected at: 05/21/02 18:12
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	288	0.000	
62)	N-Nitrosodiphenylamine	19.29	2315	169	0	0.00	ng/ul	178	0.509	
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	621	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	28	0.000	
65)	Hexachlorobenzene	20.18	2421	284	0	0.00	ng/ul	0	0.305	
66)	Pentachlorophenol	0.00	2461	266	0	Not Found	ng/ul	249	0.000	
67)	Phenanthrene	0.00	2503	178	0	Not Found	ng/ul	208	0.000	
68)	Anthracene	20.90	2508	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	205	0.000	
70)	Di-n-Butyl Phthalate	21.46	2575	149	1388606	0.91	ng/ul	969	2.010	0.032
71)	Fluoranthene	22.54	2705	202	0	0.00	ng/ul	0	1.113	
72)	Benzidine	22.84	2741	184	0	0.00	ng/ul	344	0.403	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	110	0.000	
74)	Butyl Benzyl Phthalate	23.81	2857	149	90671	0.13	ng/ul	538	1.013	0.0044
75)	3,3'-Dichlorobenzidine	25.41	3050	252	4374	0.01	ng/ul	609	0.520	
76)	Bis(2-Ethylhexyl)Phthalate	24.95	2994	149	391950	0.34	ng/ul	604	1.633	0.011
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	124	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	13	0.000	
79)	Di-n-Octylphthalate	26.91	3229	149	29778	0.03	ng/ul	532	1.616	
80)	Benzo(k)Fluoranthene	0.00	3538	252	0	Not Found	ng/ul	191	0.000	
81)	Benzo(a)Pyrene	30.99	3719	252	6617	0.01	ng/ul	585	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4554	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4561	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4820	276	0	Not Found	ng/ul	166	0.000	
85)	N-Nitrosodimethylamine	0.00	625	73	0	Not Found	ng/ul	667	0.000	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	41	0.000	
87)	2,3-Dinitrotoluene	0.00	2216	165	0	Not Found	ng/ul	380	0.000	
88)	2,4-Diaminotoluene	16.65	1998	121	1437	0.01	ng/ul	405	0.184	
89)	2-Chloroaniline	12.54	1505	127	341	0.00	ng/ul	686	0.613	
90)	5-Nitro-o-toluidine	19.28	2313	152	581	0.00	ng/ul	607	0.435	

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 19:15
Output File: 305057.1B2 Injected at: 05/21/02 18:12
Data File: 305057.MS Dilution Factor: 1.00
Name: 305057 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

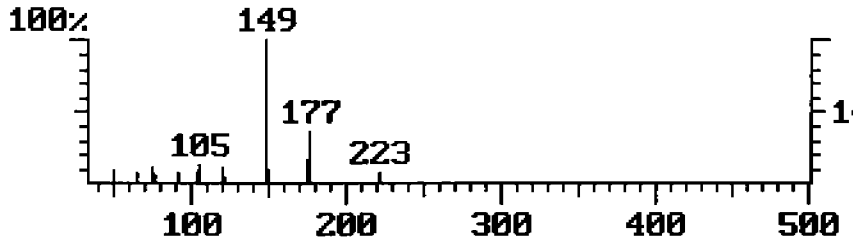
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.73	2248	143	540	0.00	ng/ul	698	0.867
92)	Benzaldehyde	9.35	1122	105	2311	0.00	ng/ul	732	2.400
93)	Acetophenone	11.42	1370	105	20445	0.03	ng/ul	857	0.909
94)	Caprolactam	14.82	1779	85	13043	0.21	ng/ul	627	0.078
95)	Biphenyl	16.73	2008	154	13194	0.02	ng/ul	920	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	189	0.000

* Compound is ISTD

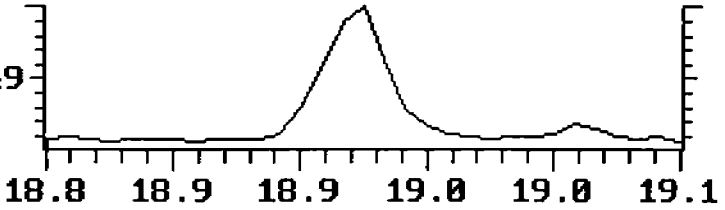
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 40 of 62
Data File: 305057 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 6:12 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2272
AGC: 298

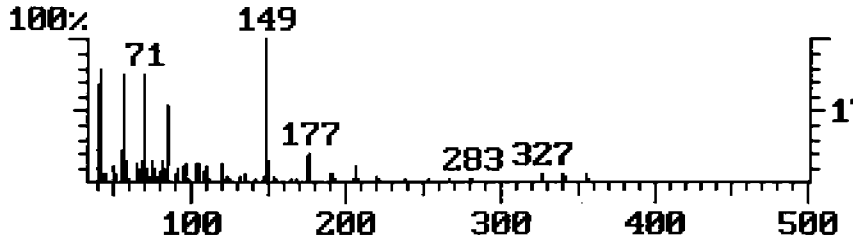
REFERENCE STANDARD SPECTRUM



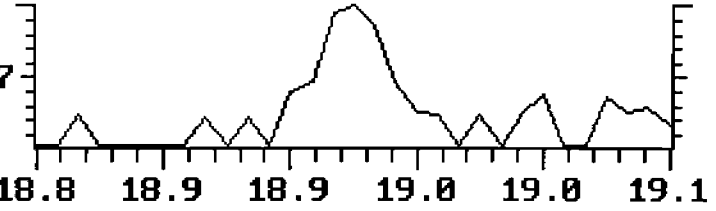
MASS 149 PLOT



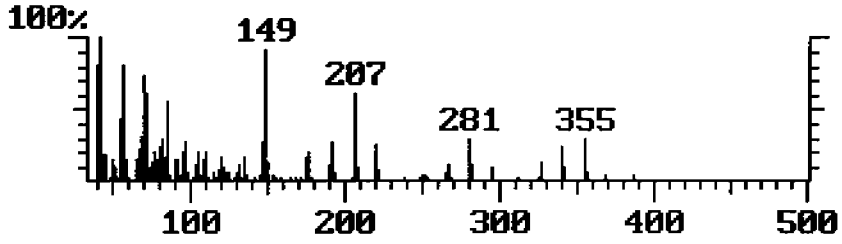
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



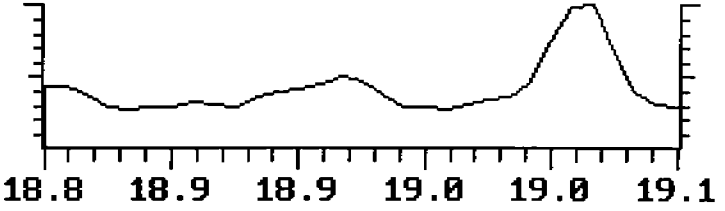
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

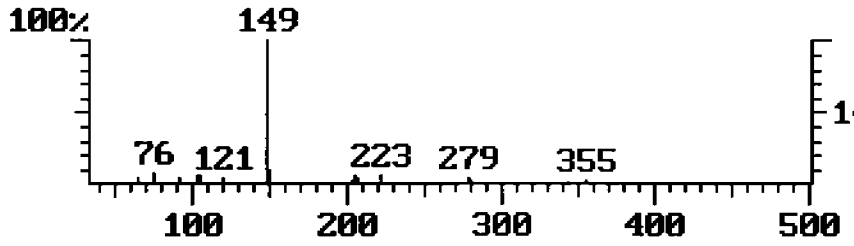


Approved_____ Date_____

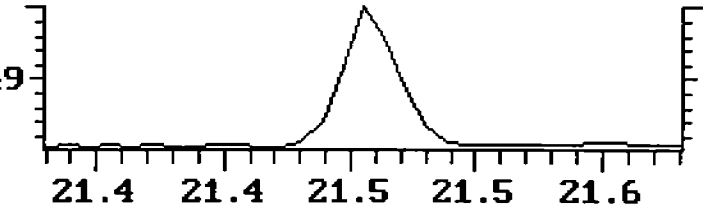
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 62
Data File: 305057 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 6:12 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2575
AGC: 72

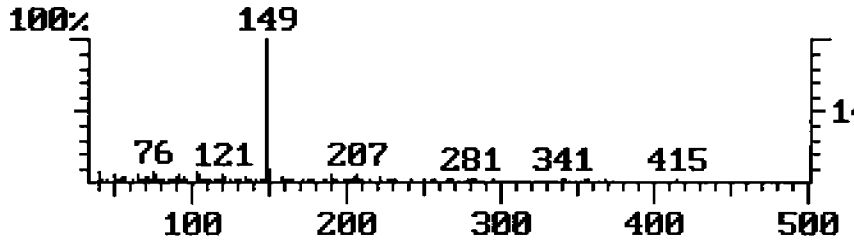
REFERENCE STANDARD SPECTRUM



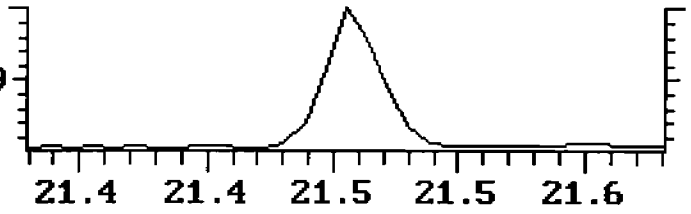
MASS 149 PLOT



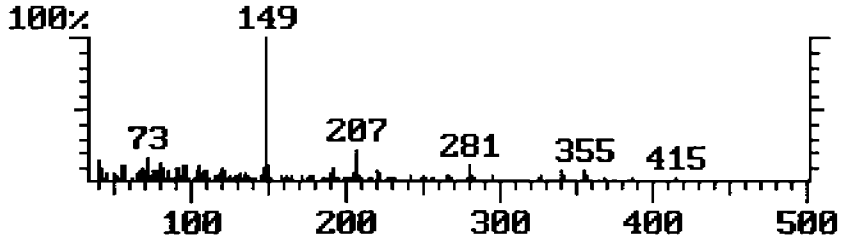
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



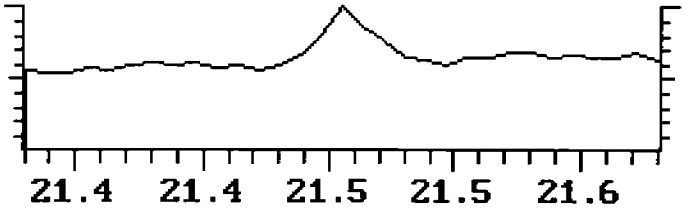
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

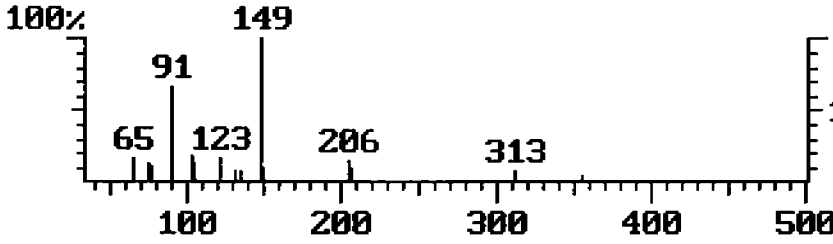


Approved_____ Date_____

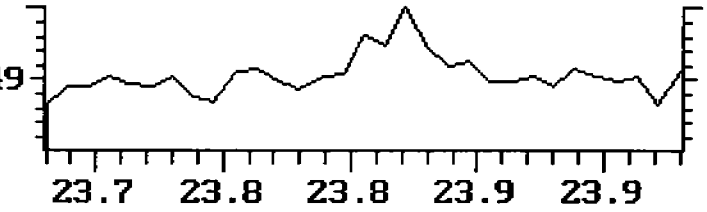
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 62
Data File: 305057 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 6:12 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2857
AGC: 67

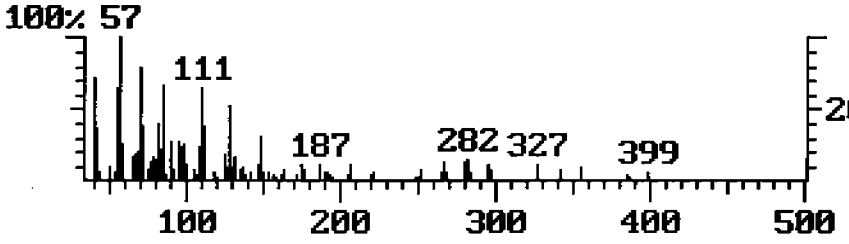
REFERENCE STANDARD SPECTRUM



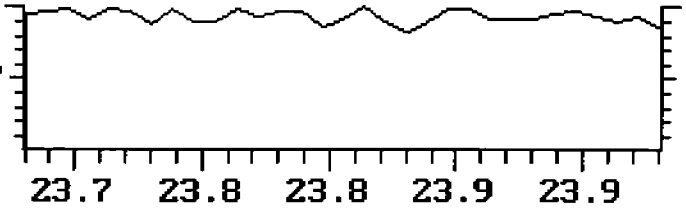
MASS 149 PLOT



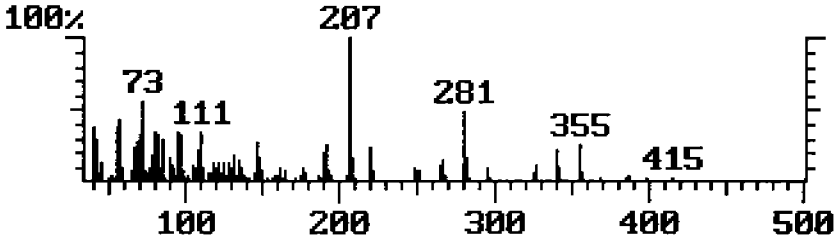
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



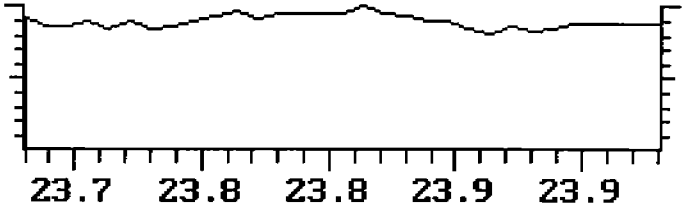
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

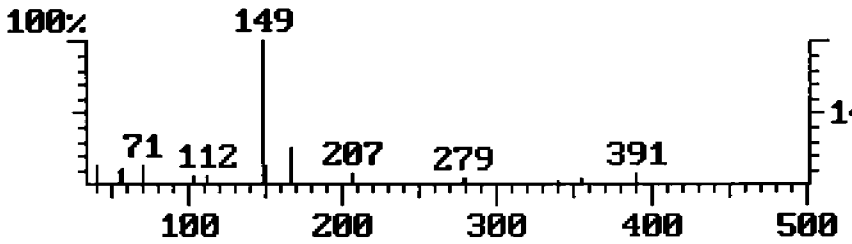


Approved_____ Date_____

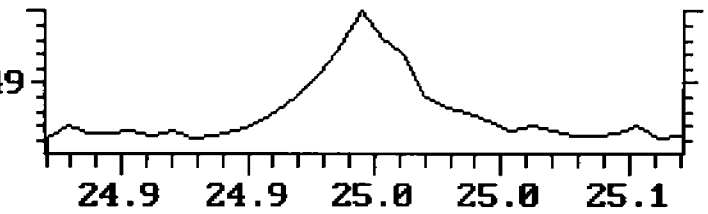
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 52 of 62
Data File: 305057 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 6:12 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2994
AGC: 70

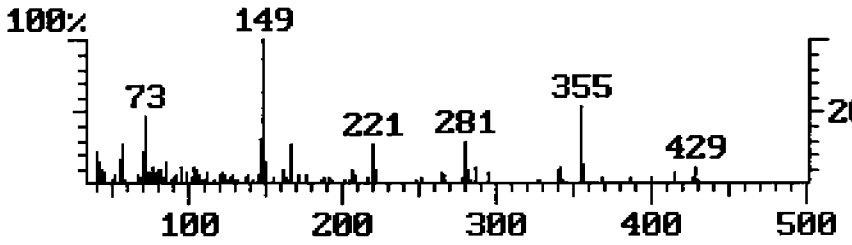
REFERENCE STANDARD SPECTRUM



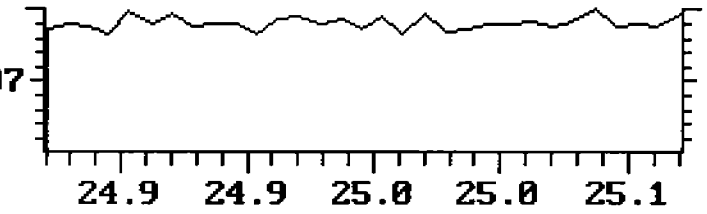
MASS 149 PLOT



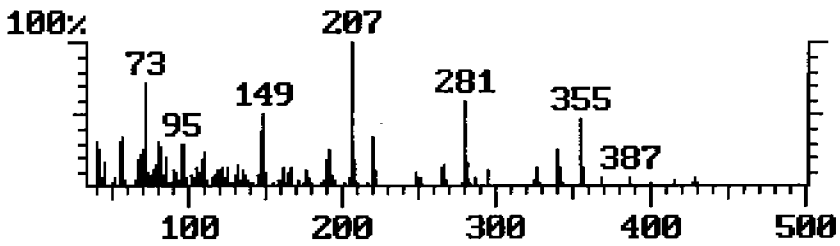
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



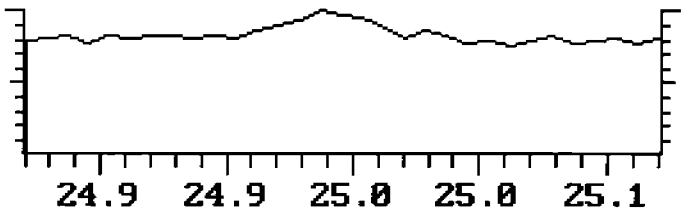
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
6BNS01007

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 04:19
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305058
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	**0.001**	J	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
6BNS01007

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 04:19
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305058
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.020**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.045**		0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.003**	J	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.016**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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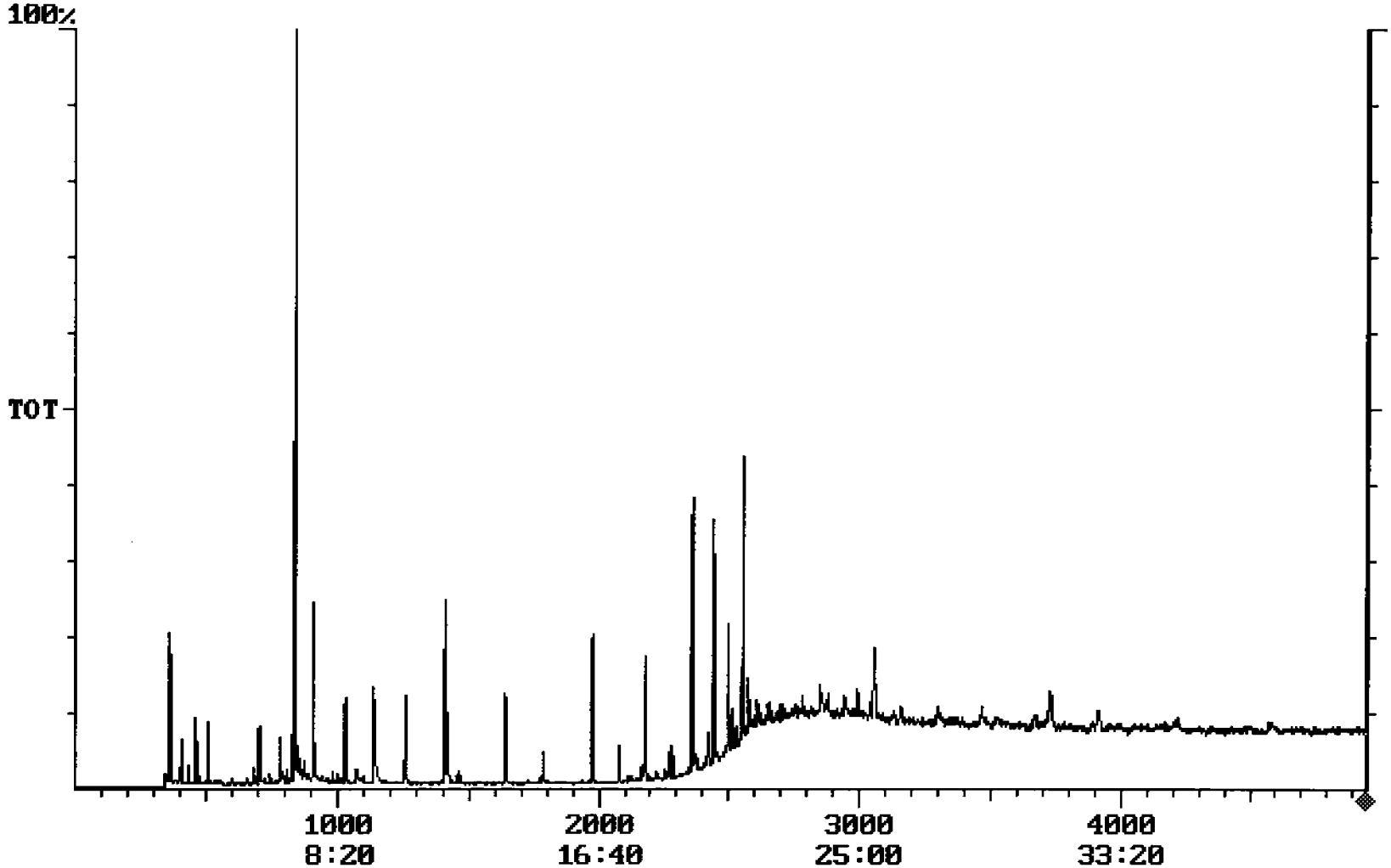
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

Chromatogram Plot C:\SATURN\DATA\305058 Date: 05/21/02 19:03:11
Comment: INSTRUMENT 133
Scan: 4943 Seg: 1 Group: 0 Retention: 41:12 RIC: 1124975 Masses: 41-428
Plotted: 1 to 4943 Range: 1 to 4943 100% = 15426923



QUANT REPORT Page 1

Operator ID: JMK
Output File: 305058.1B2
Data File: 305058.MS
Name: 305058
Sample:

Quant Time: 05/21/02 19:55
Injected at: 05/21/02 19:03
Dilution Factor: 1.00
Instrument ID: 133

395 → 1 ml
94% solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1299197	5.00	ng/ul	996	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	4491540	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2932351	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	4172903	5.00	ng/ul	991	1.000
5)	*IS:D12-Chrysene	25.47	3057	240	4021306	5.00	ng/ul	566	1.000
6)	*IS:D12-Perylene	31.08	3730	264	4350114	5.00	ng/ul	803	1.000
7)	ACSUR:2-Fluorophenol	7.58	909	112	5763199	15.09	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1137	99	6463443	14.75	ng/ul	776	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	3906101	14.21	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	908503	7.07	NG/UL	991	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	5520790	7.01	ng/ul	972	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	5086146	7.41	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4903228	7.77	ng/ul	997	0.785
14)	Pyridine	5.37	644	79	0	0.00	ng/ul	0	1.146
15)	Phenol	0.00	1143	94	0	Not Found	ng/ul	261	0.000
16)	Aniline	9.78	1174	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	0.00	1178	92	0	Not Found	ng/ul	297	0.000
18)	2-Chlorophenol	10.00	1200	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.37	1244	146	9116	0.02	ng/ul	862	1.660
20)	1,4-Dichlorobenzene	10.66	1279	146	466	0.00	ng/ul	453	1.616
21)	Benzyl Alcohol	10.74	1289	108	888	0.01	ng/ul	799	0.554
22)	1,2-Dichlorobenzene	10.89	1307	146	9129	0.02	ng/ul	880	1.498
23)	2-Methylphenol	10.86	1303	108	0	0.00	ng/ul	374	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.06	1327	45	0	0.00	ng/ul	391	1.122
25)	4-Methylphenol	0.00	1358	108	0	Not Found	ng/ul	580	0.000
26)	N-Nitrosodi-N-Propylamine	0.00	1366	70	0	Not Found	ng/ul	417	0.000
27)	Hexachloroethane	0.00	1411	119	0	Not Found	ng/ul	944	0.000
28)	Nitrobenzene	0.00	1425	77	0	Not Found	ng/ul	368	0.000
29)	Isophorone	0.00	1495	82	0	Not Found	ng/ul	395	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	590	0.000

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 19:55
Output File: 305058.1B2 Injected at: 05/21/02 19:03
Data File: 305058.MS Dilution Factor: 1.00
Name: 305058 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	602	0.000	
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	815	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	647	0.000	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	244	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	790	0.000	
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	454	0.000	
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	607	0.000	
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	354	0.000	
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000	
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	996	0.000	
41)	2-Methylnaphthalene	15.51	1862	142	2340	0.00	ng/ul	771	0.639	
42)	Hexachlorocyclopentadiene	16.07	1928	237	226	0.00	ng/ul	327	0.414	
43)	2,4,6-Trichlorophenol	0.00	1950	196	0	Not Found	ng/ul	127	0.000	
44)	2,4,5-Trichlorophenol	16.23	1948	196	250	0.00	ng/ul	326	0.486	
45)	2-Chloronapthalene	16.87	2024	162	0	0.00	ng/ul	0	1.302	
46)	2-Nitroaniline	17.05	2046	138	375	0.00	ng/ul	627	0.409	
47)	Dimethyl Phthalate	17.47	2096	163	22912	0.02	ng/ul	943	1.919	
48)	2,6-Dinitrotoluene	17.64	2117	165	0	0.00	ng/ul	0	0.351	
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	593	0.000	
50)	3-Nitroaniline	18.01	2161	138	424	0.00	ng/ul	466	0.338	
51)	Acenaphthene	0.00	2190	152	0	Not Found	ng/ul	245	0.000	
52)	2,4-Dinitrophenol	0.00	2189	184	0	Not Found	ng/ul	144	0.000	
53)	4-Nitrophenol	18.42	2211	65	0	0.00	ng/ul	119	0.119	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	126	0.000	
55)	2,4-Dinitrotoluene	18.61	2233	165	0	0.00	ng/ul	222	0.547	
56)	Benzo(b)Fluoranthene	29.35	3522	252	0	0.00	ng/ul	0	1.096	
57)	Diethyl Phthalate	18.92	2271	149	738097	0.58	ng/ul	975	2.186	0.58 ng/ul
58)	Fluorene	19.31	2317	166	825	0.00	ng/ul	442	1.161	
59)	4-Chlorophenyl Phenyl Ether	19.38	2326	204	0	0.00	ng/ul	327	0.783	
60)	4-Nitroaniline	19.21	2305	108	0	0.00	ng/ul	0	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305058.1B2
Data File: 305058.MS
Name: 305058
Sample:

Quant Time: 05/21/02 19:55
Injected at: 05/21/02 19:03
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	234	0.000	
62)	N-Nitrosodiphenylamine	19.42	2331	169	0	0.00	ng/ul	0	0.509	
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	583	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	47	0.000	
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	33	0.000	
66)	Pentachlorophenol	0.00	2460	266	0	Not Found	ng/ul	16	0.000	
67)	Phenanthrene	20.85	2502	178	9714	0.01	ng/ul	377	1.076	
68)	Anthracene	20.93	2512	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	0.00	2535	167	0	Not Found	ng/ul	250	0.000	
70)	Di-n-Butyl Phthalate	21.46	2575	149	2083826	1.26	ng/ul	966	1.977	0.647 ng/ks
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	209	0.000	
72)	Benzidine	22.80	2736	184	0	0.00	ng/ul	309	0.403	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	58	0.000	
74)	Butyl Benzyl Phthalate	23.81	2857	149	58753	0.07	ng/ul	593	1.013	0.026
75)	3,3'-Dichlorobenzidine	25.23	3028	252	0	0.00	ng/ul	0	0.519	
76)	Bis(2-Ethylhexyl)Phthalate	24.96	2995	149	590818	0.45	ng/ul	739	1.633	0.316
77)	Benzo(a)Anthracene	25.31	3037	228	0	0.00	ng/ul	345	1.289	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	132	0.000	
79)	Di-n-Octylphthalate	26.96	3235	149	9258	0.01	ng/ul	512	1.615	
80)	Benzo(k)Fluoranthene	0.00	3537	252	0	Not Found	ng/ul	199	0.000	
81)	Benzo(a)Pyrene	31.16	3739	252	4120	0.00	ng/ul	678	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4553	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4560	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4819	276	0	Not Found	ng/ul	52	0.000	
85)	N-Nitrosodimethylamine	5.18	622	73	801	0.01	ng/ul	365	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	41	0.000	
87)	2,3-Dinitrotoluene	0.00	2220	165	0	Not Found	ng/ul	690	0.000	
88)	2,4-Diaminotoluene	16.82	2018	121	2871	0.02	ng/ul	690	0.184	
89)	2-Chloroaniline	12.74	1529	127	2411	0.00	ng/ul	687	0.613	
90)	5-Nitro-o-toluidine	19.27	2312	152	810	0.00	ng/ul	556	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305058.1B2
Data File: 305058.MS
Name: 305058
Sample:

Quant Time: 05/21/02 19:55
Injected at: 05/21/02 19:03
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

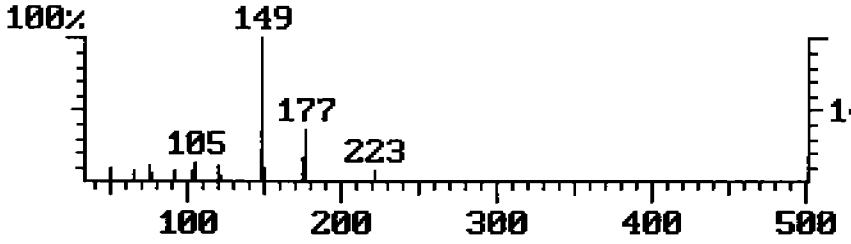
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.74	2249	143	628	0.00	ng/ul	758	0.867
92)	Benzaldehyde	9.42	1130	105	3185	0.01	ng/ul	632	2.400
93)	Acetophenone	11.42	1371	105	26377	0.03	ng/ul	912	0.909
94)	Caprolactam	14.83	1780	85	8055	0.12	ng/ul	766	0.078
95)	Biphenyl	16.74	2009	154	14503	0.02	ng/ul	909	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

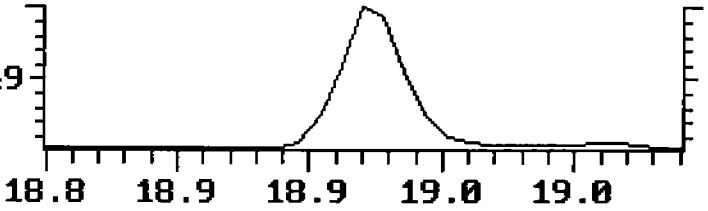
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 34 of 57
Data File: 305058 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 7:03 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2271
AGC: 171

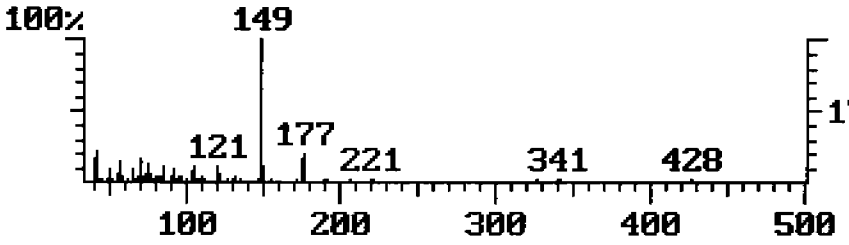
REFERENCE STANDARD SPECTRUM



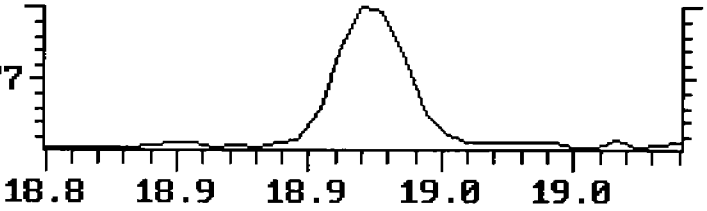
MASS 149 PLOT



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



MASS 177 PLOT



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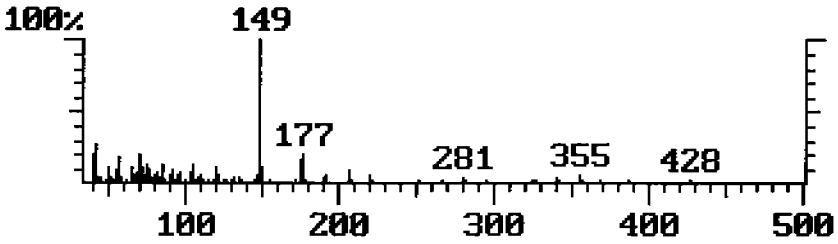
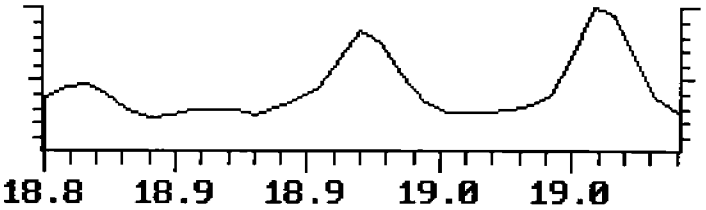


TOTAL ION PLOT

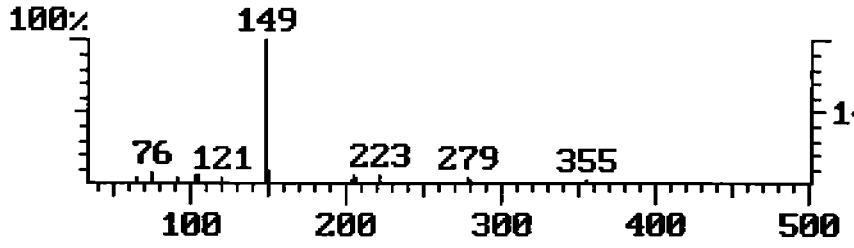


Approved_____ Date_____

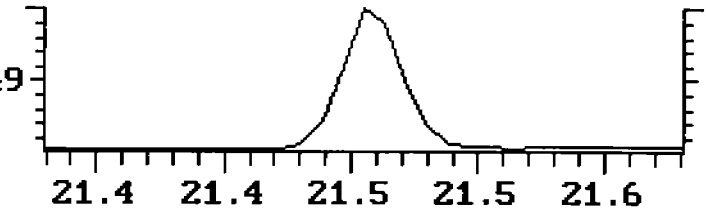
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 41 of 57
Data File: 305058 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 7:03 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2575
AGC: 58

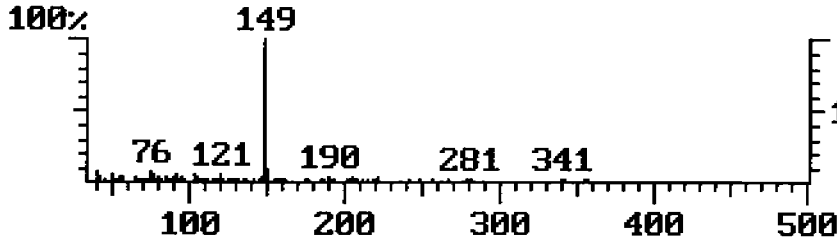
REFERENCE STANDARD SPECTRUM



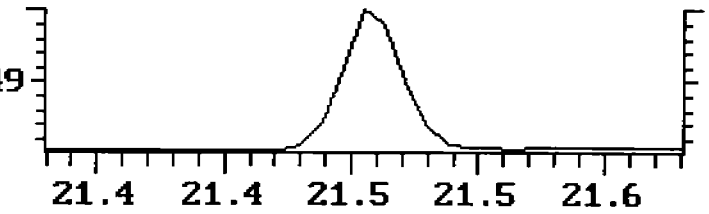
MASS 149 PLOT



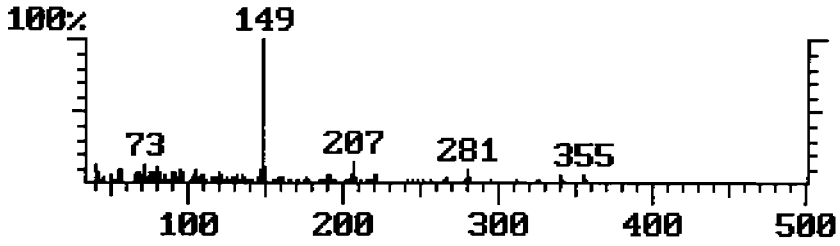
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



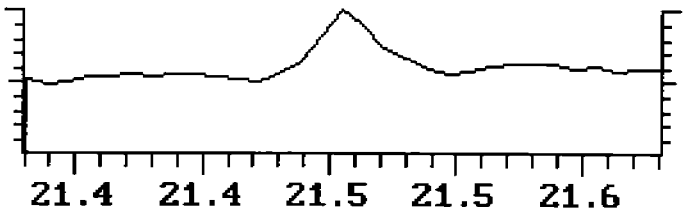
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

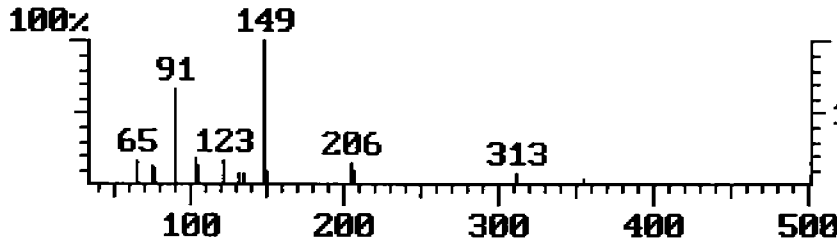


Approved_____ Date_____

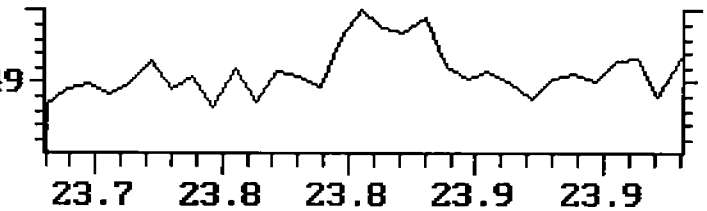
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 43 of 57
Data File: 305058 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 7:03 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2857
AGC: 67

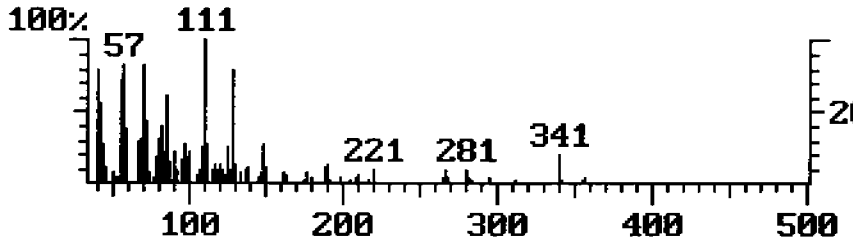
REFERENCE STANDARD SPECTRUM



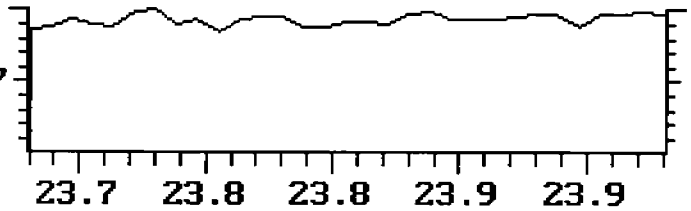
MASS 149 PLOT



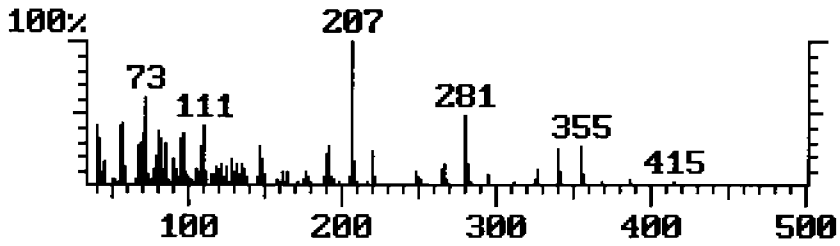
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



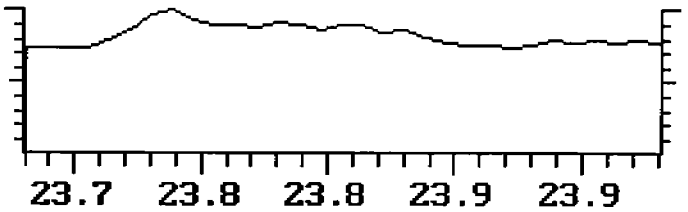
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

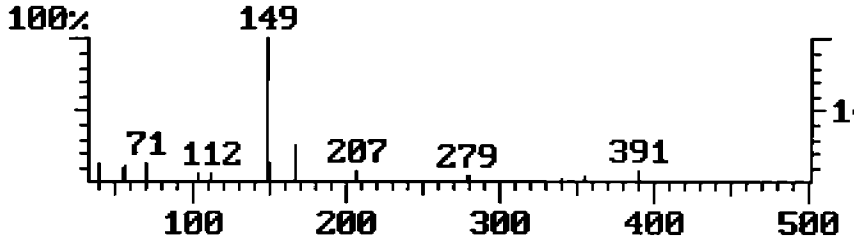


Approved_____ Date_____

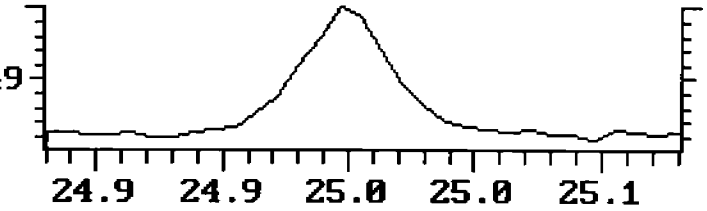
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 57
Data File: 305058 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 7:03 pm Calibration Date: 05/21/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2995
AGC: 67

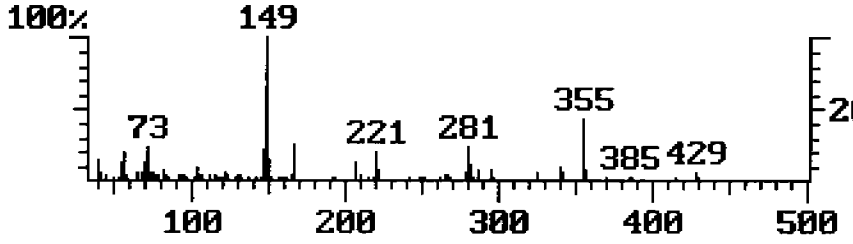
REFERENCE STANDARD SPECTRUM



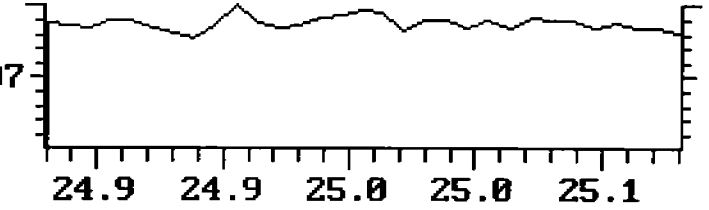
MASS 149 PLOT



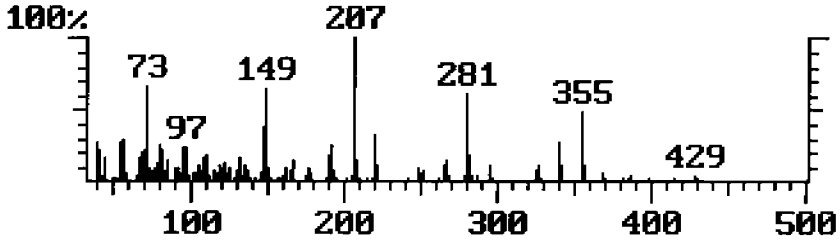
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



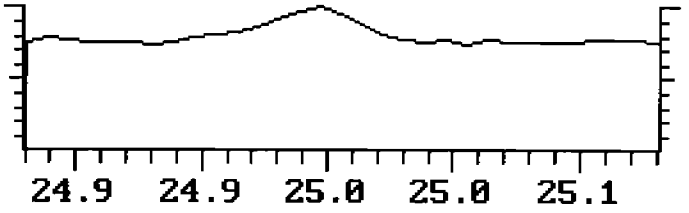
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
8ENS01008

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:23
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305059
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
8ENS01008

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:23
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305059
Batch No: 185980

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.003**	J	0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.030**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.003**	J	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.013**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.010**		0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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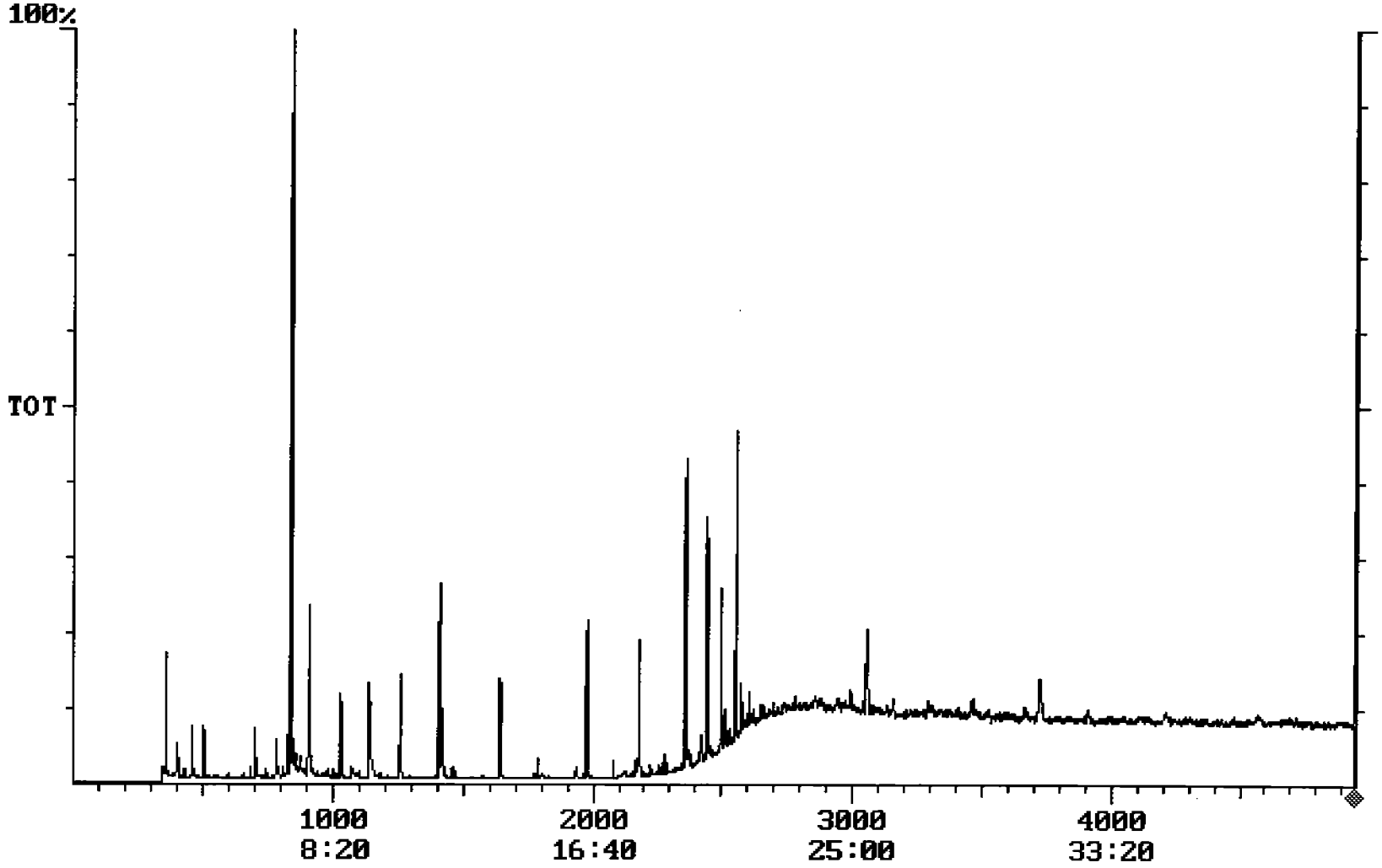
Chromatogram Plot C:\SATURN\DATA\305059 Date: 05/21/02 21:55:28
Comment: INSTRUMENT 133
Scan: 4943 Seg: 1 Group: 0 Retention: 41:12 RIC: 1118717 Masses: 41-415
Plotted: 1 to 4943 Range: 1 to 4943 100% = 13927221



Operator ID: JMK
Output File: 305059.1B2
Data File: 305059.MS
Name: 305059
Sample:

Quant Time: 05/22/02 08:41
Injected at: 05/21/02 21:55
Dilution Factor: 1.00
Instrument ID: 133

395 → 1ml
97.2 solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1410396	5.00	ng/ul	990	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	4635697	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	3041754	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	4655795	5.00	ng/ul	989	1.000
5)	*IS:D12-Chrysene	25.47	3056	240	4256196	5.00	ng/ul	605	1.000
6)	*IS:D12-Perylene	31.03	3724	264	4336573	5.00	ng/ul	732	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	4834682	11.66	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	6291380	13.23	ng/ul	817	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	3846743	13.49	ng/ul	997	0.469
10)	BNSUR:D5-Nitrobenzene	11.82	1418	127	985975	7.44	NG/UL	983	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	5291363	6.51	ng/ul	974	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	4882188	6.86	ng/ul	998	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4930800	7.42	ng/ul	996	0.781
14)	Pyridine	5.41	649	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.43	1132	94	0	0.00	ng/ul	339	1.572
16)	Aniline	0.00	1166	93	0	Not Found	ng/ul	71	0.000
17)	Bis(2-Chloroethyl)Ether	0.00	1178	92	0	Not Found	ng/ul	165	0.000
18)	2-Chlorophenol	10.06	1207	128	0	0.00	ng/ul	49	1.661
19)	1,3-Dichlorobenzene	10.36	1243	146	7800	0.02	ng/ul	877	1.660
20)	1,4-Dichlorobenzene	10.53	1263	146	3975	0.01	ng/ul	197	1.616
21)	Benzyl Alcohol	10.75	1290	108	0	0.00	ng/ul	361	0.554
22)	1,2-Dichlorobenzene	10.90	1308	146	8387	0.02	ng/ul	900	1.498
23)	2-Methylphenol	10.97	1317	108	0	0.00	ng/ul	466	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.06	1327	45	0	0.00	ng/ul	0	1.122
25)	4-Methylphenol	0.00	1358	108	0	Not Found	ng/ul	507	0.000
26)	N-Nitrosodi-N-Propylamine	0.00	1366	70	0	Not Found	ng/ul	404	0.000
27)	Hexachloroethane	0.00	1411	119	0	Not Found	ng/ul	959	0.000
28)	Nitrobenzene	0.00	1425	77	0	Not Found	ng/ul	570	0.000
29)	Isophorone	0.00	1495	82	0	Not Found	ng/ul	560	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	729	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305059.1B2
Data File: 305059.MS
Name: 305059
Sample:

Quant Time: 05/22/02 08:41
Injected at: 05/21/02 21:55
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	733	0.000	
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	869	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	661	0.000	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	503	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	845	0.000	
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	334	0.000	
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	681	0.000	
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	544	0.000	
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	467	0.000	
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	996	0.000	
41)	2-Methylnaphthalene	15.51	1861	142	2915	0.00	ng/ul	949	0.639	
42)	Hexachlorocyclopentadiene	15.82	1898	237	244	0.00	ng/ul	592	0.414	
43)	2,4,6-Trichlorophenol	16.22	1947	196	1756	0.01	ng/ul	525	0.450	
44)	2,4,5-Trichlorophenol	16.34	1961	196	2390	0.01	ng/ul	47	0.486	
45)	2-Chloronapthalene	0.00	2019	162	0	Not Found	ng/ul	698	0.000	
46)	2-Nitroaniline	17.19	2063	138	297	0.00	ng/ul	479	0.409	
47)	Dimethyl Phthalate	17.46	2095	163	22276	0.02	ng/ul	922	1.919	
48)	2,6-Dinitrotoluene	17.64	2117	165	0	0.00	ng/ul	0	0.351	
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	488	0.000	
50)	3-Nitroaniline	17.93	2152	138	0	0.00	ng/ul	326	0.338	
51)	Acenaphthene	18.22	2187	152	683	0.00	ng/ul	775	1.500	
52)	2,4-Dinitrophenol	18.25	2190	184	0	0.00	ng/ul	648	0.060	
53)	4-Nitrophenol	18:28	2194	65	0	0.00	ng/ul	0	0.119	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	620	0.000	
55)	2,4-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	716	0.000	
56)	Benzo(b)Fluoranthene	0.00	3522	252	0	Not Found	ng/ul	522	0.000	
57)	Diethyl Phthalate	18.93	2272	149	102797	0.08	ng/ul	925	2.186	0.0827
58)	Fluorene	19.24	2309	166	900	0.00	ng/ul	515	1.161	
59)	4-Chlorophenyl Phenyl Ether	0.00	2306	204	0	Not Found	ng/ul	76	0.000	
60)	4-Nitroaniline	19.27	2312	108	0	0.00	ng/ul	686	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305059.1B2
Data File: 305059.MS
Name: 305059
Sample:

Quant Time: 05/22/02 08:41
Injected at: 05/21/02 21:55
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.30	2316	198	0	0.00	ng/ul	321	0.116	
62)	N-Nitrosodiphenylamine	19.35	2322	169	0	0.00	ng/ul	0	0.509	
63)	1,2-Diphenylhydrazine	0.00	2319	77	0	Not Found	ng/ul	730	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	295	0.000	
65)	Hexachlorobenzene	20.19	2423	284	0	0.00	ng/ul	0	0.305	
66)	Pentachlorophenol	20.48	2458	266	14978	0.07	ng/ul	510	0.232	
67)	Phenanthrene	20.69	2483	178	3798	0.00	ng/ul	358	1.076	
68)	Anthracene	20.89	2507	178	1946	0.00	ng/ul	58	1.183	
69)	Carbazole	20.99	2519	167	1829	0.00	ng/ul	461	1.075	
70)	Di-n-Butyl Phthalate	21.46	2575	149	1617282	0.86	ng/ul	974	2.015	0.030
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	17	0.000	
72)	Benzidine	22.89	2747	184	0	0.00	ng/ul	303	0.403	
73)	Pyrene	22.99	2759	202	7551	0.01	ng/ul	405	1.244	
74)	Butyl Benzyl Phthalate	23.83	2860	149	78516	0.09	ng/ul	562	1.013	0.003
75)	3,3'-Dichlorobenzidine	25.39	3047	252	3465	0.01	ng/ul	794	0.519	
76)	Bis(2-Ethylhexyl)Phthalate	24.93	2992	149	540791	0.39	ng/ul	726	1.633	0.013
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	256	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	100	0.000	
79)	Di-n-Octylphthalate	26.89	3227	149	407650	0.29	ng/ul	653	1.634	0.010
80)	Benzo(k)Fluoranthene	29.54	3545	252	2916	0.00	ng/ul	365	1.249	
81)	Benzo(a)Pyrene	31.01	3721	252	4285	0.00	ng/ul	481	1.069	
82)	Indeno(1,2,3-cd)Pyrene	37.89	4547	276	0	0.00	ng/ul	235	1.571	
83)	Dibenzo(a,h)Anthracene	37.85	4542	278	2539	0.00	ng/ul	496	0.990	
84)	Benzo(g,h,i)Perylene	40.17	4820	276	2389	0.00	ng/ul	688	1.284	
85)	N-Nitrosodimethylamine	5.19	623	73	2661	0.03	ng/ul	377	0.325	
86)	2,3,4,6-tetrachlorophenol	18.80	2256	232	1603	0.01	ng/ul	308	0.433	
87)	2,3-Dinitrotoluene	0.00	2203	165	0	Not Found	ng/ul	814	0.000	
88)	2,4-Diaminotoluene	16.78	2014	121	2029	0.01	ng/ul	689	0.184	
89)	2-Chloroaniline	12.44	1493	127	451	0.00	ng/ul	577	0.613	
90)	5-Nitro-o-toluidine	19.32	2319	152	763	0.00	ng/ul	497	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305059.1B2
Data File: 305059.MS
Name: 305059
Sample:

Quant Time: 05/22/02 08:41
Injected at: 05/21/02 21:55
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

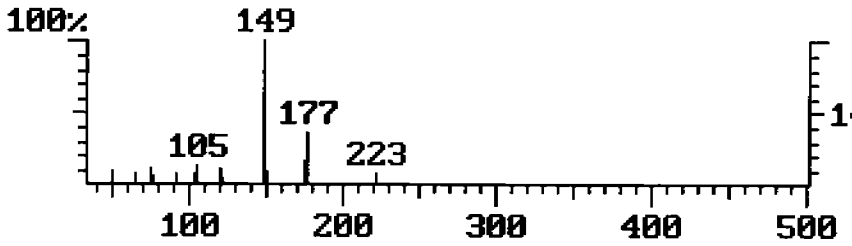
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.87	2264	143	903	0.00	ng/ul	440	0.867
92)	Benzaldehyde	9.41	1129	105	2119	0.00	ng/ul	695	2.400
93)	Acetophenone	11.41	1370	105	21702	0.03	ng/ul	937	0.909
94)	Caprolactam	14.64	1757	85	4099	0.06	ng/ul	782	0.078
95)	Biphenyl	16.74	2009	154	15152	0.02	ng/ul	927	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

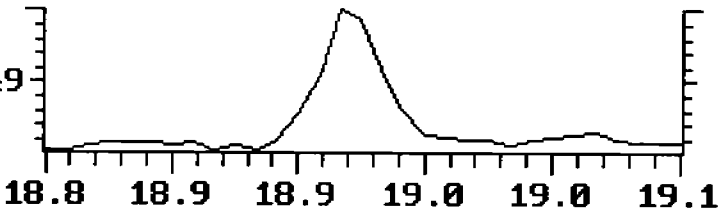
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 34 of 65
Data File: 305059 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 9:55 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2272
AGC: 279

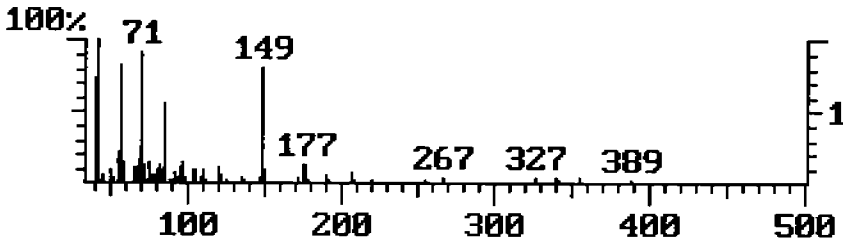
REFERENCE STANDARD SPECTRUM



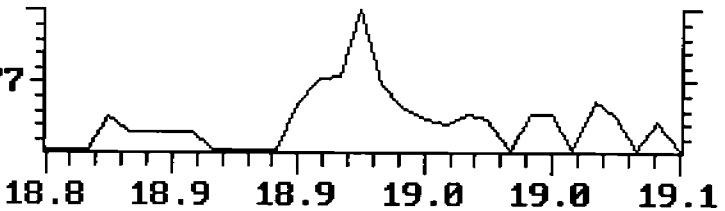
MASS 149 PLOT



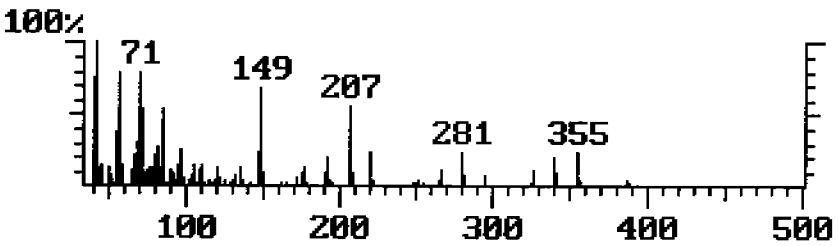
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



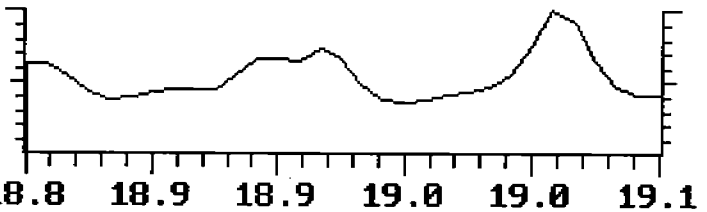
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

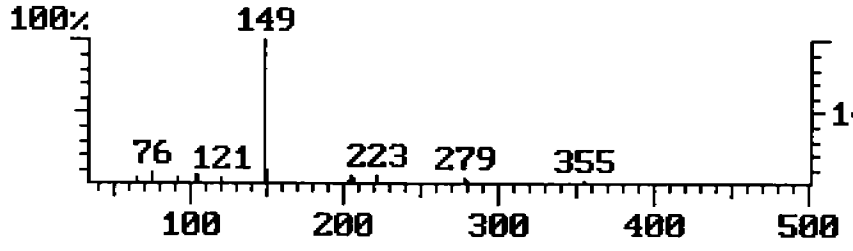


Approved_____ Date_____

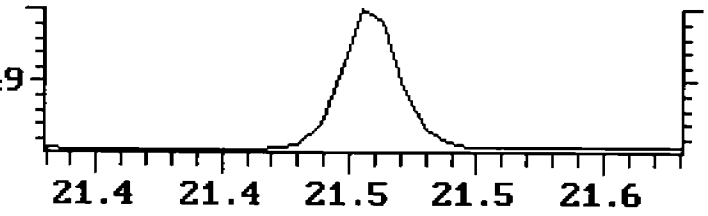
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 65
Data File: 305059 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 9:55 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2575
AGC: 70

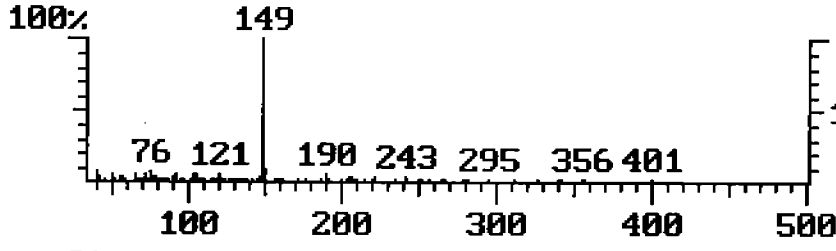
REFERENCE STANDARD SPECTRUM



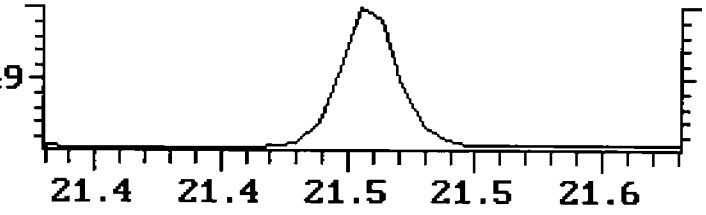
MASS 149 PLOT



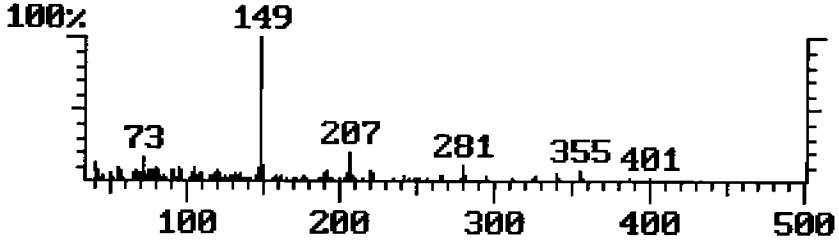
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



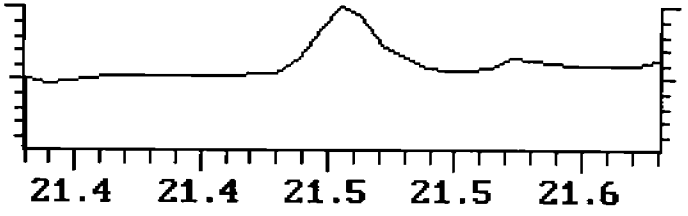
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

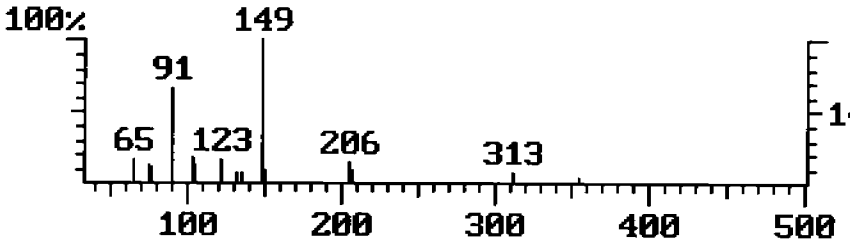


Approved_____ Date_____

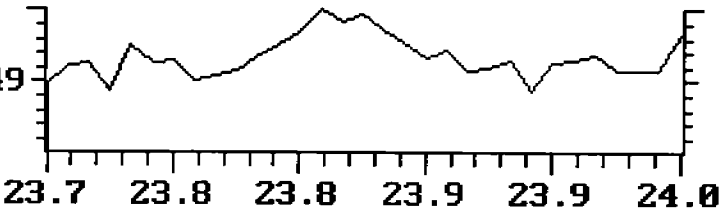
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 65
Data File: 305059 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 9:55 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2860
AGC: 81

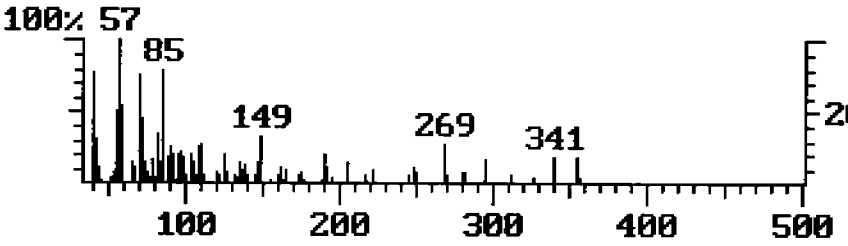
REFERENCE STANDARD SPECTRUM



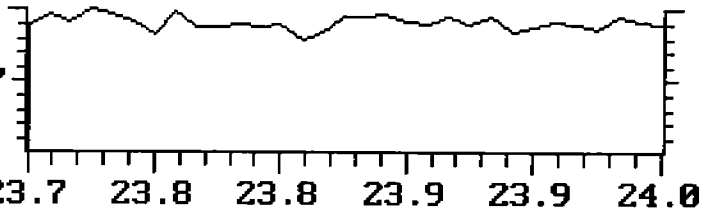
MASS 149 PLOT



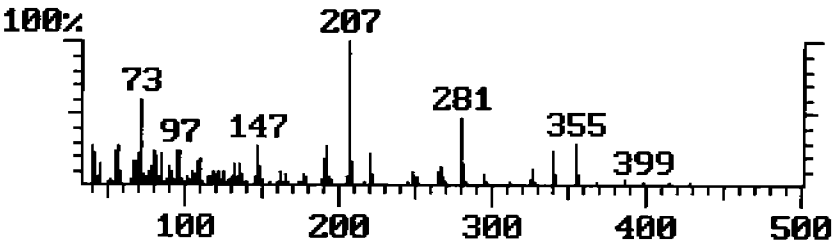
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



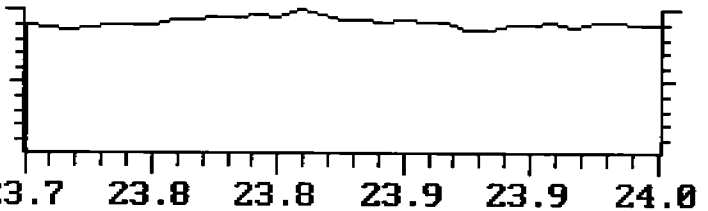
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

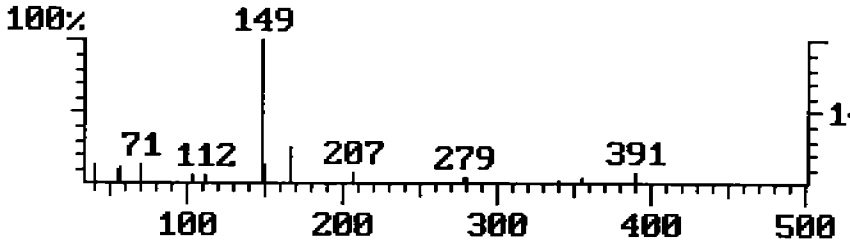


Approved_____ Date_____

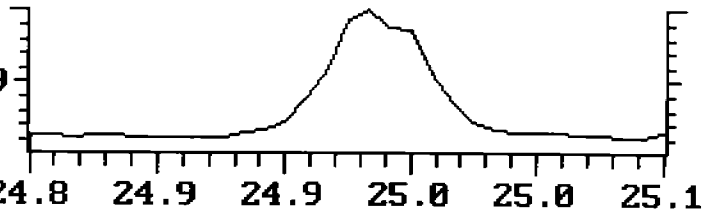
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 65
Data File: 305059 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 9:55 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2992
AGC: 75

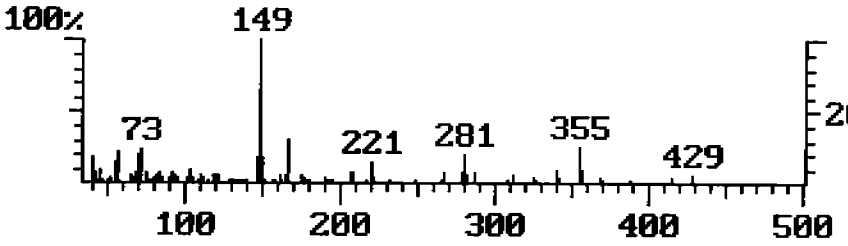
REFERENCE STANDARD SPECTRUM



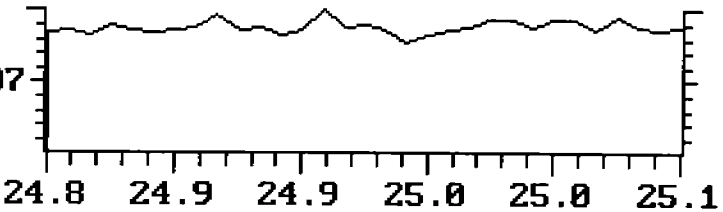
MASS 149 PLOT



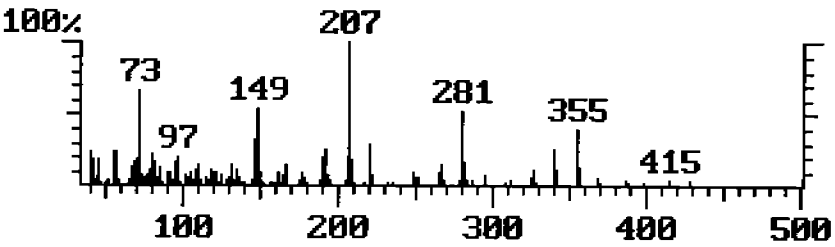
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



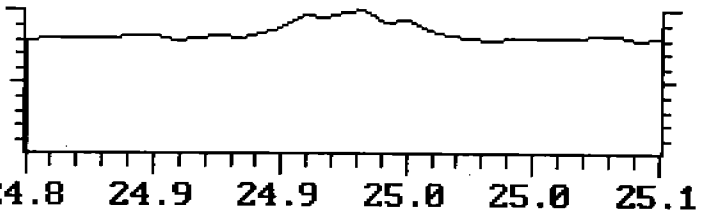
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

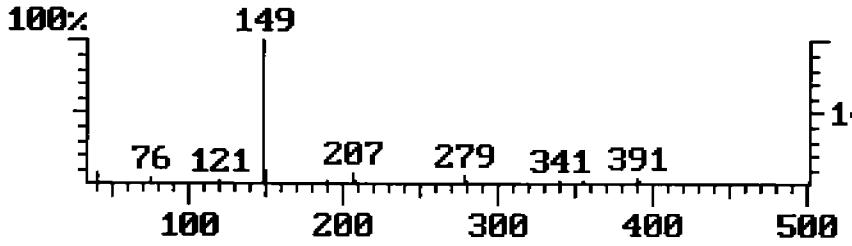


Approved_____ Date_____

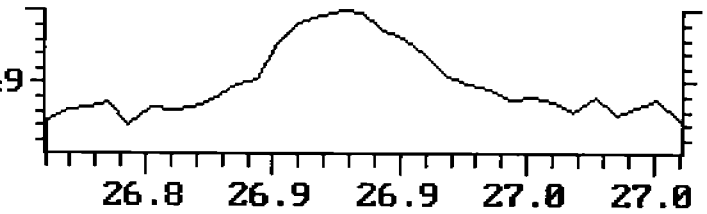
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 65
Data File: 305059 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 9:55 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3227
AGC: 104

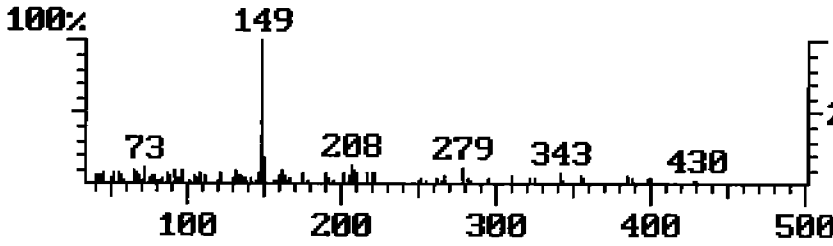
REFERENCE STANDARD SPECTRUM



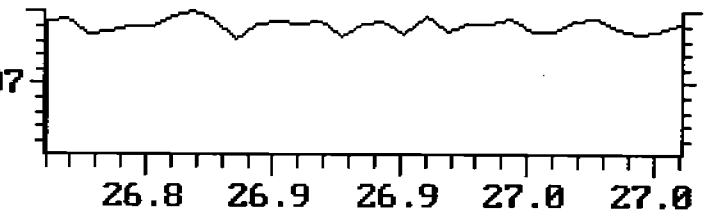
MASS 149 PLOT



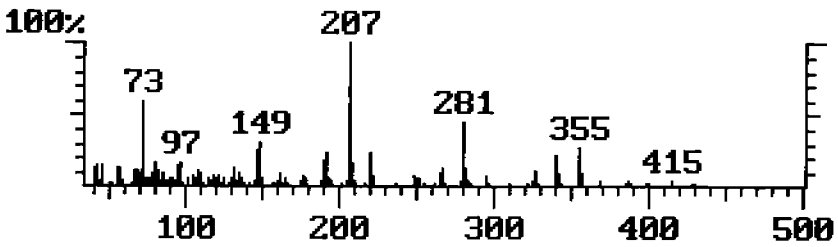
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



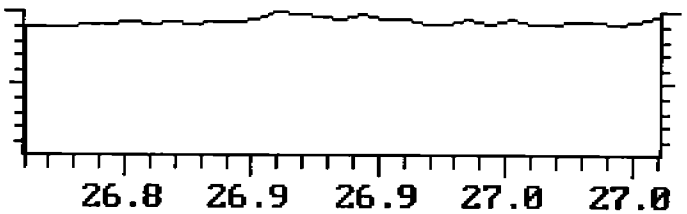
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
8EANS01008

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:30
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305060
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
8EANS01008

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:30
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305060
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.003**	J	0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.033**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.003**	J	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.014**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.005**		0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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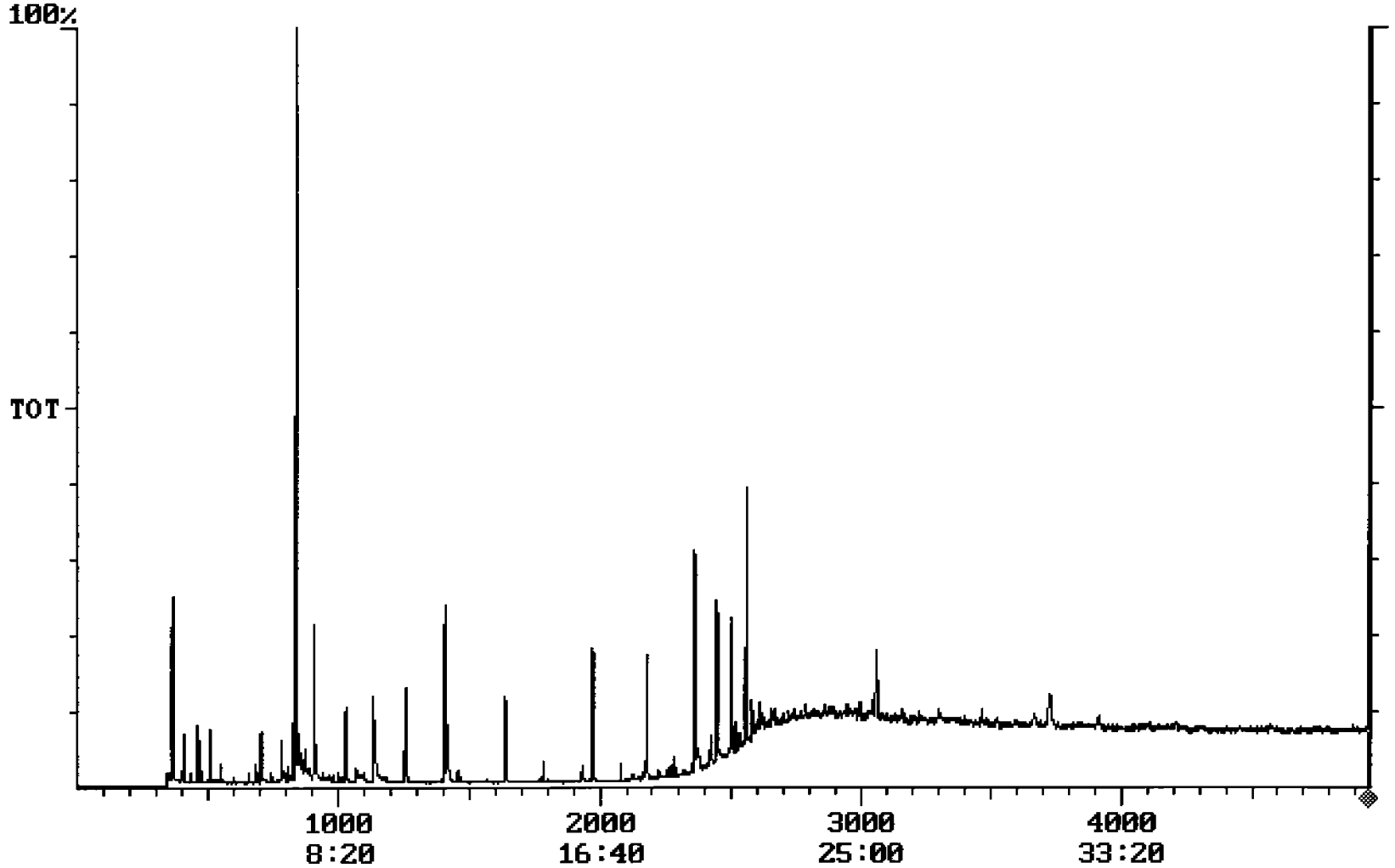
Chromatogram Plot C:\SATURN\DATA\305060 Date: 05/21/02 22:46:21
Comment: INSTRUMENT 133
Scan: 4943 Seg: 1 Group: 0 Retention: 41:12 RIC: 1114110 Masses: 41-430
Plotted: 1 to 4943 Range: 1 to 4943 100% = 15316946



QUANT REPORT

Operator ID: JMK
Output File: 305060.1B2
Data File: 305060.MS
Name: 305060
Sample:

Quant Time: 05/22/02 09:36
Injected at: 05/21/02 22:46
Dilution Factor: 1.00
Instrument ID: 133

305 → 1ml
97 250 lids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1388524	5.00	ng/ul	991	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	4480960	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2899049	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4266409	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	3977952	5.00	ng/ul	640	1.000
6)	*IS:D12-Perylene	31.06	3727	264	4066663	5.00	ng/ul	848	1.000
7)	ACSUR:2-Fluorophenol	7.58	909	112	4879226	11.95	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1137	99	6062102	12.95	ng/ul	907	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	3261094	12.00	ng/ul	999	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	883016	6.89	NG/UL	985	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	5366789	6.83	ng/ul	971	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	4952631	7.30	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4633246	7.45	ng/ul	994	0.782
14)	Pyridine	5.33	640	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.42	1130	94	540	0.00	ng/ul	732	1.572
16)	Aniline	0.00	1166	93	0	Not Found	ng/ul	214	0.000
17)	Bis(2-Chloroethyl)Ether	0.00	1178	92	0	Not Found	ng/ul	162	0.000
18)	2-Chlorophenol	9.97	1197	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.36	1243	146	7814	0.02	ng/ul	852	1.660
20)	1,4-Dichlorobenzene	10.52	1262	146	0	0.00	ng/ul	0	1.616
21)	Benzyl Alcohol	10.84	1301	108	0	0.00	ng/ul	315	0.554
22)	1,2-Dichlorobenzene	10.91	1309	146	6122	0.01	ng/ul	811	1.498
23)	2-Methylphenol	10.97	1317	108	0	0.00	ng/ul	345	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.07	1329	45	0	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.28	1354	108	252	0.00	ng/ul	772	1.246
26)	N-Nitrosodi-N-Propylamine	11.29	1355	70	447	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.84	1421	119	0	0.00	ng/ul	962	0.605
28)	Nitrobenzene	11.85	1422	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	0.00	1495	82	0	Not Found	ng/ul	526	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	488	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305060.1B2
Data File: 305060.MS
Name: 305060
Sample:

Quant Time: 05/22/02 09:36
Injected at: 05/21/02 22:46
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	315	0.000
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	607	0.000
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	514	0.000
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	99	0.000
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	914	0.000
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	284	0.000
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	618	0.000
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	427	0.000
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	507	0.000
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	993	0.000
41)	2-Methylnaphthalene	15.53	1864	142	2677	0.00	ng/ul	772	0.639
42)	Hexachlorocyclopentadiene	15.88	1906	237	0	0.00	ng/ul	419	0.414
43)	2,4,6-Trichlorophenol	0.00	1950	196	0	Not Found	ng/ul	130	0.000
44)	2,4,5-Trichlorophenol	0.00	1961	196	0	Not Found	ng/ul	192	0.000
45)	2-Chloronapthalene	0.00	2019	162	0	Not Found	ng/ul	524	0.000
46)	2-Nitroaniline	17.07	2048	138	0	0.00	ng/ul	24	0.409
47)	Dimethyl Phthalate	17.41	2089	163	0	0.00	ng/ul	0	1.919
48)	2,6-Dinitrotoluene	17.64	2117	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	434	0.000
50)	3-Nitroaniline	18.00	2160	138	0	0.00	ng/ul	74	0.338
51)	Acenaphthene	18.24	2189	152	360	0.00	ng/ul	475	1.500
52)	2,4-Dinitrophenol	18.27	2192	184	0	0.00	ng/ul	428	0.060
53)	4-Nitrophenol	18.42	2211	65	0	0.00	ng/ul	0	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	448	0.000
55)	2,4-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	699	0.000
56)	Benzo(b)Fluoranthene	0.00	3522	252	0	Not Found	ng/ul	552	0.000
57)	Diethyl Phthalate	18.93	2272	149	118049	0.094	ng/ul	961	2.186
58)	Fluorene	19.25	2310	166	1027	0.00	ng/ul	786	1.161
59)	4-Chlorophenyl Phenyl Ether	19.11	2293	204	0	0.00	ng/ul	405	0.783
60)	4-Nitroaniline	19.23	2308	108	0	0.00	ng/ul	654	0.736

* Compound is ISTD

Operator ID: JMK
Output File: 305060.1B2
Data File: 305060.MS
Name: 305060
Sample:

Quant Time: 05/22/02 09:36
Injected at: 05/21/02 22:46
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.46	2335	198	0	0.00	ng/ul	306	0.116
62)	N-Nitrosodiphenylamine	19.37	2325	169	0	0.00	ng/ul	0	0.509
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	685	0.000
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	311	0.000
65)	Hexachlorobenzene	20.29	2435	284	0	0.00	ng/ul	0	0.305
66)	Pentachlorophenol	0.00	2460	266	0	Not Found	ng/ul	237	0.000
67)	Phenanthrene	20.84	2501	178	16151	0.02	ng/ul	363	1.076
68)	Anthracene	20.88	2505	178	2245	0.00	ng/ul	286	1.183
69)	Carbazole	0.00	2535	167	0	Not Found	ng/ul	250	0.000
70)	Di-n-Butyl Phthalate	21.46	2575	149	1656289	0.97	ng/ul	963	2.005
71)	Fluoranthene	22.70	2724	202	2197	0.00	ng/ul	399	1.113
72)	Benzidine	0.00	2727	184	0	Not Found	ng/ul	260	0.000
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	102	0.000
74)	Butyl Benzyl Phthalate	23.82	2858	149	62939	0.08	ng/ul	605	1.013
75)	3,3'-Dichlorobenzidine	25.10	3012	252	4520	0.01	ng/ul	403	0.520
76)	Bis(2-Ethylhexyl)Phthalate	24.95	2994	149	535293	0.41	ng/ul	663	1.633
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	229	0.000
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	140	0.000
79)	Di-n-Octylphthalate	26.91	3229	149	194168	0.15	ng/ul	696	1.625
80)	Benzo(k)Fluoranthene	29.53	3544	252	2155	0.00	ng/ul	531	1.249
81)	Benzo(a)Pyrene	30.82	3699	252	2654	0.00	ng/ul	475	1.069
82)	Indeno(1,2,3-cd)Pyrene	0.00	4553	276	0	Not Found	ng/ul	270	0.000
83)	Dibenzo(a,h)Anthracene	0.00	4560	278	0	Not Found	ng/ul	298	0.000
84)	Benzo(g,h,i)Perylene	40.04	4805	276	2539	0.00	ng/ul	439	1.284
85)	N-Nitrosodimethylamine	5.19	623	73	12579	0.14	ng/ul	615	0.325
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	46	0.000
87)	2,3-Dinitrotoluene	0.00	2221	165	0	Not Found	ng/ul	405	0.000
88)	2,4-Diaminotoluene	16.79	2015	121	3325	0.02	ng/ul	516	0.184
89)	2-Chloroaniline	12.64	1517	127	314	0.00	ng/ul	438	0.613
90)	5-Nitro-o-toluidine	19.07	2288	152	480	0.00	ng/ul	564	0.435

* Compound is ISTD

Operator ID: JMK Quant Time: 05/22/02 09:36
Output File: 305060.1B2 Injected at: 05/21/02 22:46
Data File: 305060.MS Dilution Factor: 1.00
Name: 305060 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

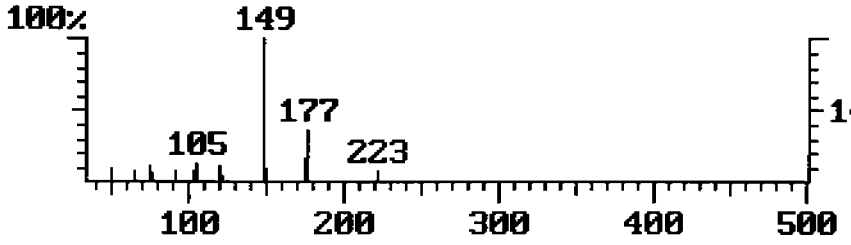
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.76	2251	143	1207	0.00	ng/ul	685	0.867
92)	Benzaldehyde	9.43	1132	105	1123	0.00	ng/ul	781	2.400
93)	Acetophenone	11.42	1370	105	24100	0.03	ng/ul	846	0.909
94)	Caprolactam	0.00	1758	85	0	Not Found	ng/ul	274	0.000
95)	Biphenyl	16.73	2008	154	14815	0.02	ng/ul	917	1.531
96)	Atrazine	20.21	2425	200	0	0.00	ng/ul	311	0.437

* Compound is ISTD

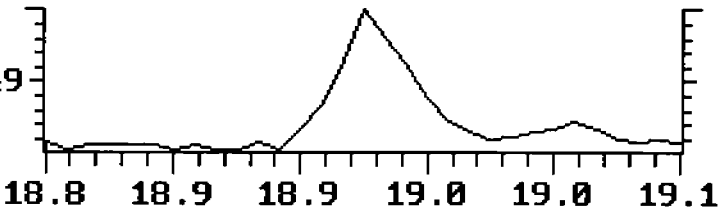
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 36 of 62
Data File: 305060 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:46 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2272
AGC: 272

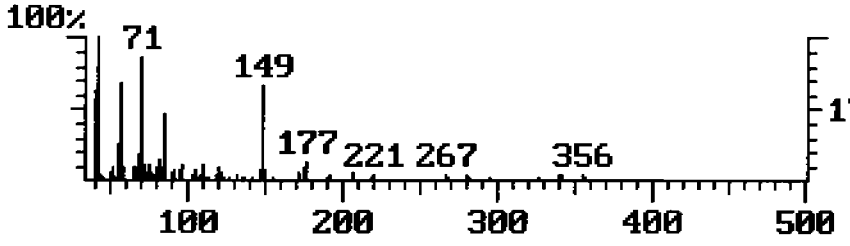
REFERENCE STANDARD SPECTRUM



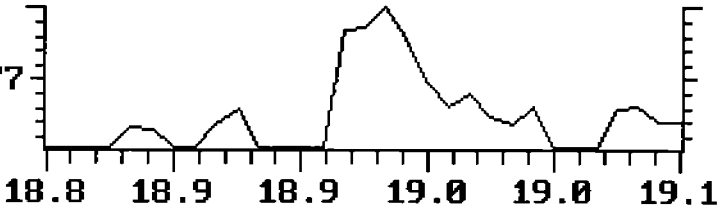
MASS 149 PLOT



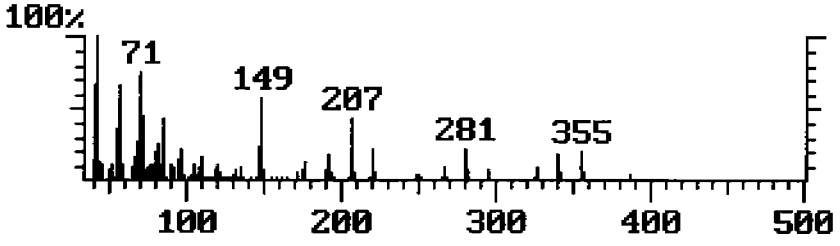
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



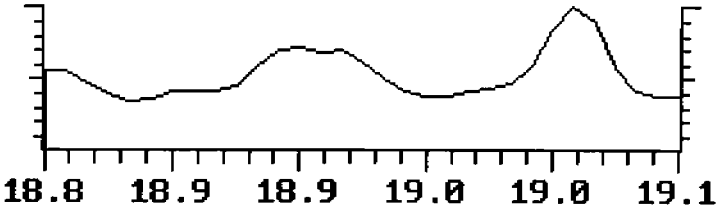
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

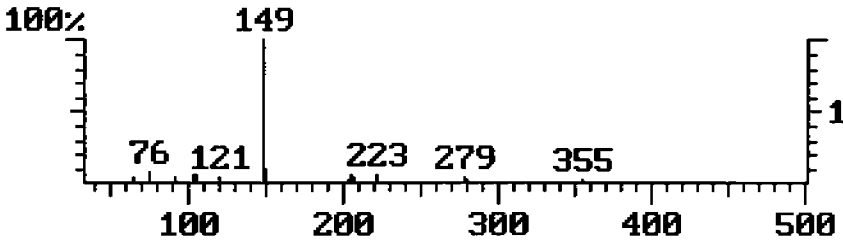


Approved_____ Date_____

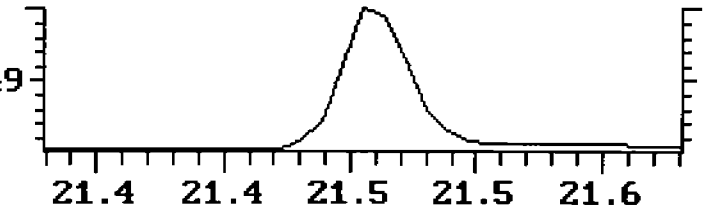
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 62
Data File: 305060 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:46 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2575
AGC: 78

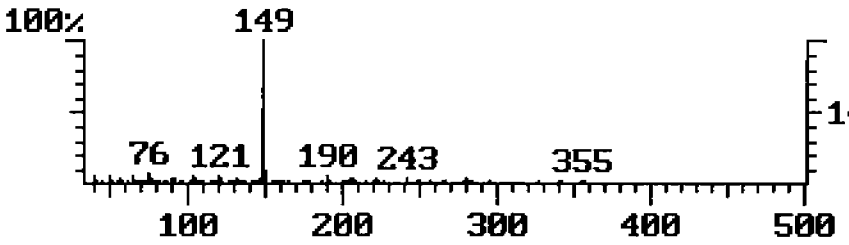
REFERENCE STANDARD SPECTRUM



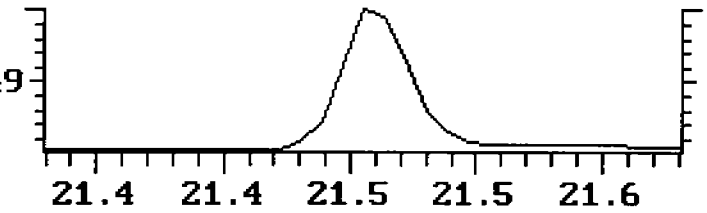
MASS 149 PLOT



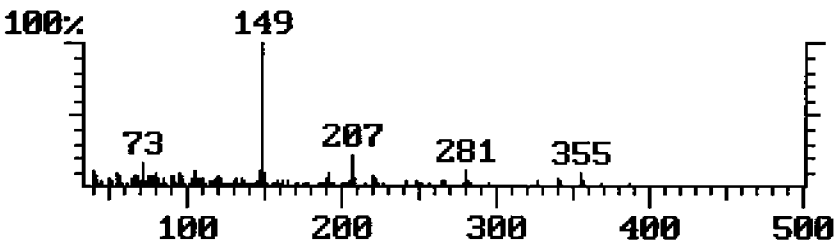
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



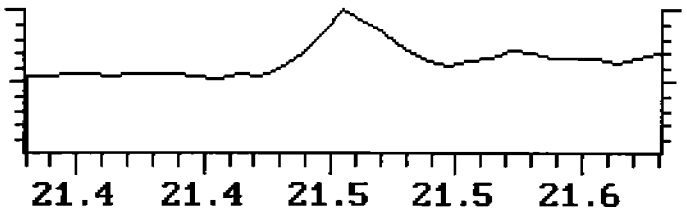
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

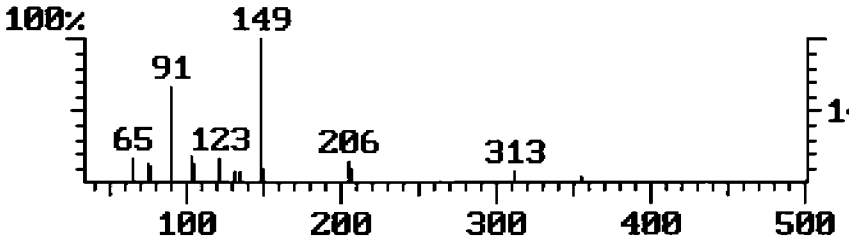


Approved_____ Date_____

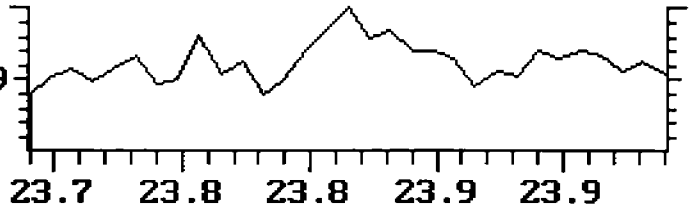
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 62
Data File: 305060 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:46 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2858
AGC: 73

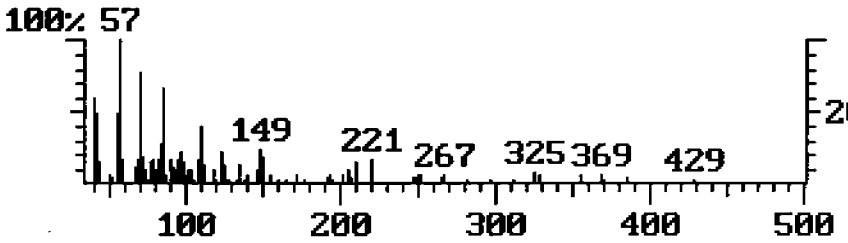
REFERENCE STANDARD SPECTRUM



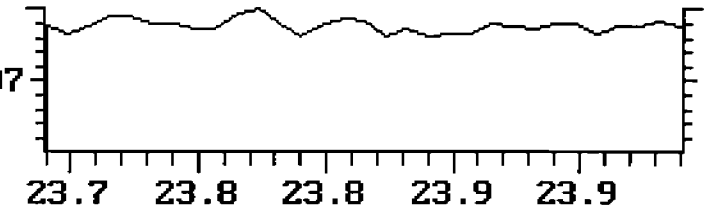
MASS 149 PLOT



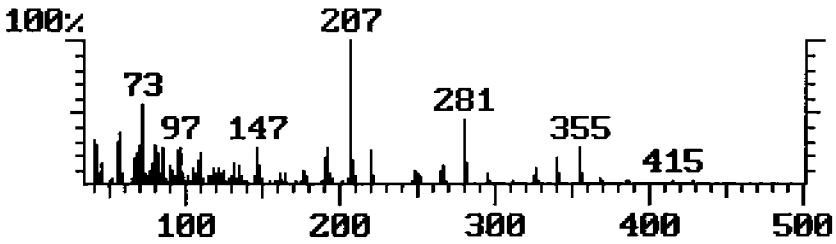
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



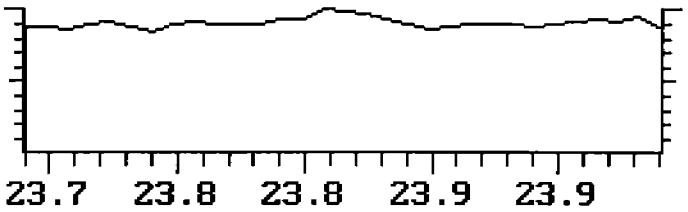
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

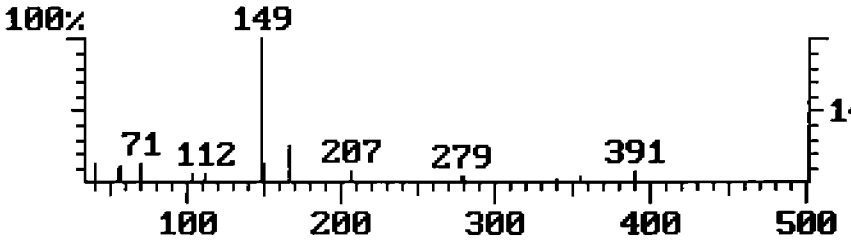


Approved_____ Date_____

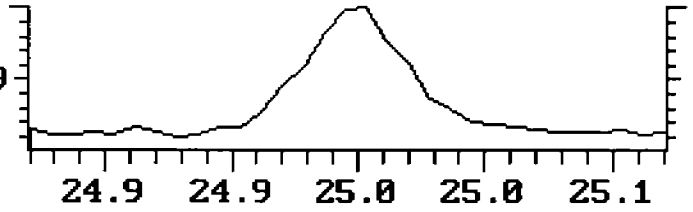
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 62
Data File: 305060 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:46 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2994
AGC: 75

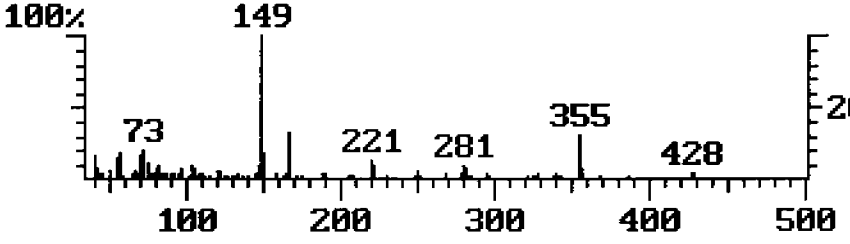
REFERENCE STANDARD SPECTRUM



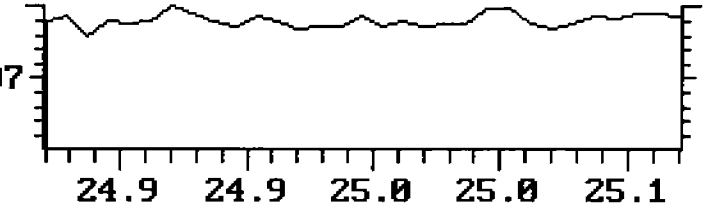
MASS 149 PLOT



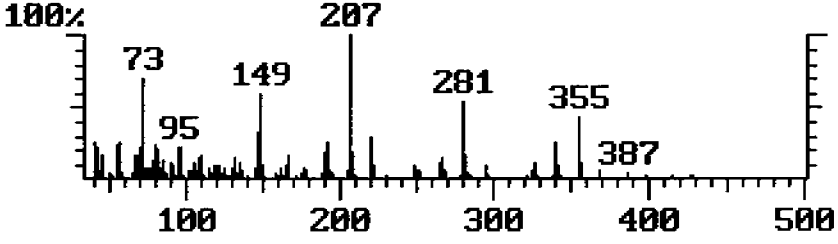
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



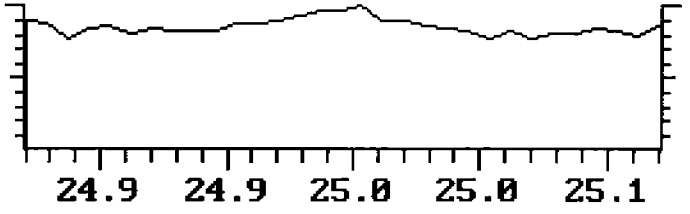
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

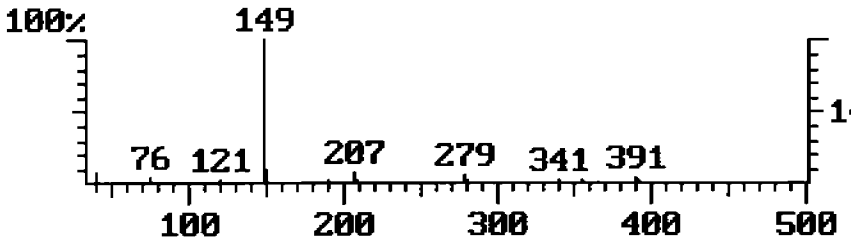


Approved_____ Date_____

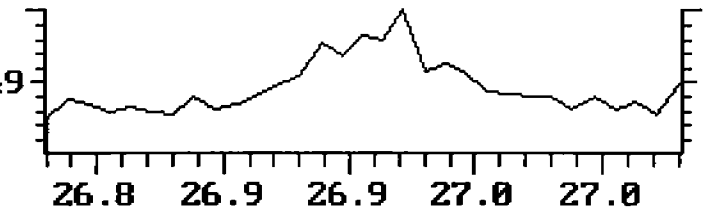
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 62
Data File: 305060 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:46 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3229
AGC: 97

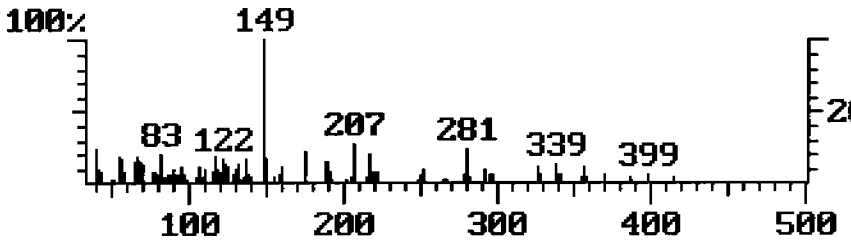
REFERENCE STANDARD SPECTRUM



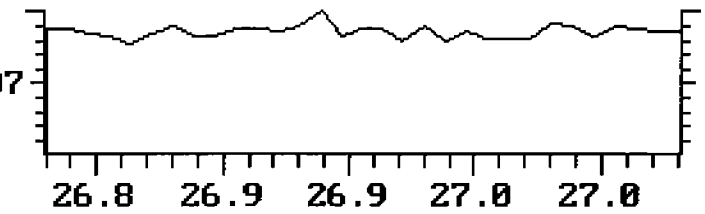
MASS 149 PLOT



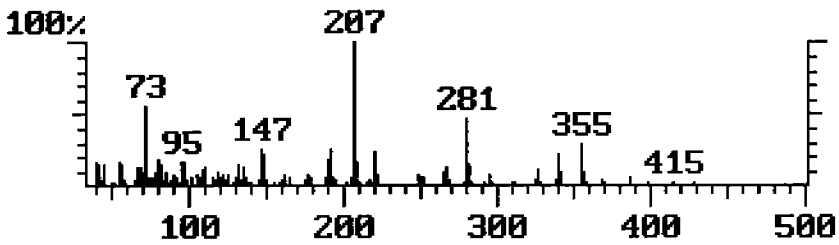
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



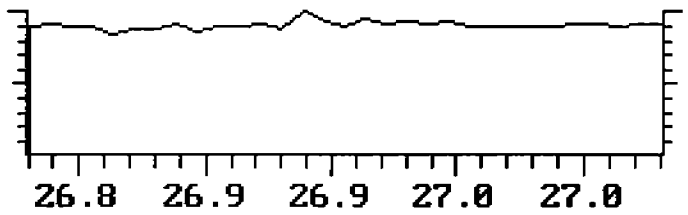
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
1DNS01010

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:22
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305061
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	**0.001**	J	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
1DNS01010

Submittal Number 35988- 1
Date Sampled: 05/10/02 Time: 14:22
Date Received: 05/11/02 Time: 09:45
Analysis Date: 05/21/02
Lab Sample No: 305061
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.005**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.034**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.005**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.015**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.004**	J	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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Chromatogram Plot C:\SATURN\DATA\305061 Date: 05/21/02 23:37:06
Comment: INSTRUMENT 133
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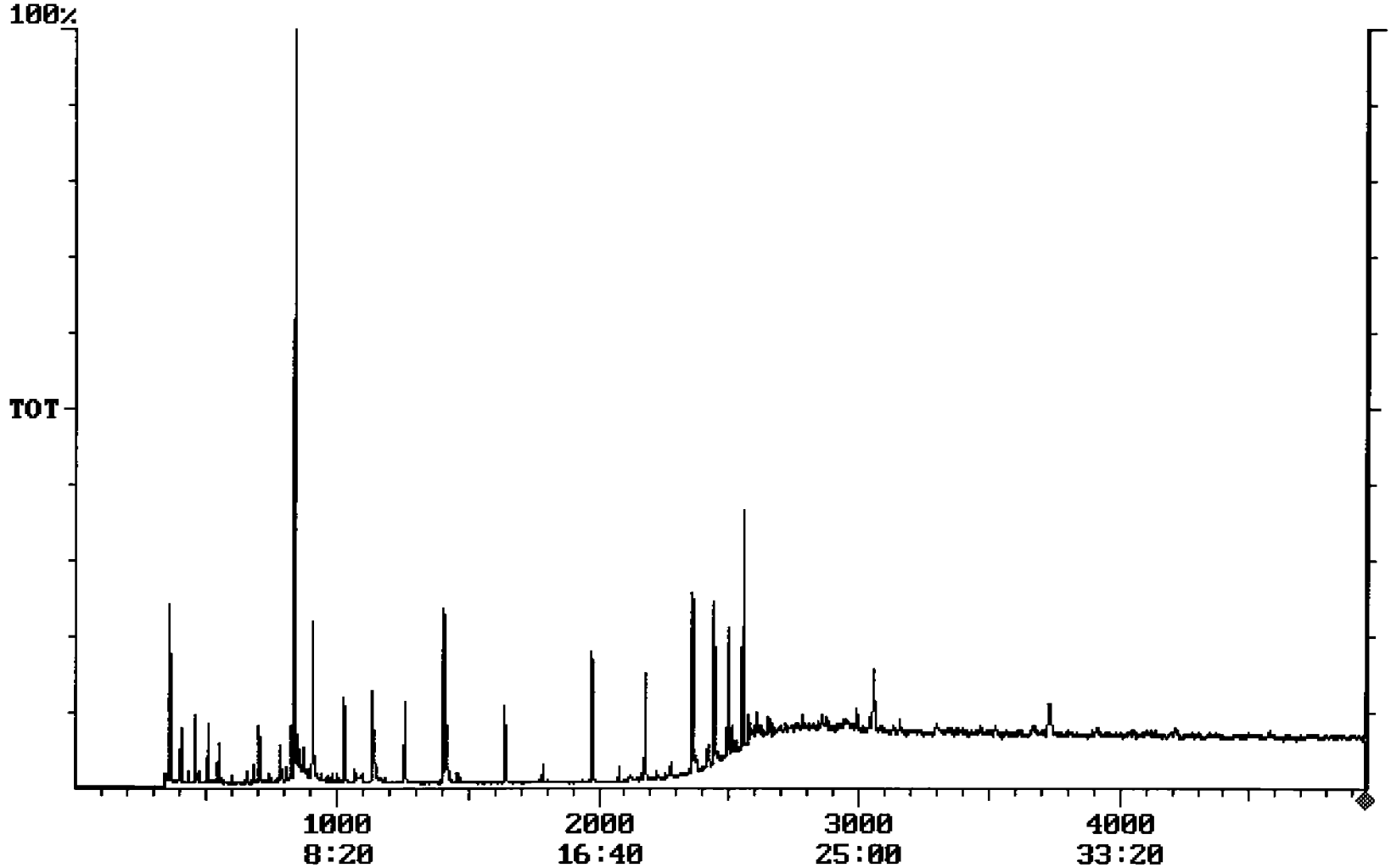
Plotted: 1 to 4944 Range: 1 to 4944 100% = 16426720



000479

Operator ID: JMK
Output File: 305061.1B2
Data File: 305061.MS
Name: 305061
Sample:

Quant Time: 05/22/02 09:42
Injected at: 05/21/02 23:37
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1357628	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	4503885	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2877654	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4466329	5.00	ng/ul	993	1.000
5)	*IS:D12-Chrysene	25.49	3059	240	4098252	5.00	ng/ul	601	1.000
6)	*IS:D12-Perylene	31.10	3732	264	4236755	5.00	ng/ul	781	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	5737945	14.38	ng/ul	997	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	6693843	14.62	ng/ul	791	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	3618115	13.41	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	1057240	8.21	NG/UL	981	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	5644912	7.15	ng/ul	974	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	5254259	7.80	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.27	2553	230	4714327	7.37	ng/ul	998	0.781
14)	Pyridine	5.42	651	79	439	0.00	ng/ul	51	1.146
15)	Phenol	9.44	1133	94	0	0.00	ng/ul	0	1.572
16)	Aniline	0.00	1167	93	0	Not Found	ng/ul	149	0.000
17)	Bis(2-Chloroethyl)Ether	9.97	1196	92	0	0.00	ng/ul	0	0.833
18)	2-Chlorophenol	10.01	1202	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.36	1243	146	10516	0.02	ng/ul	893	1.660
20)	1,4-Dichlorobenzene	0.00	1268	146	0	Not Found	ng/ul	183	0.000
21)	Benzyl Alcohol	10.88	1306	108	437	0.00	ng/ul	631	0.554
22)	1,2-Dichlorobenzene	10.89	1307	146	9505	0.02	ng/ul	846	1.498
23)	2-Methylphenol	10.89	1307	108	0	0.00	ng/ul	368	1.299
24)	Bis(2-Chloroisopropyl)Ether	0.00	1330	45	0	Not Found	ng/ul	256	0.000
25)	4-Methylphenol	11.32	1359	108	0	0.00	ng/ul	540	1.246
26)	N-Nitrosodi-N-Propylamine	11.46	1375	70	406	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.82	1418	119	0	0.00	ng/ul	961	0.605
28)	Nitrobenzene	11.83	1420	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	0.00	1496	82	0	Not Found	ng/ul	475	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	670	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305061.1B2
Data File: 305061.MS
Name: 305061
Sample:

Quant Time: 05/22/02 09:42
Injected at: 05/21/02 23:37
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	474	0.000
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	396	0.000
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	792	0.000
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	52	0.000
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	838	0.000
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	381	0.000
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	525	0.000
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	499	0.000
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	989	0.000
41)	2-Methylnaphthalene	15.51	1861	142	5125	0.01	ng/ul	874	0.639
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	2	0.000
43)	2,4,6-Trichlorophenol	0.00	1951	196	0	Not Found	ng/ul	27	0.000
44)	2,4,5-Trichlorophenol	0.00	1962	196	0	Not Found	ng/ul	52	0.000
45)	2-Chloronapthalene	16.82	2018	162	2645	0.00	ng/ul	826	1.302
46)	2-Nitroaniline	17.01	2041	138	255	0.00	ng/ul	511	0.409
47)	Dimethyl Phthalate	17.50	2100	163	1389	0.00	ng/ul	775	1.919
48)	2,6-Dinitrotoluene	17.62	2114	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	549	0.000
50)	3-Nitroaniline	17.94	2153	138	512	0.00	ng/ul	727	0.338
51)	Acenaphthene	18.24	2189	152	7165	0.01	ng/ul	842	1.500
52)	2,4-Dinitrophenol	18.25	2190	184	0	0.00	ng/ul	842	0.060
53)	4-Nitrophenol	18.23	2188	65	0	0.00	ng/ul	0	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	663	0.000
55)	2,4-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	782	0.000
56)	Benzo(b)Fluoranthene	0.00	3523	252	0	Not Found	ng/ul	622	0.000
57)	Diethyl Phthalate	18.94	2273	149	185365	0.15	ng/ul	971	2.186
58)	Fluorene	19.25	2310	166	4715	0.01	ng/ul	801	1.161
59)	4-Chlorophenyl Phenyl Ether	0.00	2307	204	0	Not Found	ng/ul	243	0.000
60)	4-Nitroaniline	19.21	2305	108	0	0.00	ng/ul	0	0.736

0.0521

* Compound is ISTD

Operator ID: JMK
Output File: 305061.1B2
Data File: 305061.MS
Name: 305061
Sample:

Quant Time: 05/22/02 09:42
Injected at: 05/21/02 23:37
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	282	0.000	
62)	N-Nitrosodiphenylamine	19.37	2325	169	0	0.00	ng/ul	178	0.509	
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	665	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	254	0.000	
65)	Hexachlorobenzene	20.17	2420	284	0	0.00	ng/ul	0	0.305	
66)	Pentachlorophenol	20.58	2470	266	2272	0.01	ng/ul	309	0.232	
67)	Phenanthrene	20.84	2501	178	17583	0.02	ng/ul	521	1.076	
68)	Anthracene	20.90	2508	178	2389	0.00	ng/ul	231	1.183	
69)	Carbazole	21.09	2531	167	0	0.00	ng/ul	0	1.075	
70)	Di-n-Butyl Phthalate	21.47	2576	149	1729698	0.97	ng/ul	953	2.005	0.031
71)	Fluoranthene	22.59	2711	202	6471	0.01	ng/ul	316	1.113	
72)	Benzidine	22.82	2738	184	2777	0.01	ng/ul	352	0.403	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	100	0.000	
74)	Butyl Benzyl Phthalate	23.83	2860	149	110235	0.13	ng/ul	622	1.013	0.0016
75)	3,3'-Dichlorobenzidine	25.22	3026	252	2678	0.01	ng/ul	305	0.519	
76)	Bis(2-Ethylhexyl)Phthalate	24.96	2995	149	581369	0.43	ng/ul	830	1.633	0.015
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	95	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	59	0.000	
79)	Di-n-Octylphthalate	26.92	3231	149	145360	0.11	ng/ul	683	1.622	0.0032
80)	Benzo(k)Fluoranthene	29.47	3537	252	7610	0.01	ng/ul	378	1.249	
81)	Benzo(a)Pyrene	30.94	3713	252	4582	0.01	ng/ul	438	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4554	276	0	Not Found	ng/ul	87	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4561	278	0	Not Found	ng/ul	156	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4820	276	0	Not Found	ng/ul	137	0.000	
85)	N-Nitrosodimethylamine	5.29	635	73	711	0.01	ng/ul	145	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	45	0.000	
87)	2,3-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	704	0.000	
88)	2,4-Diaminotoluene	16.68	2002	121	4492	0.03	ng/ul	394	0.184	
89)	2-Chloroaniline	12.44	1493	127	368	0.00	ng/ul	625	0.613	
90)	5-Nitro-o-toluidine	19.13	2296	152	817	0.00	ng/ul	690	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305061.1B2
Data File: 305061.MS
Name: 305061
Sample:

Quant Time: 05/22/02 09:42
Injected at: 05/21/02 23:37
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

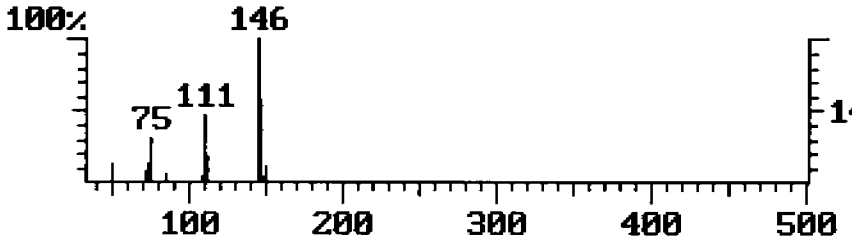
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.77	2253	143	1571	0.00	ng/ul	806	0.867
92)	Benzaldehyde	9.42	1131	105	1426	0.00	ng/ul	639	2.400
93)	Acetophenone	11.41	1369	105	24412	0.03	ng/ul	862	0.909
94)	Caprolactam	14.71	1766	85	7003	0.10	ng/ul	535	0.078
95)	Biphenyl	16.74	2009	154	15490	0.02	ng/ul	899	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	16	0.000

* Compound is ISTD

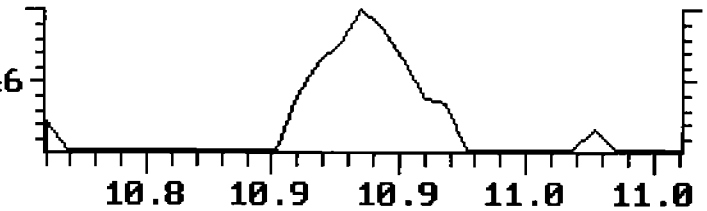
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 20 of 61
Data File: 305061 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:37 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

1,2-Dichlorobenzene SCAN#: 1307
AGC: 995

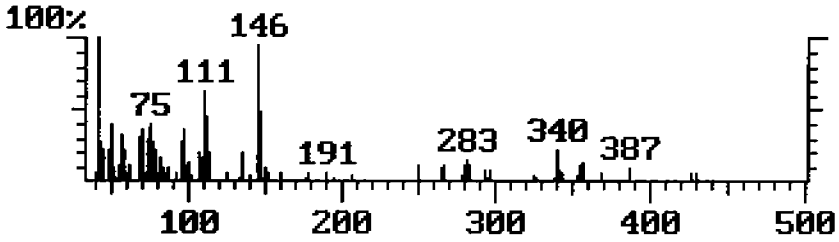
REFERENCE STANDARD SPECTRUM



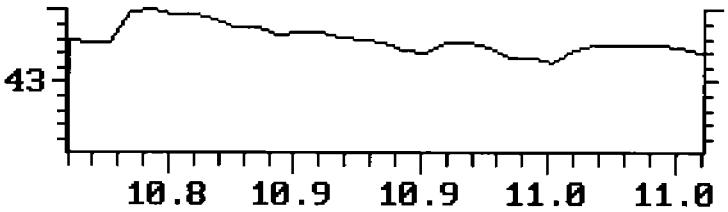
MASS 146 PLOT



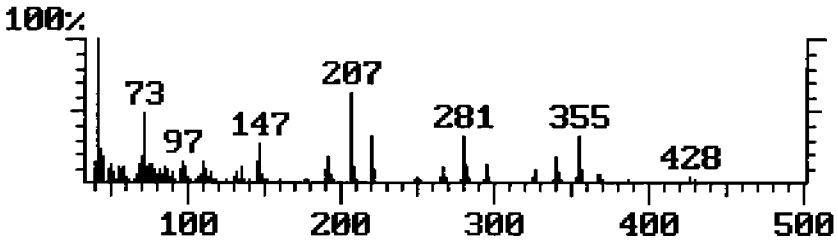
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



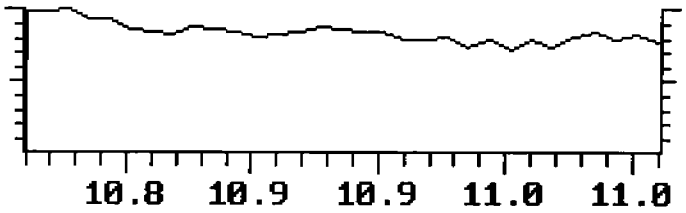
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

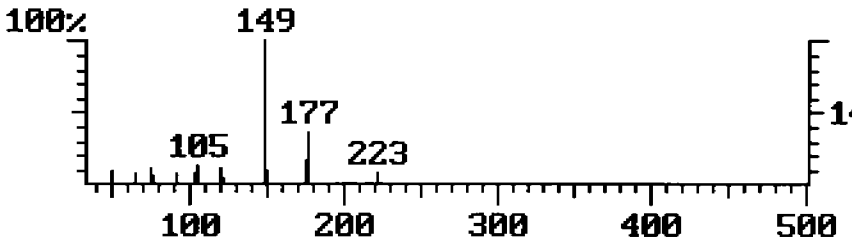


Approved_____ Date_____

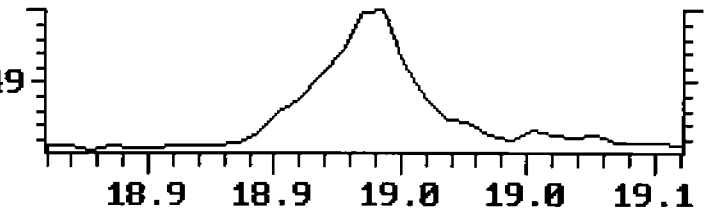
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 35 of 61
Data File: 305061 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:37 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2273
AGC: 366

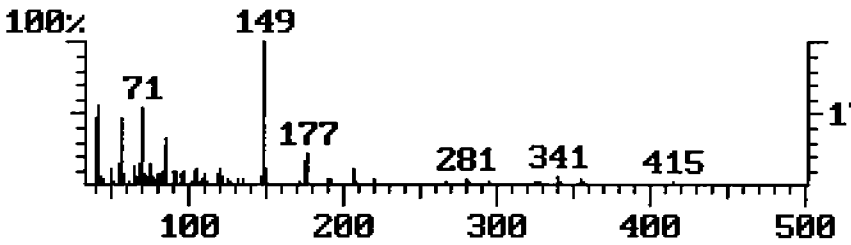
REFERENCE STANDARD SPECTRUM



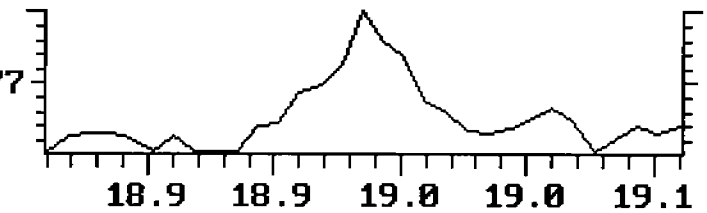
MASS 149 PLOT



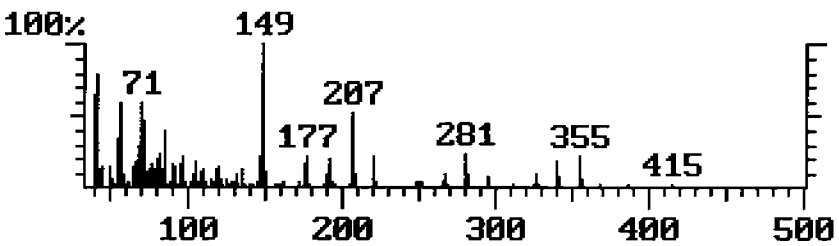
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



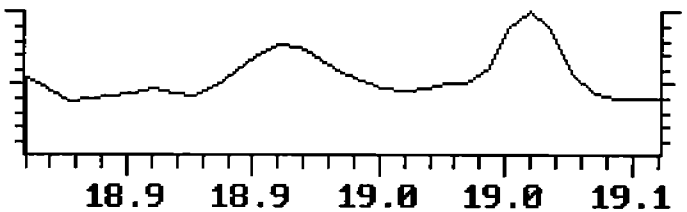
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

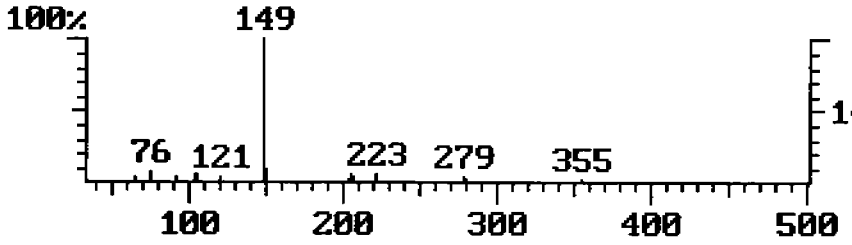


Approved_____ Date_____

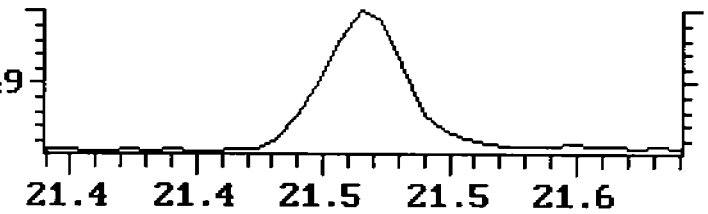
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 61
Data File: 305061 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:37 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2576
AGC: 83

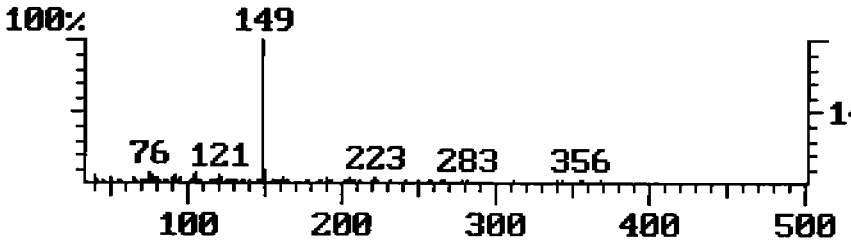
REFERENCE STANDARD SPECTRUM



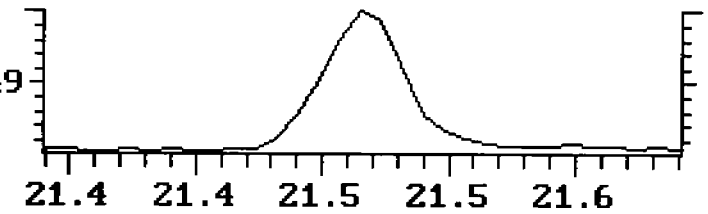
MASS 149 PLOT



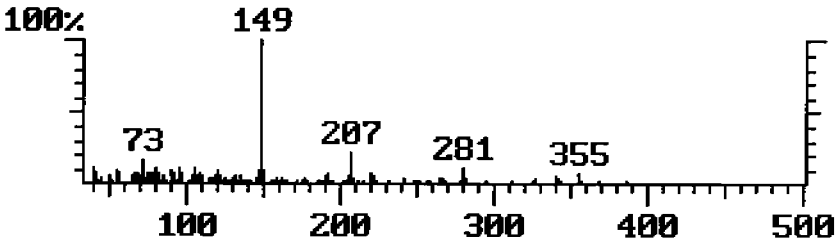
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



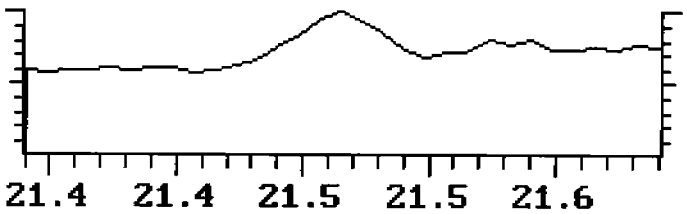
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

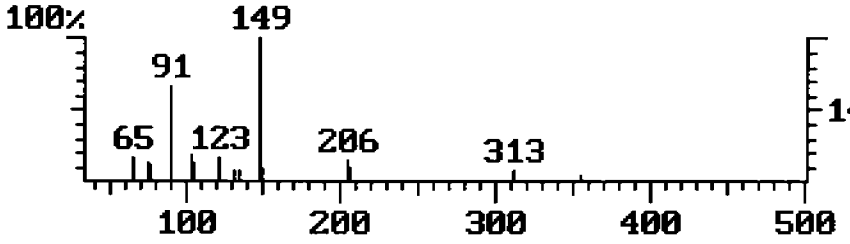


Approved_____ Date_____

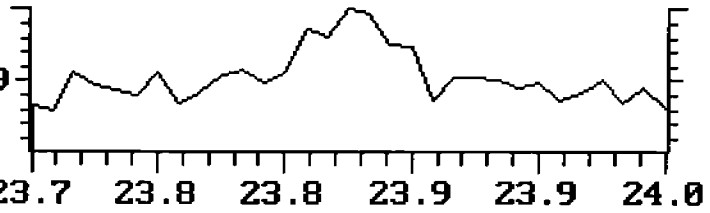
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 61
Data File: 305061 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:37 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2860
AGC: 81

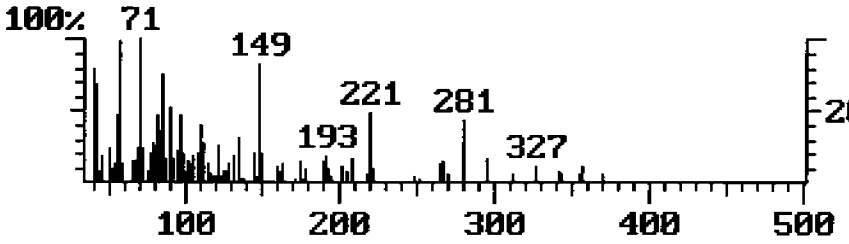
REFERENCE STANDARD SPECTRUM



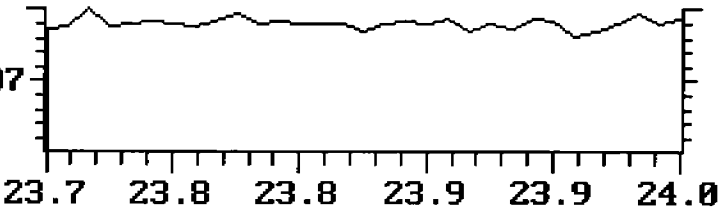
MASS 149 PLOT



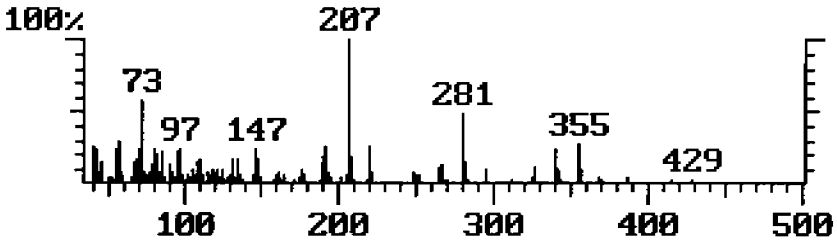
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



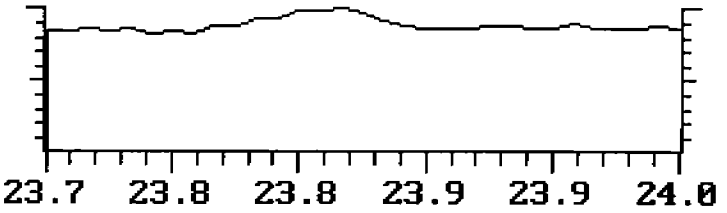
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

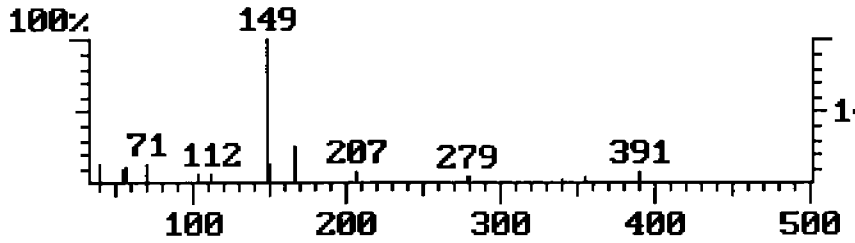


Approved_____ Date_____

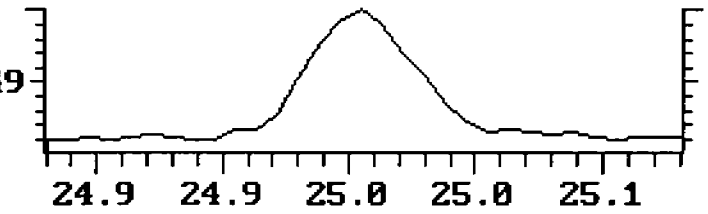
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 61
Data File: 305061 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:37 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2995
AGC: 85

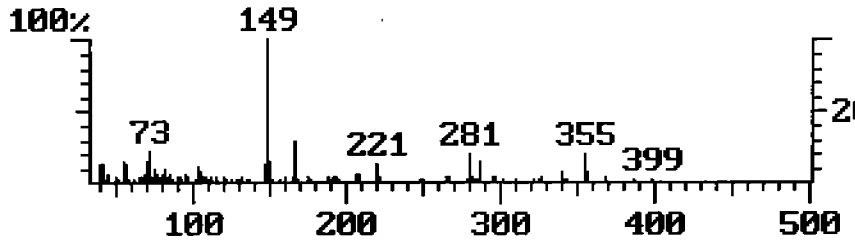
REFERENCE STANDARD SPECTRUM



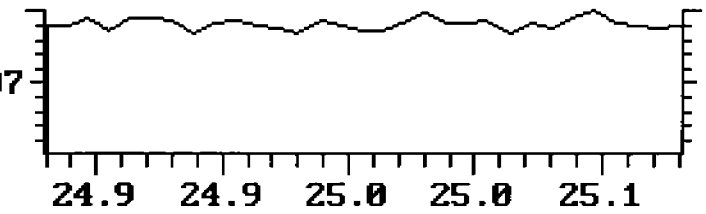
MASS 149 PLOT



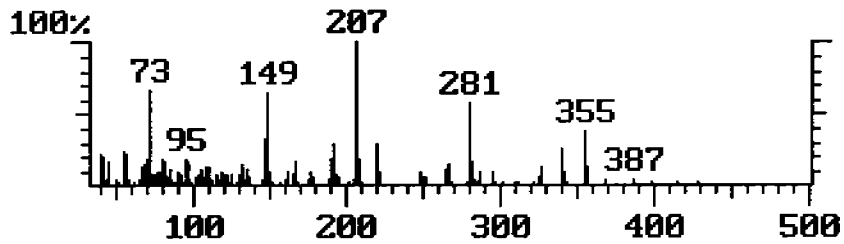
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



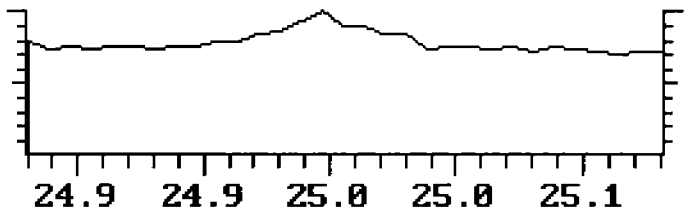
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

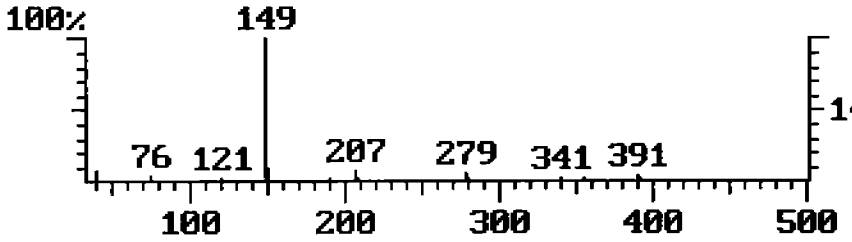


Approved_____ Date_____

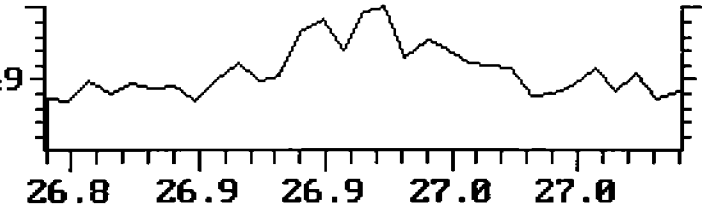
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 61
Data File: 305061 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:37 pm Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3231
AGC: 113

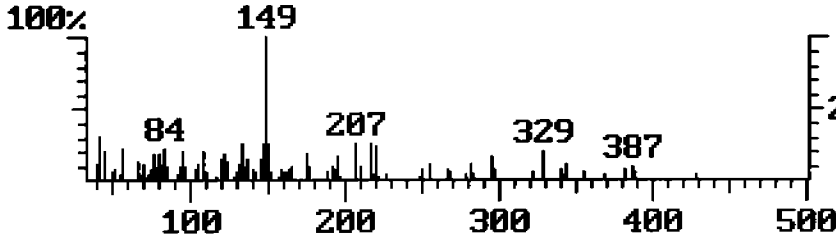
REFERENCE STANDARD SPECTRUM



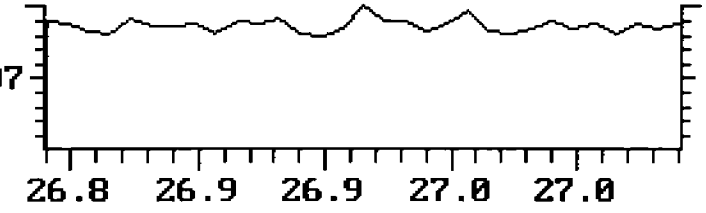
MASS 149 PLOT



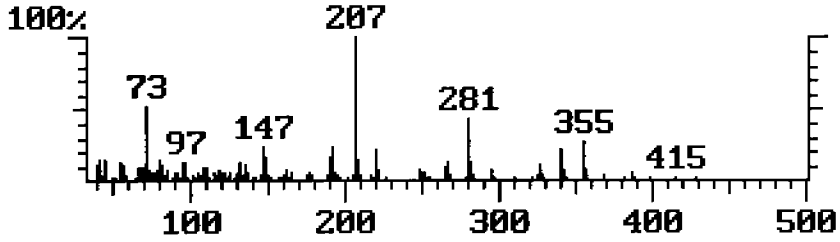
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



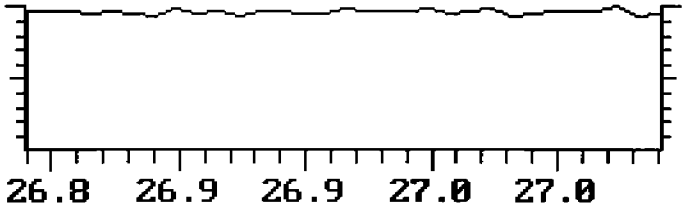
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

000489

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
5AWP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:32
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305316
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	**0.001**	J	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
5AWP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:32
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305316
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.007**		0.002	0.005
84-66-2	Diethylphthalate	**0.029**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.038**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.032**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.032**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.011**		0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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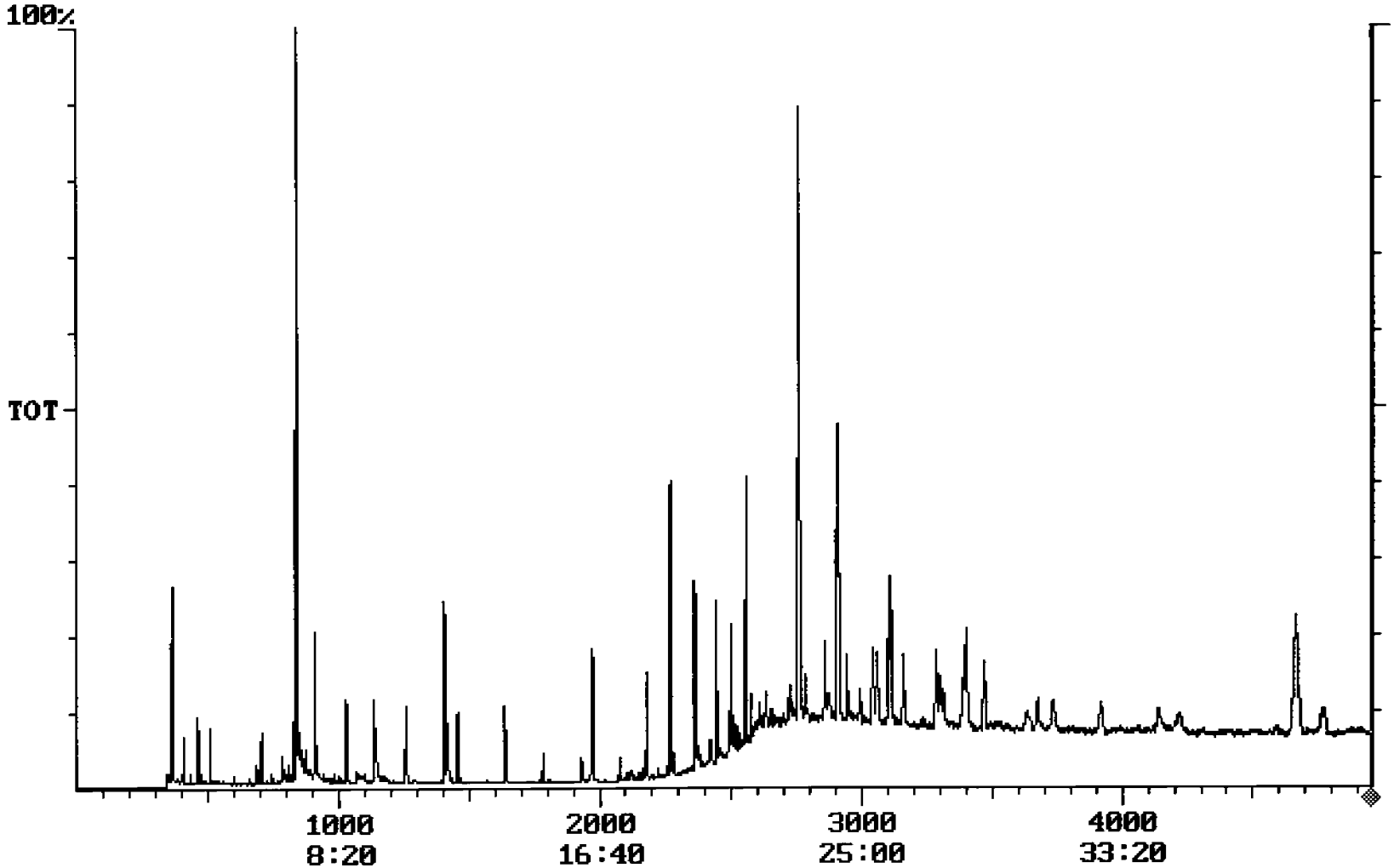
Chromatogram Plot C:\SATURN\DATA\305316 Date: 05/22/02 02:09:58
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1087107 Masses: 41-429
Plotted: 1 to 4944 Range: 1 to 4944 100% = 15716863



Operator ID: JMK
Output File: 305316.1B2
Data File: 305316.MS
Name: 305316
Sample:

Quant Time: 05/23/02 02:36
Injected at: 05/22/02 02:09
Dilution Factor: 1.00
Instrument ID: 133

305-1m1
97% solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1247803	5.00	ng/ul	990	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	4145179	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.15	2178	162	2708323	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4167939	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	3845981	5.00	ng/ul	556	1.000
6)	*IS:D12-Perylene	31.10	3732	264	3963394	5.00	ng/ul	834	1.000
7)	ACSUR:2-Fluorophenol	7.57	909	112	5129637	13.98	ng/ul	997	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	6217482	14.78	ng/ul	781	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	2773052	10.92	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.79	1415	127	1016659	8.57	NG/UL	989	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	5394833	7.42	ng/ul	973	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	5122087	8.08	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.27	2553	230	4518384	7.51	ng/ul	997	0.782
14)	Pyridine	5.33	640	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.42	1131	94	0	0.00	ng/ul	462	1.572
16)	Aniline	0.00	1166	93	0	Not Found	ng/ul	298	0.000
17)	Bis(2-Chloroethyl)Ether	0.00	1178	92	0	Not Found	ng/ul	263	0.000
18)	2-Chlorophenol	0.00	1202	128	0	Not Found	ng/ul	129	0.000
19)	1,3-Dichlorobenzene	10.36	1243	146	8142	0.02	ng/ul	868	1.660
20)	1,4-Dichlorobenzene	10.65	1278	146	0	0.00	ng/ul	0	1.616
21)	Benzyl Alcohol	10.73	1288	108	17693	0.13	ng/ul	875	0.554
22)	1,2-Dichlorobenzene	10.90	1308	146	8893	0.02	ng/ul	819	1.498
23)	2-Methylphenol	10.97	1316	108	0	0.00	ng/ul	211	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.16	1339	45	0	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.32	1359	108	0	0.00	ng/ul	73	1.246
26)	N-Nitrosodi-N-Propylamine	11.38	1366	70	393	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.81	1417	119	0	0.00	ng/ul	954	0.605
28)	Nitrobenzene	11.84	1421	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	0.00	1495	82	0	Not Found	ng/ul	600	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	331	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305316.1B2
Data File: 305316.MS
Name: 305316
Sample:

Quant Time: 05/23/02 02:36
Injected at: 05/22/02 02:09
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	371	0.000	
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	572	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	593	0.000	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	92	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	796	0.000	
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	300	0.000	
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	638	0.000	
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	638	0.000	
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	509	0.000	
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	979	0.000	
41)	2-Methylnaphthalene	15.52	1862	142	14924	0.03	ng/ul	923	0.639	
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	286	0.000	
43)	2,4,6-Trichlorophenol	0.00	1950	196	0	Not Found	ng/ul	194	0.000	
44)	2,4,5-Trichlorophenol	0.00	1961	196	0	Not Found	ng/ul	48	0.000	
45)	2-Chloronapthalene	16.90	2028	162	2823	0.00	ng/ul	747	1.302	
46)	2-Nitroaniline	17.12	2055	138	0	0.00	ng/ul	239	0.409	
47)	Dimethyl Phthalate	17.46	2095	163	26002	0.03	ng/ul	946	1.919	
48)	2,6-Dinitrotoluene	17.63	2116	165	0	0.00	ng/ul	18	0.351	
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	431	0.000	
50)	3-Nitroaniline	17.99	2159	138	0	0.00	ng/ul	536	0.338	
51)	Acenaphthene	18.23	2187	152	10438	0.01	ng/ul	884	1.500	
52)	2,4-Dinitrophenol	18.29	2195	184	0	0.00	ng/ul	0	0.060	
53)	4-Nitrophenol	18.40	2208	65	0	0.00	ng/ul	0	0.119	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	671	0.000	
55)	2,4-Dinitrotoluene	18.51	2221	165	58292	0.20	ng/ul	962	0.547	0.0056
56)	Benzo(b)Fluoranthene	29.30	3516	252	0	0.00	ng/ul	0	1.096	
57)	Diethyl Phthalate	18.92	2271	149	1004122	0.85	ng/ul	964	2.186	0.029
58)	Fluorene	19.22	2307	166	7683	0.01	ng/ul	734	1.161	
59)	4-Chlorophenyl Phenyl Ether	19.27	2313	204	0	0.00	ng/ul	376	0.783	
60)	4-Nitroaniline	19.20	2304	108	0	0.00	ng/ul	0	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305316.1B2
Data File: 305316.MS
Name: 305316
Sample:

Quant Time: 05/23/02 02:36
Injected at: 05/22/02 02:09
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	149	0.000	
62)	N-Nitrosodiphenylamine	19.37	2325	169	0	0.00	ng/ul	91	0.509	
63)	1,2-Diphenylhydrazine	19.50	2340	77	41390	0.04	ng/ul	797	1.256	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	322	0.000	
65)	Hexachlorobenzene	20.18	2422	284	0	0.00	ng/ul	0	0.305	
66)	Pentachlorophenol	20.52	2462	266	10047	0.05	ng/ul	472	0.232	
67)	Phenanthrene	20.84	2501	178	24047	0.03	ng/ul	414	1.076	
68)	Anthracene	20.91	2510	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	0.00	2535	167	0	Not Found	ng/ul	139	0.000	
70)	Di-n-Butyl Phthalate	21.46	2575	149	1851083	1.12	ng/ul	968	1.991	0.038
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	253	0.000	
72)	Benzidine	0.00	2727	184	0	Not Found	ng/ul	295	0.000	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	41	0.000	
74)	Butyl Benzyl Phthalate	23.81	2858	149	774572	0.99	ng/ul	857	1.013	0.032
75)	3,3'-Dichlorobenzidine	25.26	3031	252	0	0.00	ng/ul	79	0.519	
76)	Bis(2-Ethylhexyl)Phthalate	24.94	2993	149	1160627	0.92	ng/ul	844	1.633	0.032
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	199	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	285	0.000	
79)	Di-n-Octylphthalate	26.92	3230	149	404463	0.32	ng/ul	746	1.636	0.011
80)	Benzo(k)Fluoranthene	29.53	3544	252	0	0.00	ng/ul	0	1.249	
81)	Benzo(a)Pyrene	30.95	3714	252	0	0.00	ng/ul	166	1.069	
82)	Indeno(1,2,3-cd)Pyrene	38.02	4562	276	0	0.00	ng/ul	0	1.571	
83)	Dibenzo(a,h)Anthracene	38.11	4573	278	0	0.00	ng/ul	82	0.990	
84)	Benzo(g,h,i)Perylene	40.19	4823	276	0	0.00	ng/ul	0	1.284	
85)	N-Nitrosodimethylamine	5.17	620	73	0	0.00	ng/ul	398	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	2	0.000	
87)	2,3-Dinitrotoluene	0.00	2202	165	0	Not Found	ng/ul	847	0.000	
88)	2,4-Diaminotoluene	16.59	1991	121	4491	0.03	ng/ul	703	0.184	
89)	2-Chloroaniline	12.66	1519	127	272	0.00	ng/ul	750	0.613	
90)	5-Nitro-o-toluidine	19.30	2316	152	976	0.00	ng/ul	474	0.435	

* Compound is ISTD

Operator ID: JMK Quant Time: 05/23/02 02:36
Output File: 305316.1B2 Injected at: 05/22/02 02:09
Data File: 305316.MS Dilution Factor: 1.00
Name: 305316 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

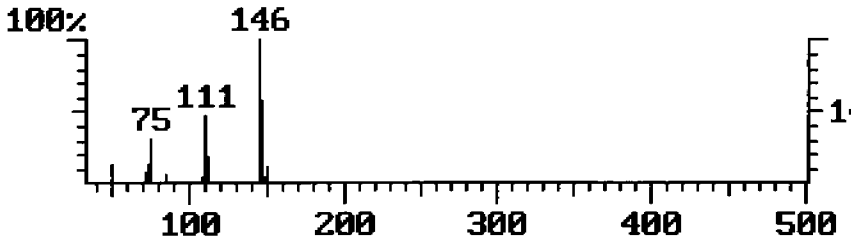
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.72	2247	143	5121	0.01	ng/ul	834	0.867
92)	Benzaldehyde	9.41	1129	105	2842	0.00	ng/ul	761	2.400
93)	Acetophenone	11.41	1369	105	55359	0.07	ng/ul	946	0.909
94)	Caprolactam	14.82	1779	85	2212	0.03	ng/ul	747	0.078
95)	Biphenyl	16.73	2008	154	20302	0.02	ng/ul	924	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

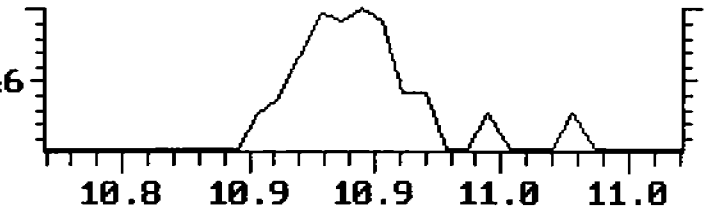
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 19 of 65
Data File: 305316 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:09 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

1,2-Dichlorobenzene SCAN#: 1308
AGC: 951

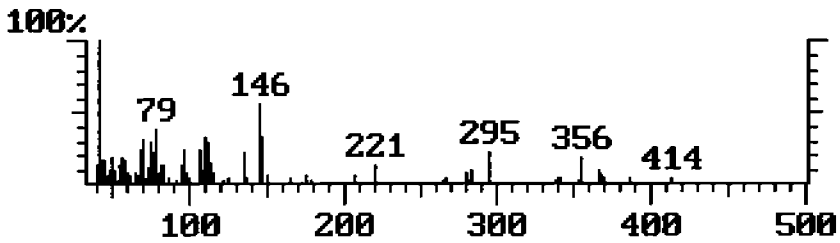
REFERENCE STANDARD SPECTRUM



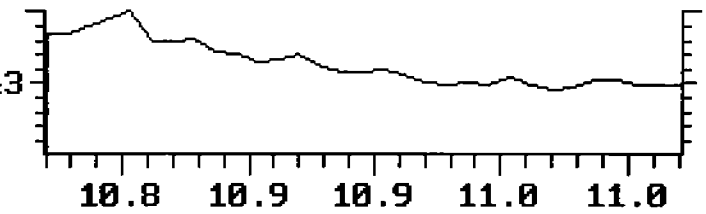
MASS 146 PLOT



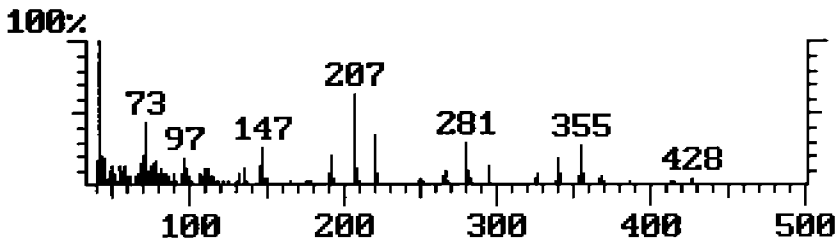
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



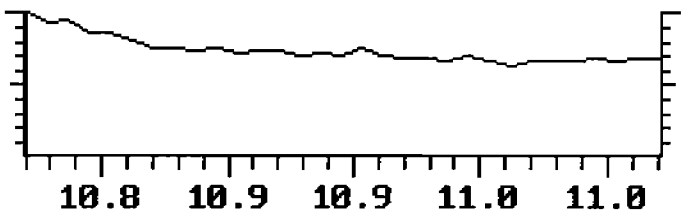
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

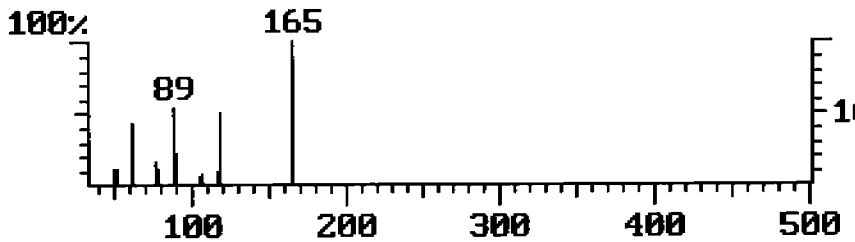


Approved_____ Date_____

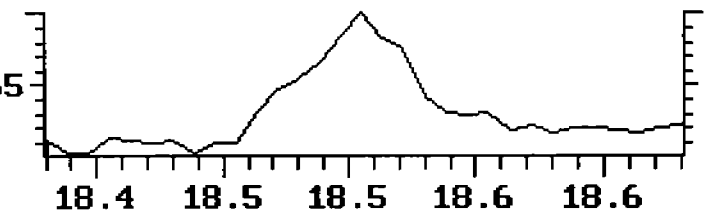
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 35 of 65
Data File: 305316 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:09 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2221
AGC: 436

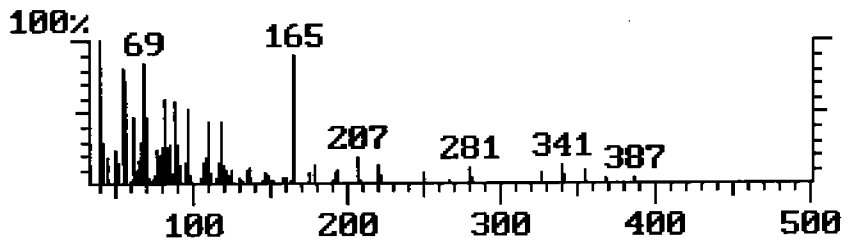
REFERENCE STANDARD SPECTRUM



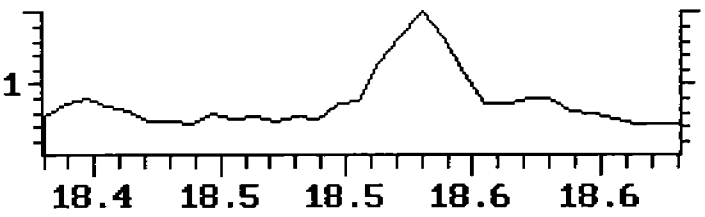
MASS 165 PLOT



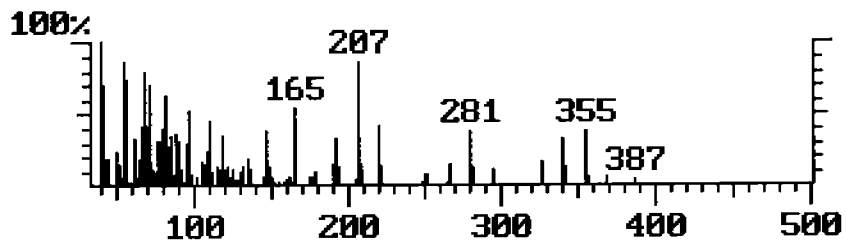
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



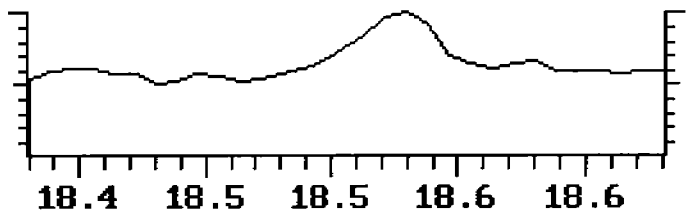
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

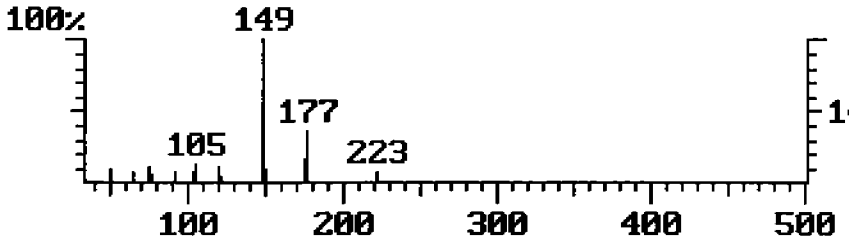


Approved_____ Date_____

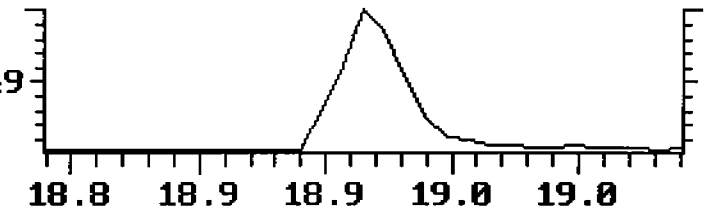
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 37 of 65
Data File: 305316 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:09 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2271
AGC: 69

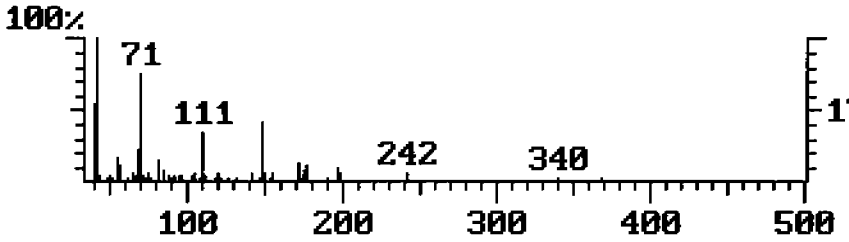
REFERENCE STANDARD SPECTRUM



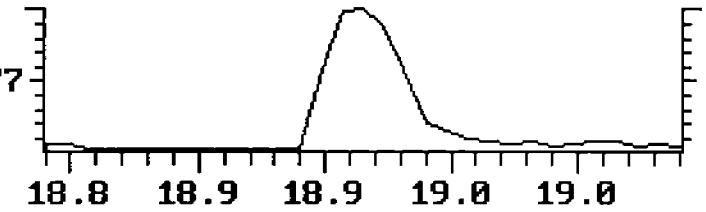
MASS 149 PLOT



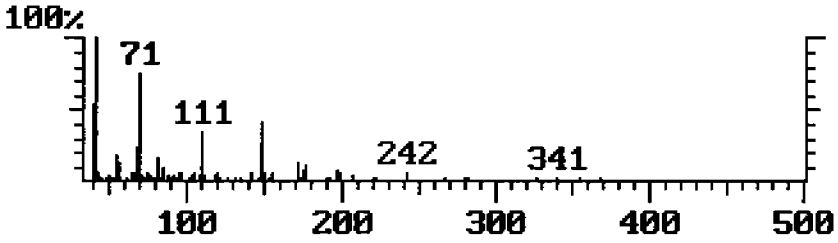
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



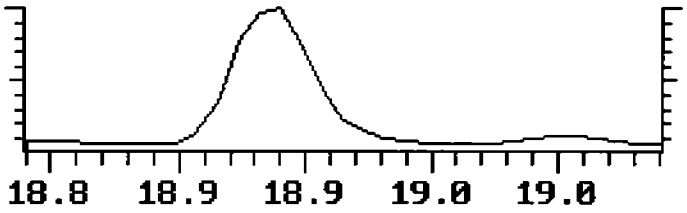
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



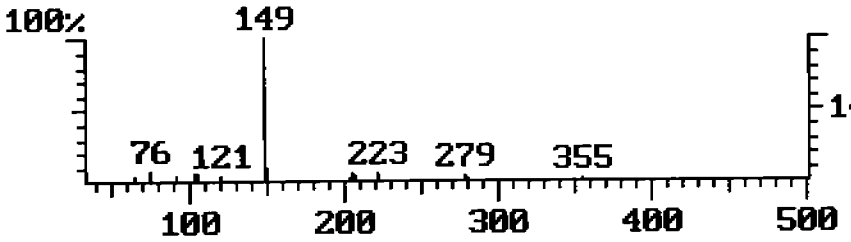
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 65
Data File: 305316 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:09 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

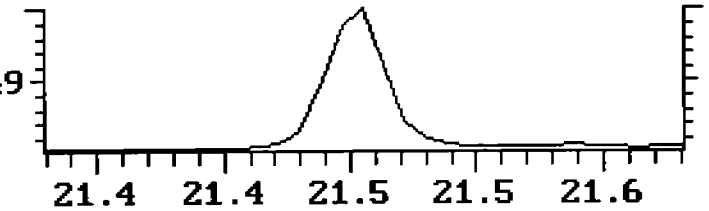
Di-n-Butyl Phthalate

SCAN#: 2575
AGC: 65

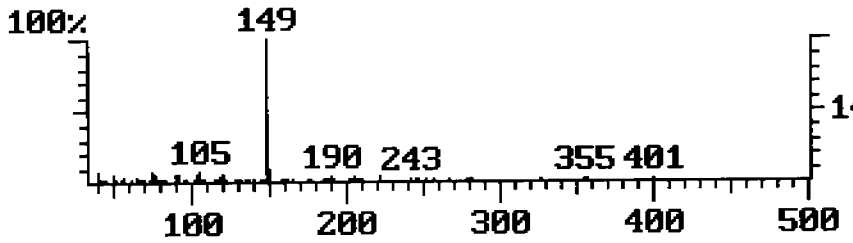
REFERENCE STANDARD SPECTRUM



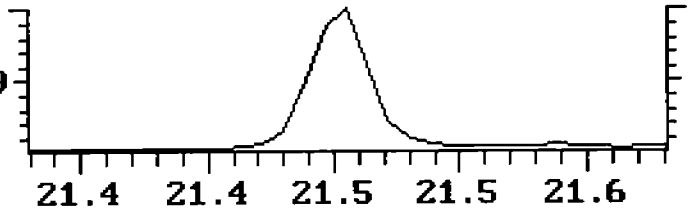
MASS 149 PLOT



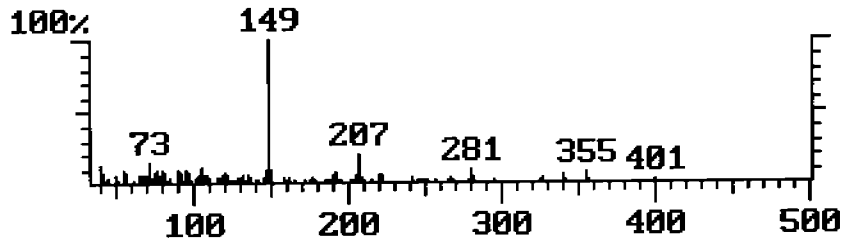
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



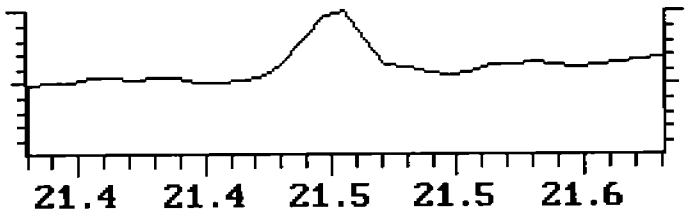
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

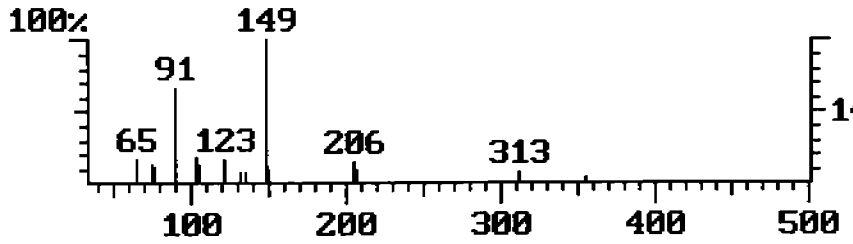


Approved_____ Date_____

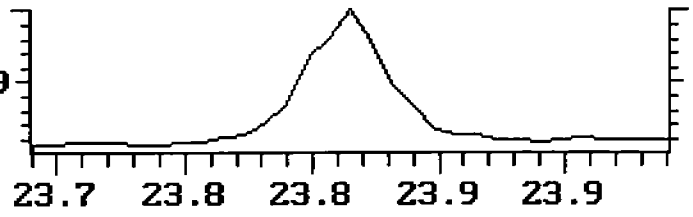
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 48 of 65
Data File: 305316 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:09 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2858
AGC: 37

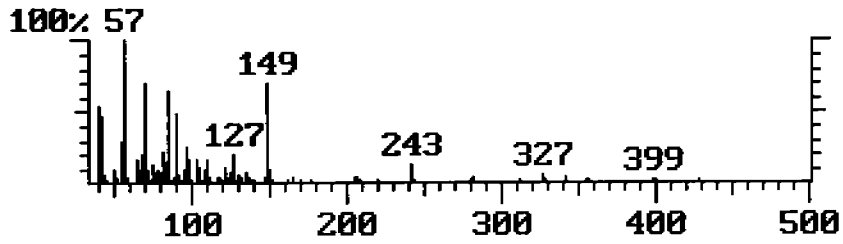
REFERENCE STANDARD SPECTRUM



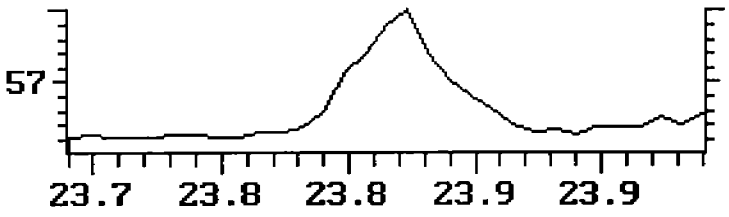
MASS 149 PLOT



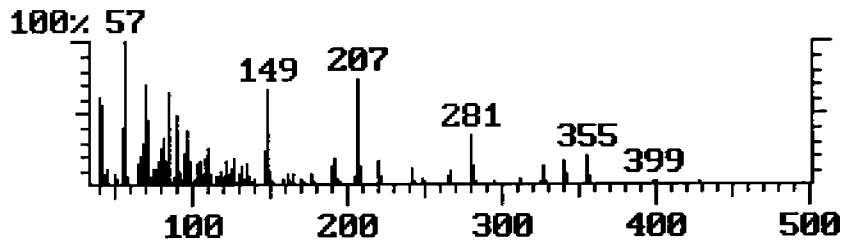
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



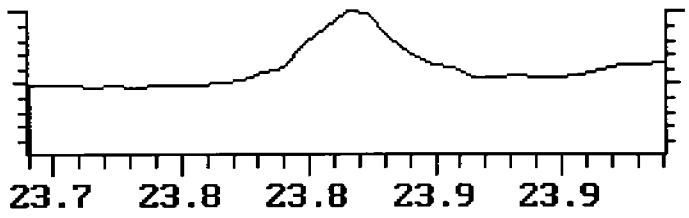
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

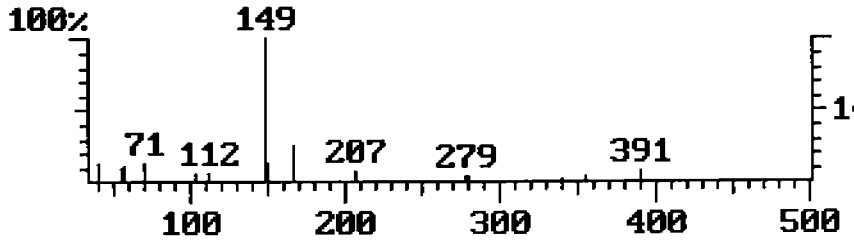


Approved_____ Date_____

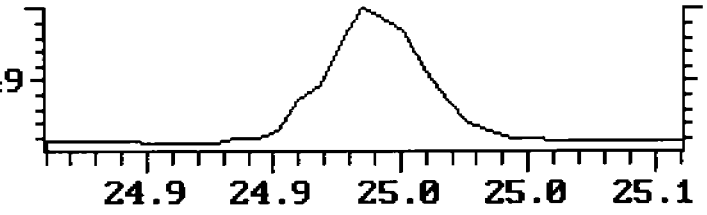
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 65
Data File: 305316 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:09 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2993
AGC: 67

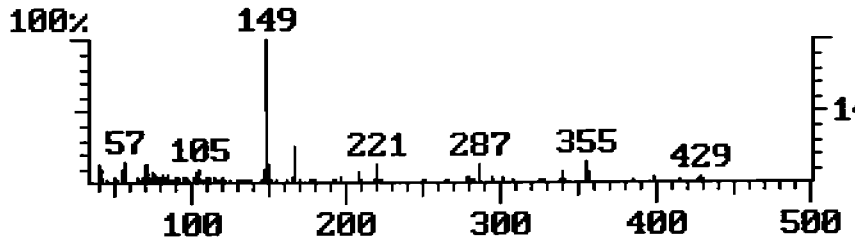
REFERENCE STANDARD SPECTRUM



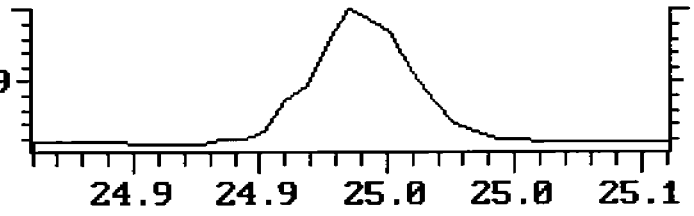
MASS 149 PLOT



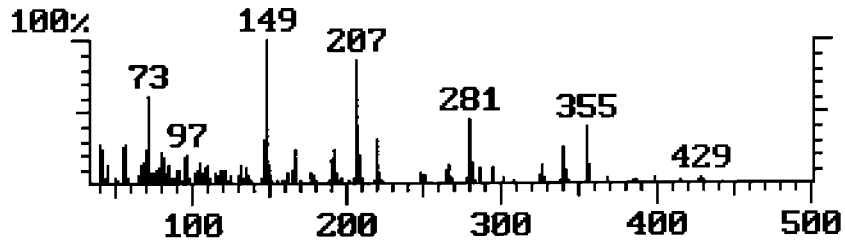
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



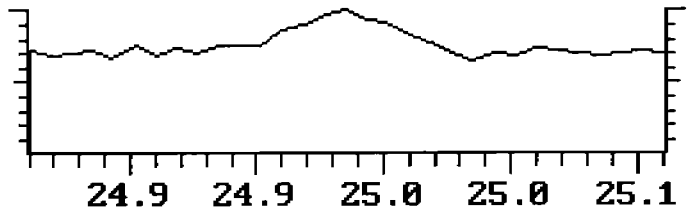
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

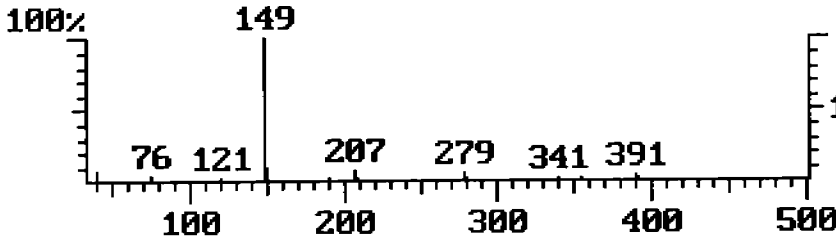


Approved_____ Date_____

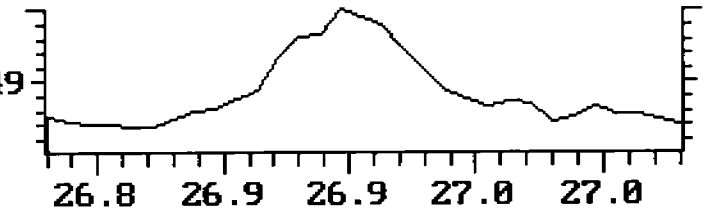
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 51 of 65
Data File: 305316 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:09 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3230
AGC: 104

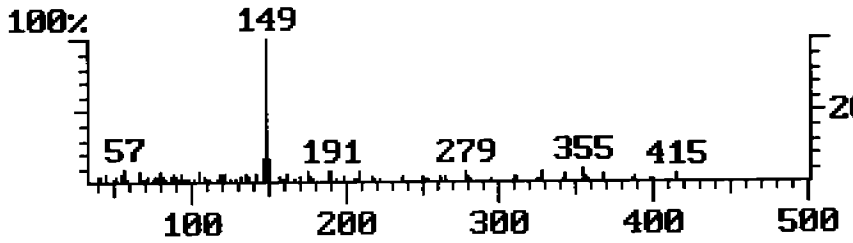
REFERENCE STANDARD SPECTRUM



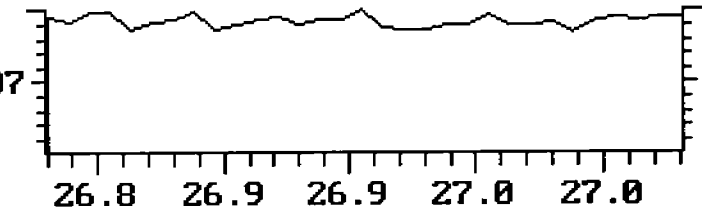
MASS 149 PLOT



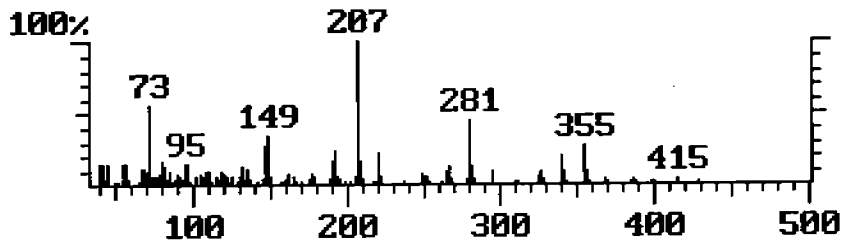
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



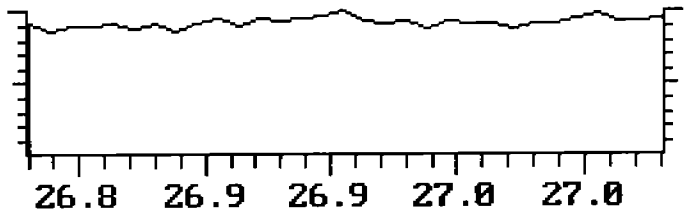
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
4BNP01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:38
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305317
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.008**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TriMatrix
Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
4BNP01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:38
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305317
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.002**	J	0.002	0.005
84-66-2	Diethylphthalate	**0.006**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.027**		0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.006**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.011**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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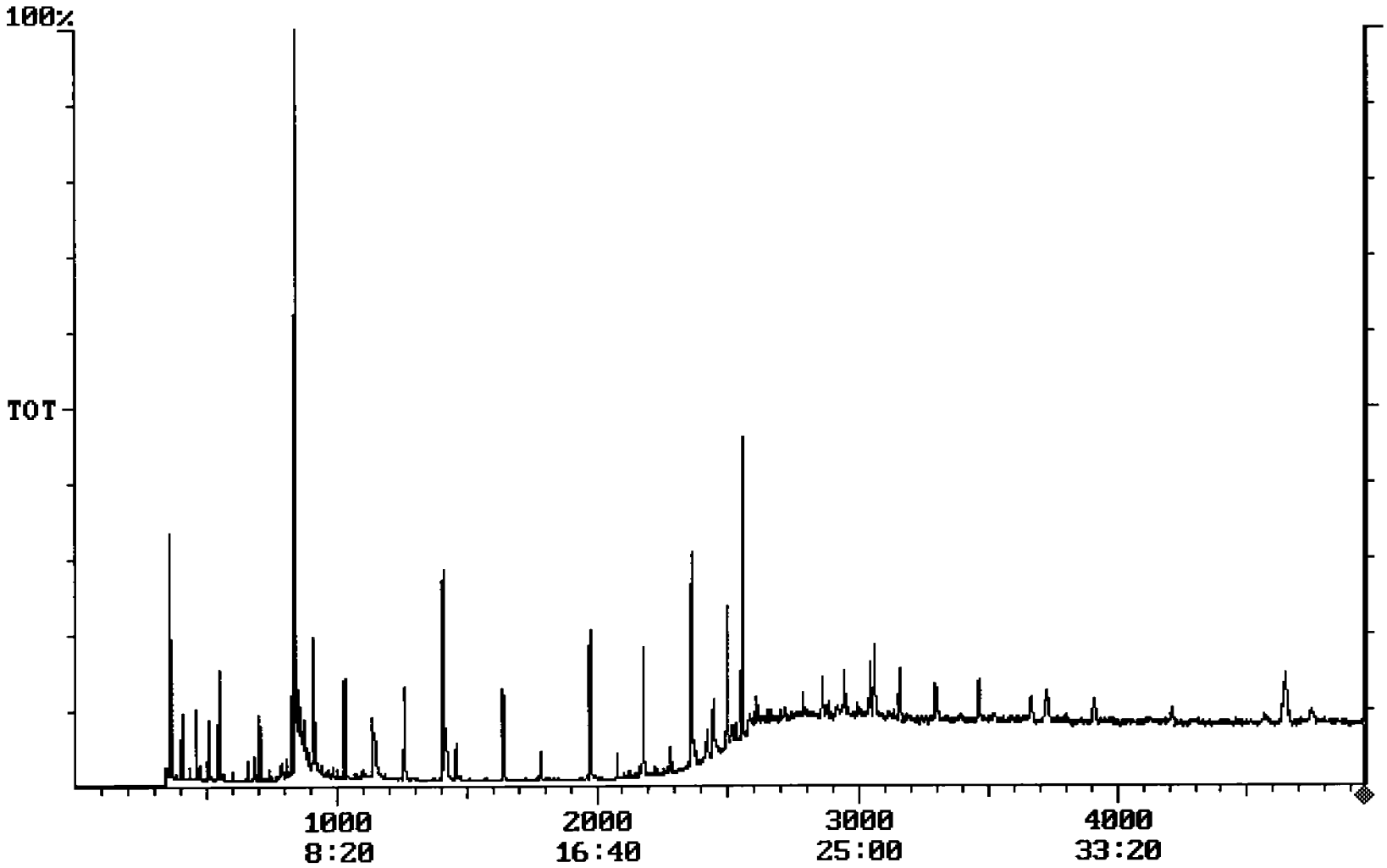
Chromatogram Plot C:\SATURN\DATA\305317 Date: 05/22/02 03:00:59
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1009150 Masses: 41-418
Plotted: 1 to 4944 Range: 1 to 4944 100% = 13027401



QUANT REPORT

Operator ID: JMK
Output File: 305317.1B2
Data File: 305317.MS
Name: 305317
Sample:

Quant Time: 05/23/02 02:44
Injected at: 05/22/02 03:00
Dilution Factor: 1.00
Instrument ID: 133

305 → 1 ~ 1
97% solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1345528	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.67	1640	136	4301432	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2180	162	2753750	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	4146840	5.00	ng/ul	995	1.000
5)	*IS:D12-Chrysene	25.48	3057	240	3585137	5.00	ng/ul	573	1.000
6)	*IS:D12-Perylene	31.05	3726	264	3205307	5.00	ng/ul	693	1.000
7)	ACSUR:2-Fluorophenol	7.57	909	112	4691362	11.86	ng/ul	997	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	5710424	12.59	ng/ul	759	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	2845484	11.02	ng/ul	997	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	946776	7.69	NG/UL	980	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	5487442	7.28	ng/ul	972	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	4764899	7.40	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4393201	7.81	ng/ul	992	0.785
14)	Pyridine	5.13	616	79	0	0.00	ng/ul	68	1.146
15)	Phenol	9.43	1132	94	0	0.00	ng/ul	340	1.572
16)	Aniline	9.72	1167	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	9.79	1175	92	0	0.00	ng/ul	0	0.833
18)	2-Chlorophenol	0.00	1202	128	0	Not Found	ng/ul	73	0.000
19)	1,3-Dichlorobenzene	10.36	1243	146	9018	0.02	ng/ul	935	1.660
20)	1,4-Dichlorobenzene	0.00	1268	146	0	Not Found	ng/ul	241	0.000
21)	Benzyl Alcohol	10.72	1286	108	0	0.00	ng/ul	0	0.554
22)	1,2-Dichlorobenzene	10.90	1308	146	9200	0.02	ng/ul	902	1.498
23)	2-Methylphenol	10.96	1315	108	0	0.00	ng/ul	275	1.299
24)	Bis(2-Chloroisopropyl)Ether	0.00	1330	45	0	Not Found	ng/ul	274	0.000
25)	4-Methylphenol	11.31	1357	108	0	0.00	ng/ul	501	1.246
26)	N-Nitrosodi-N-Propylamine	11.39	1367	70	0	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.87	1424	119	0	0.00	ng/ul	954	0.605
28)	Nitrobenzene	11.87	1424	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	12.48	1498	82	91	0.00	ng/ul	276	0.714
30)	2-Nitrophenol	12.74	1529	109	245	0.00	ng/ul	0	0.286

* Compound is ISTD

Operator ID: JMK
Output File: 305317.1B2
Data File: 305317.MS
Name: 305317
Sample:

Quant Time: 05/23/02 02:44
Injected at: 05/22/02 03:00
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	12.73	1528	107	0	0.00	ng/ul	89	0.530	
32)	Benzoic Acid	12.87	1544	105	0	0.00	ng/ul	0	0.068	
33)	Bis(2-Chloroethoxy)Methane	12.99	1559	92	0	0.00	ng/ul	0	0.440	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	95	0.000	
35)	1,2,4-Trichlorobenzene	13.49	1619	180	4515	0.01	ng/ul	877	0.398	
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	360	0.000	
37)	4-Chloroaniline	13.85	1662	127	0	0.00	ng/ul	0	0.568	
38)	2,6-Dichlorophenol	13.82	1658	162	0	0.00	ng/ul	344	0.344	
39)	Hexachlorobutadiene	13.95	1674	225	0	0.00	ng/ul	347	0.312	
40)	4-Chloro-3-Methylphenol	15.07	1809	107	109410	0.24	ng/ul	948	0.534	0.0042
41)	2-Methylnaphthalene	15.54	1865	142	4639	0.01	ng/ul	805	0.639	
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	0.00	1951	196	0	Not Found	ng/ul	194	0.000	
44)	2,4,5-Trichlorophenol	0.00	1962	196	0	Not Found	ng/ul	25	0.000	
45)	2-Chloronapthalene	16.89	2027	162	2613	0.00	ng/ul	741	1.302	
46)	2-Nitroaniline	17.09	2051	138	266	0.00	ng/ul	630	0.409	
47)	Dimethyl Phthalate	0.00	2116	163	0	Not Found	ng/ul	756	0.000	
48)	2,6-Dinitrotoluene	17.67	2120	165	0	0.00	ng/ul	0	0.351	
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	676	0.000	
50)	3-Nitroaniline	17.99	2159	138	0	0.00	ng/ul	0	0.338	
51)	Acenaphthene	0.00	2190	152	0	Not Found	ng/ul	295	0.000	
52)	2,4-Dinitrophenol	0.00	2189	184	0	Not Found	ng/ul	252	0.000	
53)	4-Nitrophenol	18.31	2197	65	0	0.00	ng/ul	0	0.119	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	663	0.000	
55)	2,4-Dinitrotoluene	18.63	2236	165	13946	0.05	ng/ul	868	0.547	0.0016
56)	Benzo(b)Fluoranthene	29.43	3532	252	0	0.00	ng/ul	0	1.096	
57)	Diethyl Phthalate	19.00	2280	149	219277	0.18	ng/ul	938	2.186	0.0063
58)	Fluorene	19.25	2310	166	2720	0.00	ng/ul	752	1.161	
59)	4-Chlorophenyl Phenyl Ether	0.00	2307	204	0	Not Found	ng/ul	258	0.000	
60)	4-Nitroaniline	19.22	2307	108	2187	0.01	ng/ul	732	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305317.1B2
Data File: 305317.MS
Name: 305317
Sample:

Quant Time: 05/23/02 02:44
Injected at: 05/22/02 03:00
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.40	2328	198	0	0.00	ng/ul	349	0.116	
62)	N-Nitrosodiphenylamine	19.36	2324	169	0	0.00	ng/ul	379	0.509	
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	657	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	550	0.000	
65)	Hexachlorobenzene	20.15	2418	284	0	0.00	ng/ul	0	0.305	
66)	Pentachlorophenol	0.00	2461	266	0	Not Found	ng/ul	147	0.000	
67)	Phenanthrene	20.86	2503	178	11116	0.01	ng/ul	327	1.076	
68)	Anthracene	20.91	2509	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	21.17	2541	167	0	0.00	ng/ul	0	1.075	
70)	Di-n-Butyl Phthalate	21.49	2579	149	1339939	0.80	ng/ul	910	2.021	0.027
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	62	0.000	
72)	Benzidine	22.78	2734	184	0	0.00	ng/ul	324	0.403	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	0	0.000	
74)	Butyl Benzyl Phthalate	23.85	2862	149	134129	0.18	ng/ul	531	1.013	0.004
75)	3,3'-Dichlorobenzidine	25.17	3020	252	2822	0.01	ng/ul	469	0.519	
76)	Bis(2-Ethylhexyl)Phthalate	24.97	2996	149	370703	0.32	ng/ul	757	1.633	0.009
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	57	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	100	0.000	
79)	Di-n-Octylphthalate	26.98	3238	149	32068	0.03	ng/ul	551	1.616	
80)	Benzo(k)Fluoranthene	29.44	3533	252	3124	0.00	ng/ul	528	1.249	
81)	Benzo(a)Pyrene	31.12	3734	252	8616	0.01	ng/ul	606	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4554	276	0	Not Found	ng/ul	28	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4561	278	0	Not Found	ng/ul	46	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4820	276	0	Not Found	ng/ul	97	0.000	
85)	N-Nitrosodimethylamine	5.31	638	73	328	0.00	ng/ul	218	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	46	0.000	
87)	2,3-Dinitrotoluene	0.00	2229	165	0	Not Found	ng/ul	857	0.000	
88)	2,4-Diaminotoluene	16.68	2001	121	1920	0.01	ng/ul	408	0.184	
89)	2-Chloroaniline	12.72	1527	127	319	0.00	ng/ul	646	0.613	
90)	5-Nitro-o-toluidine	19.31	2317	152	742	0.00	ng/ul	391	0.435	

* Compound is ISTD

Operator ID: JMK Quant Time: 05/23/02 02:44
Output File: 305317.1B2 Injected at: 05/22/02 03:00
Data File: 305317.MS Dilution Factor: 1.00
Name: 305317 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

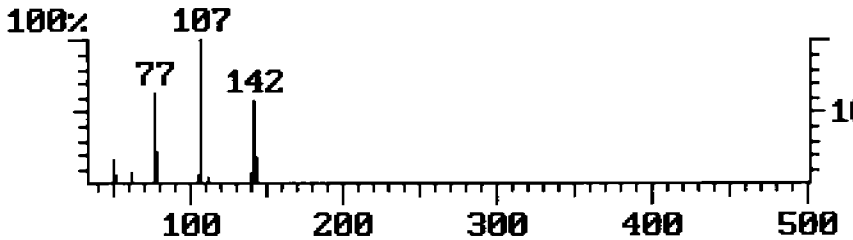
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.76	2251	143	615	0.00	ng/ul	706	0.867
92)	Benzaldehyde	9.42	1131	105	3361	0.01	ng/ul	636	2.400
93)	Acetophenone	11.41	1369	105	18728	0.02	ng/ul	897	0.909
94)	Caprolactam	14.73	1768	85	11998	0.18	ng/ul	386	0.078
95)	Biphenyl	16.75	2010	154	12758	0.02	ng/ul	908	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

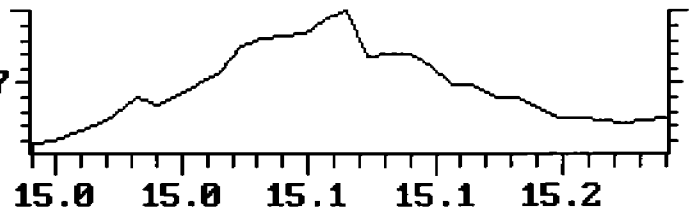
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 35 of 69
Data File: 305317 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:00 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1809
AGC: 1070

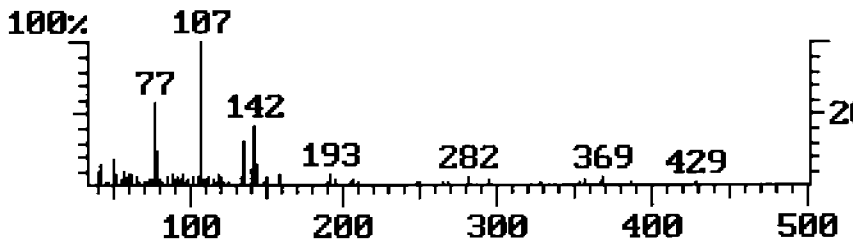
REFERENCE STANDARD SPECTRUM



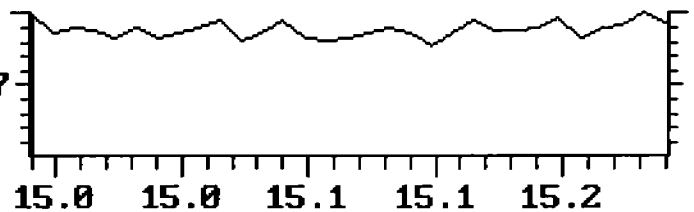
MASS 107 PLOT



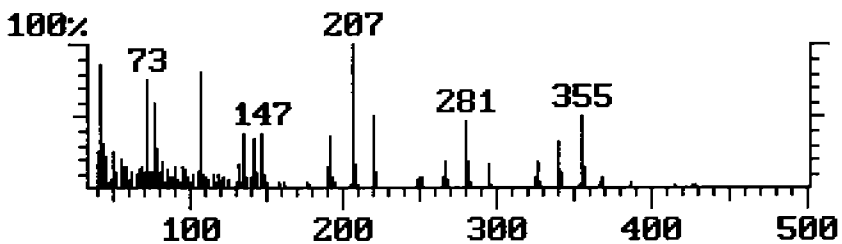
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



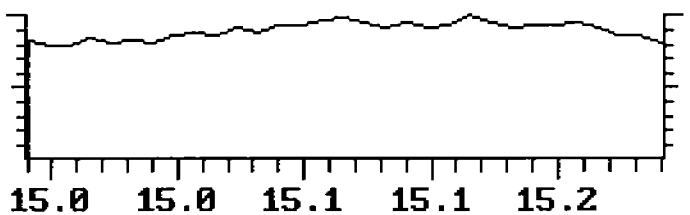
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

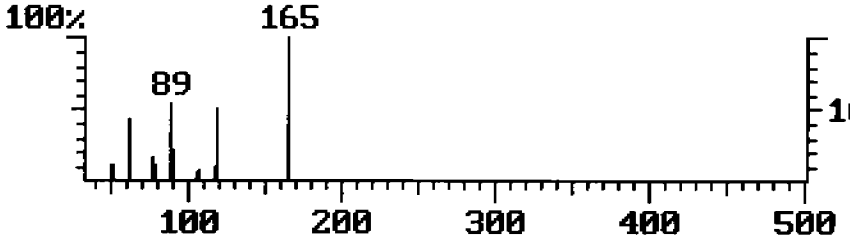


Approved_____ Date_____

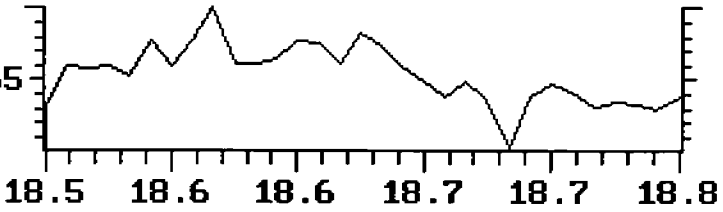
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 42 of 69
Data File: 305317 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:00 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2236
AGC: 659

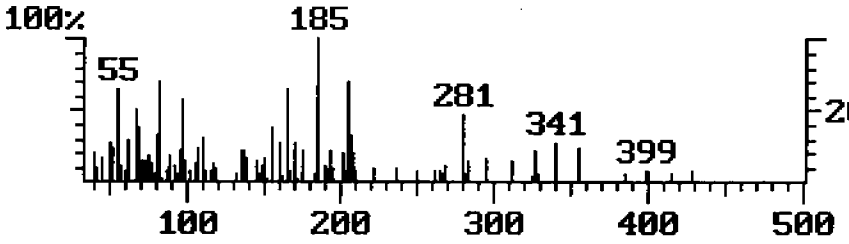
REFERENCE STANDARD SPECTRUM



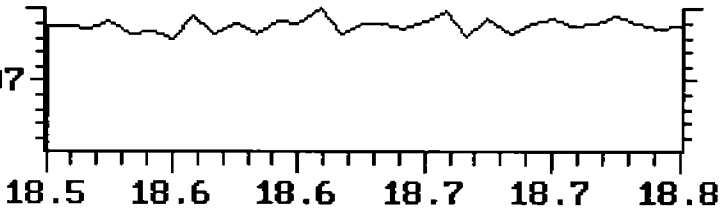
MASS 165 PLOT



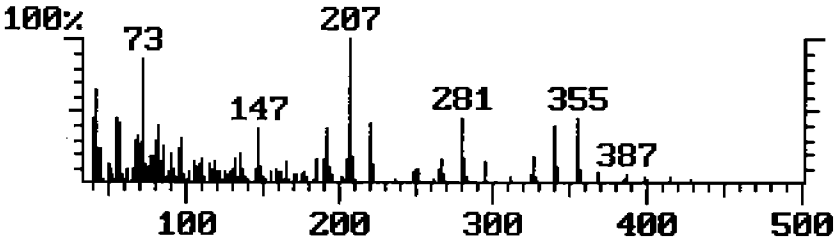
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



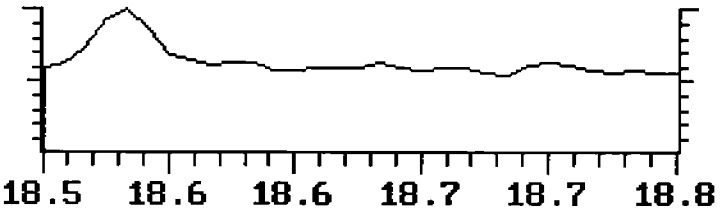
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

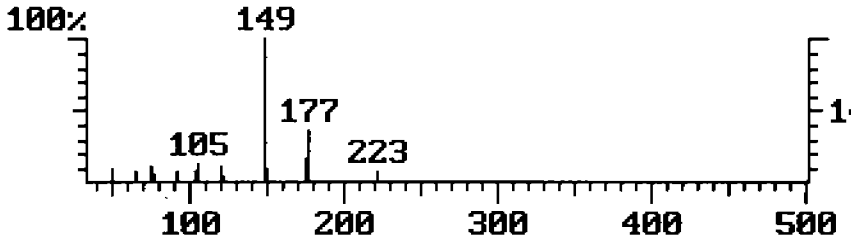


Approved_____ Date_____

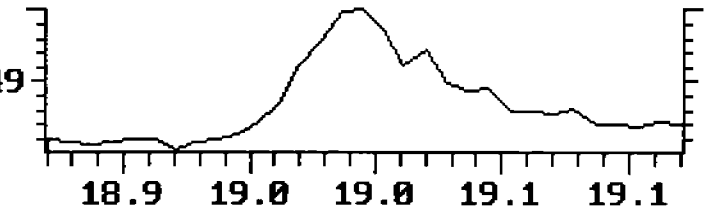
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 69
Data File: 305317 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:00 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2280
AGC: 365

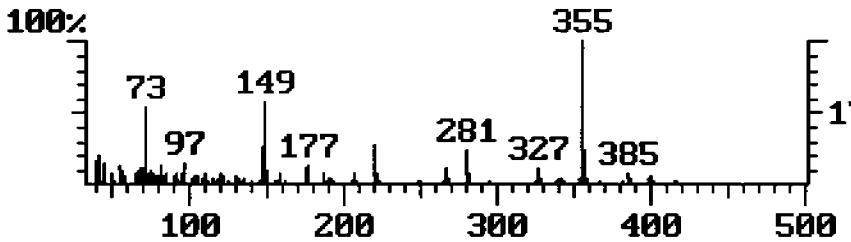
REFERENCE STANDARD SPECTRUM



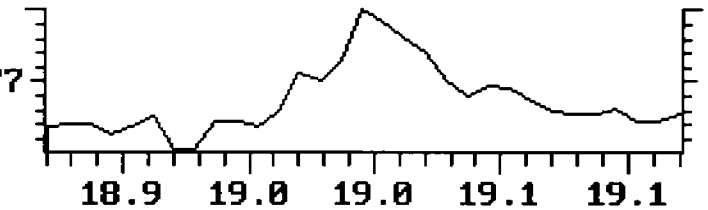
MASS 149 PLOT



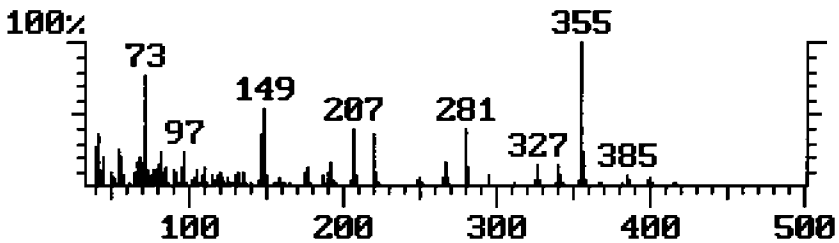
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



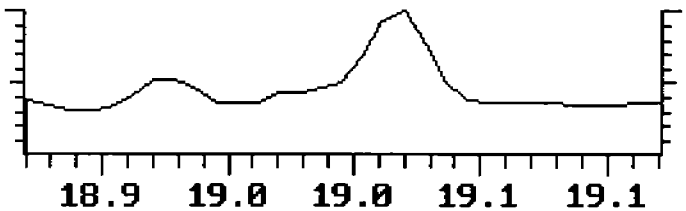
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

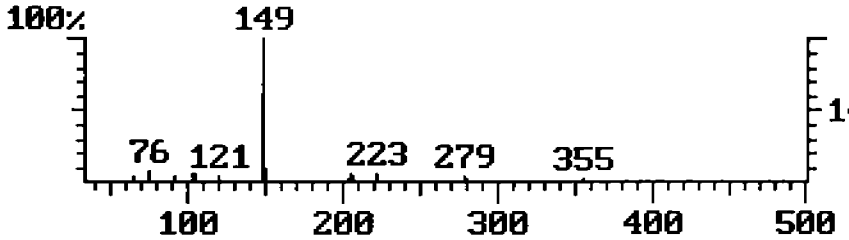


Approved_____ Date_____

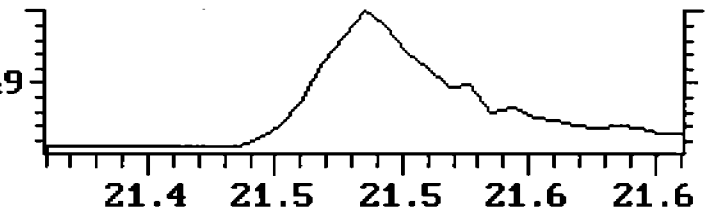
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 53 of 69
Data File: 305317 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:00 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2579
AGC: 113

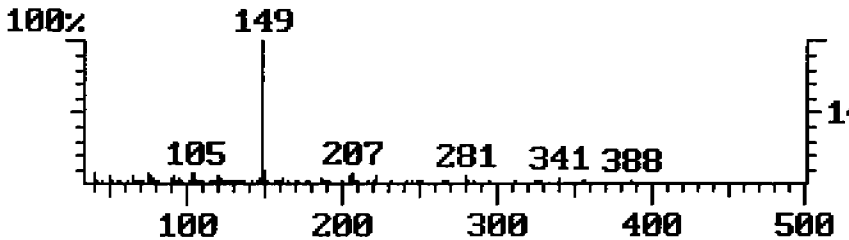
REFERENCE STANDARD SPECTRUM



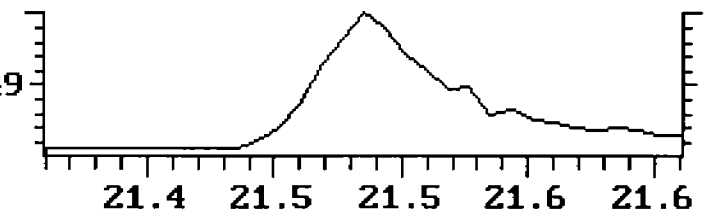
MASS 149 PLOT



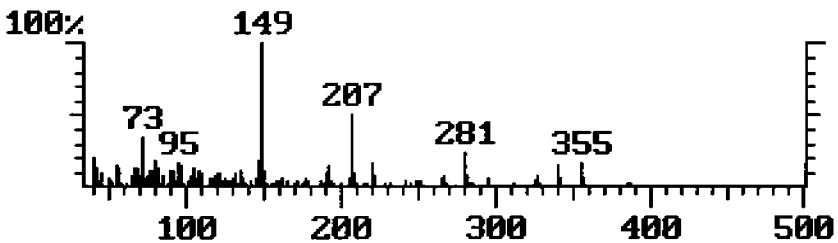
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



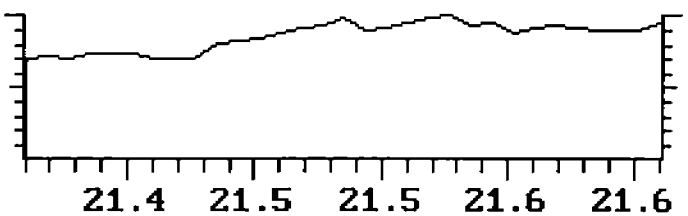
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

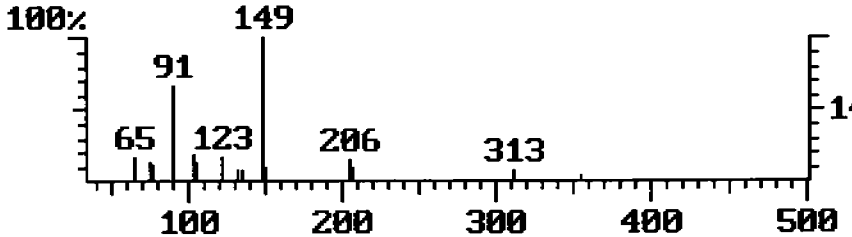


Approved_____ Date_____

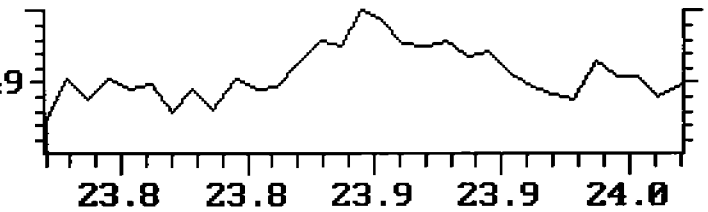
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 55 of 69
Data File: 305317 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:00 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2862
AGC: 101

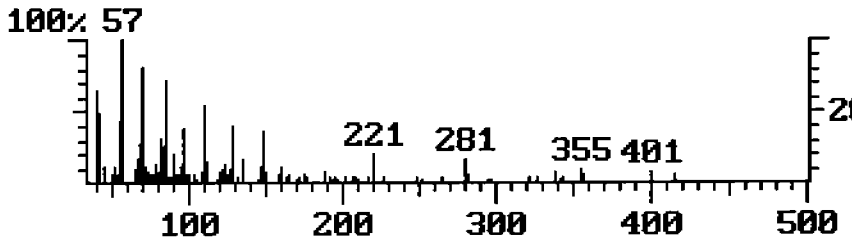
REFERENCE STANDARD SPECTRUM



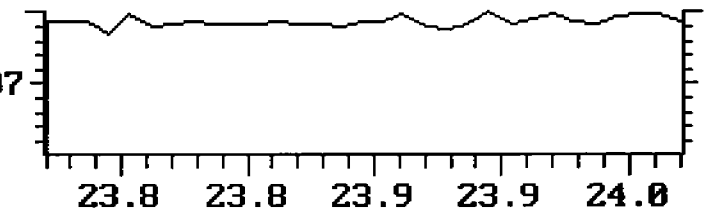
MASS 149 PLOT



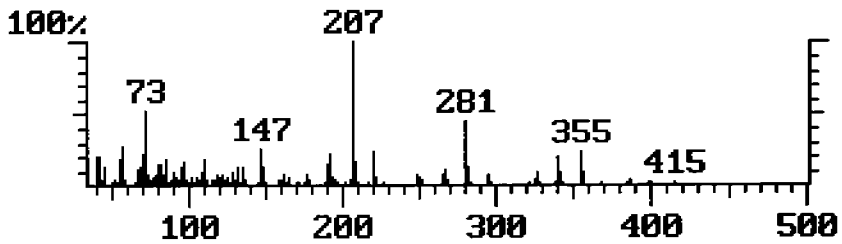
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



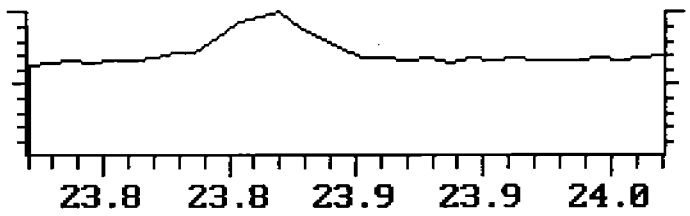
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

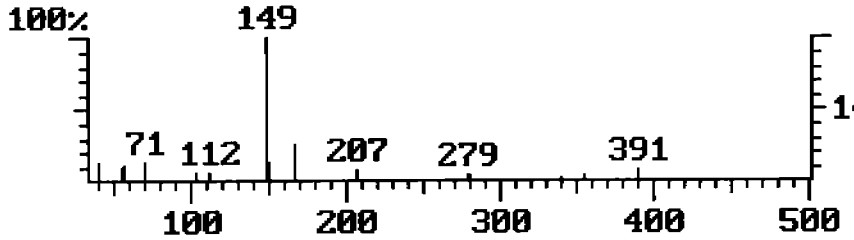


Approved_____ Date_____

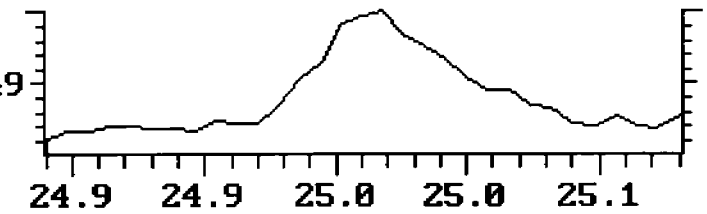
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 57 of 69
Data File: 305317 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:00 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2996
AGC: 107

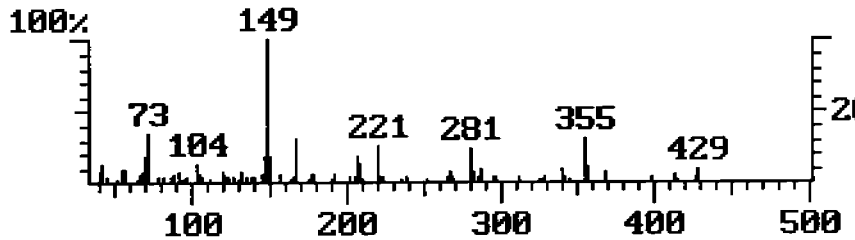
REFERENCE STANDARD SPECTRUM



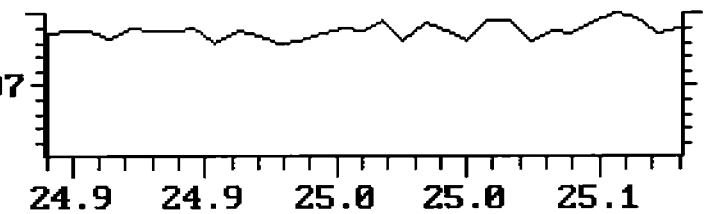
MASS 149 PLOT



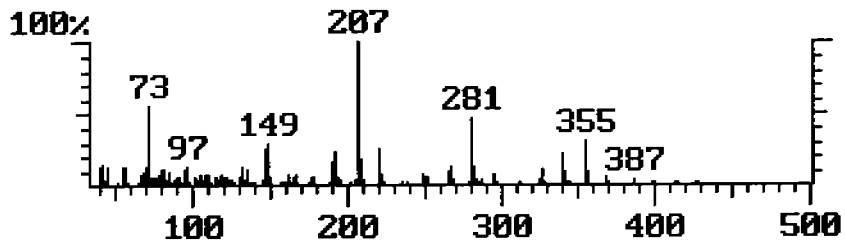
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



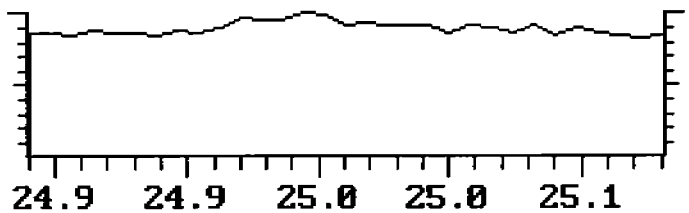
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
3CWP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:43
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305318
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
3CWP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:43
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305318
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	ND	U	0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	ND	U	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	ND	U	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	ND	U	0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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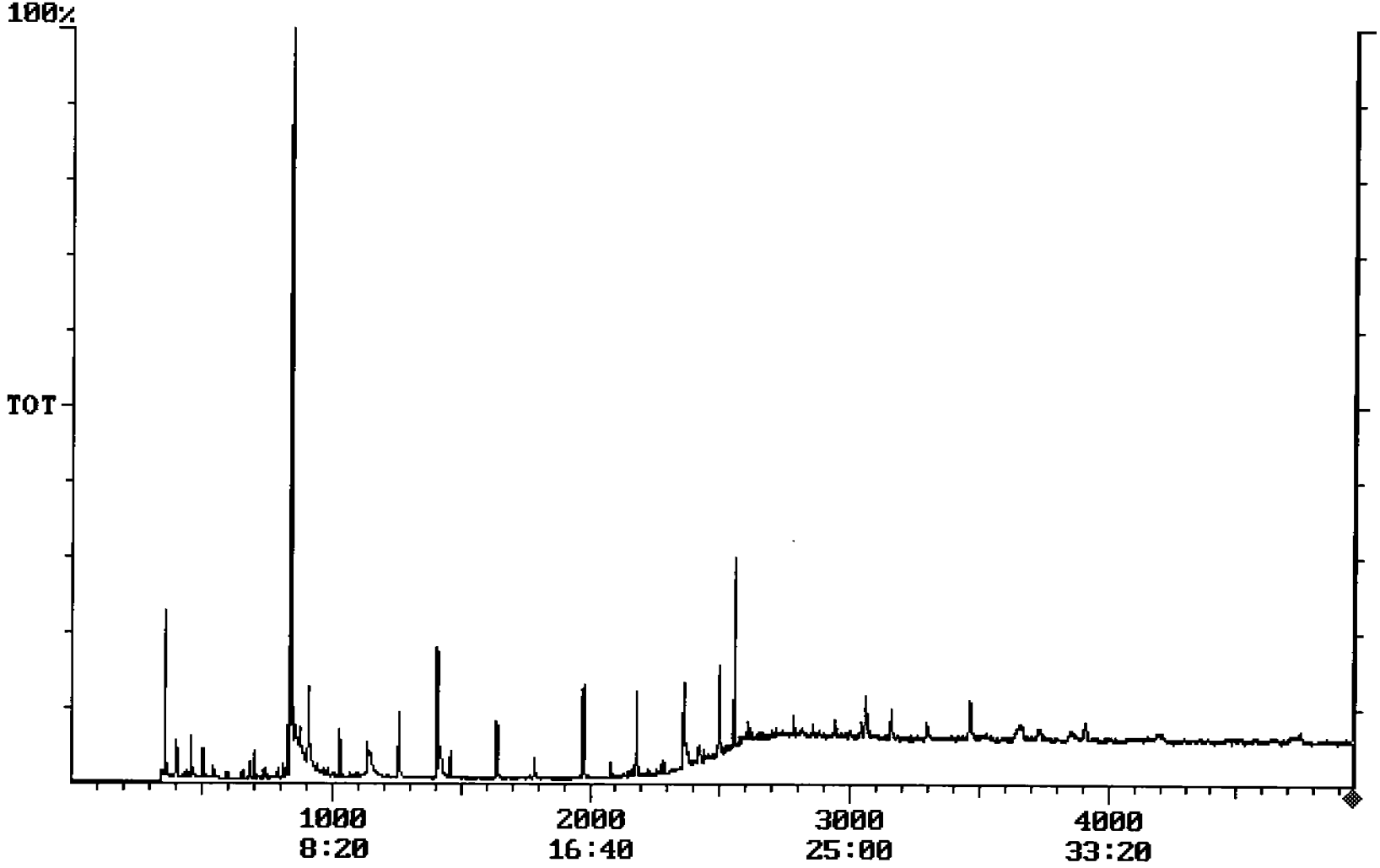
Chromatogram Plot C:\SATURN\DATA\305318 Date: 05/22/02 03:51:58
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1055860 Masses: 41-415
Plotted: 1 to 4944 Range: 1 to 4944 100% = 18301346



Operator ID: JMK
Output File: 305318.1B2
Data File: 305318.MS
Name: 305318
Sample:

Quant Time: 05/23/02 02:48
Injected at: 05/22/02 03:51
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.47	1257	152	1267425	5.00	ng/ul	990	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	4307346	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2180	162	2672665	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	3967334	5.00	ng/ul	996	1.000
5)	*IS:D12-Chrysene	25.49	3059	240	3300349	5.00	ng/ul	581	1.000
6)	*IS:D12-Perylene	31.05	3726	264	2528105	5.00	ng/ul	559	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	4033232	10.82	ng/ul	996	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	5144075	12.04	ng/ul	787	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	2104043	8.40	ng/ul	994	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	950373	7.71	NG/UL	962	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	5020388	6.65	ng/ul	974	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	4690126	7.50	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4228579	8.14	ng/ul	995	0.788
14)	Pyridine	5.31	638	79	0	0.00	ng/ul	0	1.146
15)	Phenol	0.00	1143	94	0	Not Found	ng/ul	103	0.000
16)	Aniline	0.00	1167	93	0	Not Found	ng/ul	165	0.000
17)	Bis(2-Chloroethyl)Ether	0.00	1178	92	0	Not Found	ng/ul	176	0.000
18)	2-Chlorophenol	0.00	1202	128	0	Not Found	ng/ul	0	0.000
19)	1,3-Dichlorobenzene	10.36	1243	146	5691	0.01	ng/ul	876	1.660
20)	1,4-Dichlorobenzene	10.44	1253	146	0	0.00	ng/ul	421	1.616
21)	Benzyl Alcohol	10.73	1288	108	1969	0.01	ng/ul	676	0.554
22)	1,2-Dichlorobenzene	10.90	1308	146	5886	0.02	ng/ul	861	1.498
23)	2-Methylphenol	10.98	1318	108	0	0.00	ng/ul	27	1.299
24)	Bis(2-Chloroisopropyl)Ether	10.97	1316	45	1	0.00	ng/ul	0	1.122
25)	4-Methylphenol	0.00	1359	108	0	Not Found	ng/ul	608	0.000
26)	N-Nitrosodi-N-Propylamine	0.00	1366	70	0	Not Found	ng/ul	356	0.000
27)	Hexachloroethane	0.00	1412	119	0	Not Found	ng/ul	956	0.000
28)	Nitrobenzene	0.00	1426	77	0	Not Found	ng/ul	501	0.000
29)	Isophorone	0.00	1496	82	0	Not Found	ng/ul	373	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	367	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305318.1B2
Data File: 305318.MS
Name: 305318
Sample:

Quant Time: 05/23/02 02:48
Injected at: 05/22/02 03:51
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Instrument ID: 133

ID File: ICC0518.QCI
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Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	444	0.000
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	27	0.000
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	577	0.000
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	74	0.000
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	864	0.000
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	349	0.000
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	709	0.000
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	388	0.000
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	958	0.000
41)	2-Methylnaphthalene	15.53	1864	142	9435	0.02	ng/ul	908	0.639
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	2	0.000
43)	2,4,6-Trichlorophenol	0.00	1951	196	0	Not Found	ng/ul	194	0.000
44)	2,4,5-Trichlorophenol	0.00	1962	196	0	Not Found	ng/ul	3	0.000
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	623	0.000
46)	2-Nitroaniline	16.94	2033	138	0	0.00	ng/ul	457	0.409
47)	Dimethyl Phthalate	0.00	2098	163	0	Not Found	ng/ul	630	0.000
48)	2,6-Dinitrotoluene	17.76	2131	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	423	0.000
50)	3-Nitroaniline	0.00	2163	138	0	Not Found	ng/ul	270	0.000
51)	Acenaphthene	18.25	2190	152	0	0.00	ng/ul	0	1.500
52)	2,4-Dinitrophenol	18.18	2182	184	0	0.00	ng/ul	0	0.060
53)	4-Nitrophenol	18.28	2194	65	0	0.00	ng/ul	0	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	628	0.000
55)	2,4-Dinitrotoluene	18.62	2234	165	0	0.00	ng/ul	0	0.547
56)	Benzo(b)Fluoranthene	29.22	3507	252	0	0.00	ng/ul	0	1.096
57)	Diethyl Phthalate	18.93	2271	149	31444	0.03	ng/ul	750	2.186
58)	Fluorene	19.25	2310	166	6396	0.01	ng/ul	631	1.161
59)	4-Chlorophenyl Phenyl Ether	0.00	2307	204	0	Not Found	ng/ul	230	0.000
60)	4-Nitroaniline	19.23	2308	108	0	0.00	ng/ul	548	0.736

* Compound is ISTD

Operator ID: JMK
Output File: 305318.1B2
Data File: 305318.MS
Name: 305318
Sample:

Quant Time: 05/23/02 02:48
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ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	163	0.000
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	225	0.000
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	504	0.000
64)	4-Bromophenyl Phenyl Ether	20.06	2407	248	0	0.00	ng/ul	0	0.384
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	240	0.000
66)	Pentachlorophenol	0.00	2461	266	0	Not Found	ng/ul	65	0.000
67)	Phenanthrene	20.85	2502	178	23746	0.03	ng/ul	360	1.076
68)	Anthracene	20.91	2509	178	0	0.00	ng/ul	0	1.183
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	23	0.000
70)	Di-n-Butyl Phthalate	0.00	2577	149	0	Not Found	ng/ul	684	0.000
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	102	0.000
72)	Benzidine	0.00	2728	184	0	Not Found	ng/ul	275	0.000
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	74	0.000
74)	Butyl Benzyl Phthalate	23.74	2849	149	10978	0.02	ng/ul	515	1.013
75)	3,3'-Dichlorobenzidine	25.26	3031	252	0	0.00	ng/ul	0	0.519
76)	Bis(2-Ethylhexyl)Phthalate	24.96	2995	149	56828	0.05	ng/ul	855	1.633
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	214	0.000
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	126	0.000
79)	Di-n-Octylphthalate	26.87	3224	149	12006	0.01	ng/ul	391	1.615
80)	Benzo(k)Fluoranthene	29.46	3535	252	2539	0.00	ng/ul	354	1.249
81)	Benzo(a)Pyrene	30.91	3709	252	2517	0.00	ng/ul	508	1.069
82)	Indeno(1,2,3-cd)Pyrene	0.00	4554	276	0	Not Found	ng/ul	7	0.000
83)	Dibenzo(a,h)Anthracene	0.00	4561	278	0	Not Found	ng/ul	10	0.000
84)	Benzo(g,h,i)Perylene	0.00	4820	276	0	Not Found	ng/ul	37	0.000
85)	N-Nitrosodimethylamine	5.09	611	73	1	0.00	ng/ul	0	0.325
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	45	0.000
87)	2,3-Dinitrotoluene	18.34	2201	165	0	0.00	ng/ul	0	0.540
88)	2,4-Diaminotoluene	16.66	1999	121	3397	0.02	ng/ul	635	0.184
89)	2-Chloroaniline	0.00	1508	127	0	Not Found	ng/ul	283	0.000
90)	5-Nitro-o-toluidine	19.13	2296	152	658	0.00	ng/ul	568	0.435

* Compound is ISTD

Operator ID: JMK
Output File: 305318.1B2
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Quant Time: 05/23/02 02:48
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Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.68	2242	143	732	0.00	ng/ul	868	0.867
92)	Benzaldehyde	9.43	1131	105	1095	0.00	ng/ul	632	2.400
93)	Acetophenone	11.47	1377	105	22234	0.03	ng/ul	915	0.909
94)	Caprolactam	14.57	1748	85	4218	0.06	ng/ul	553	0.078
95)	Biphenyl	16.75	2010	154	13269	0.02	ng/ul	898	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
3CAWP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:47
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305319
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.006**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
3CAWP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:47
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305319
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.018**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	**0.002**	J	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.028**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	ND	U	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.007**	J	0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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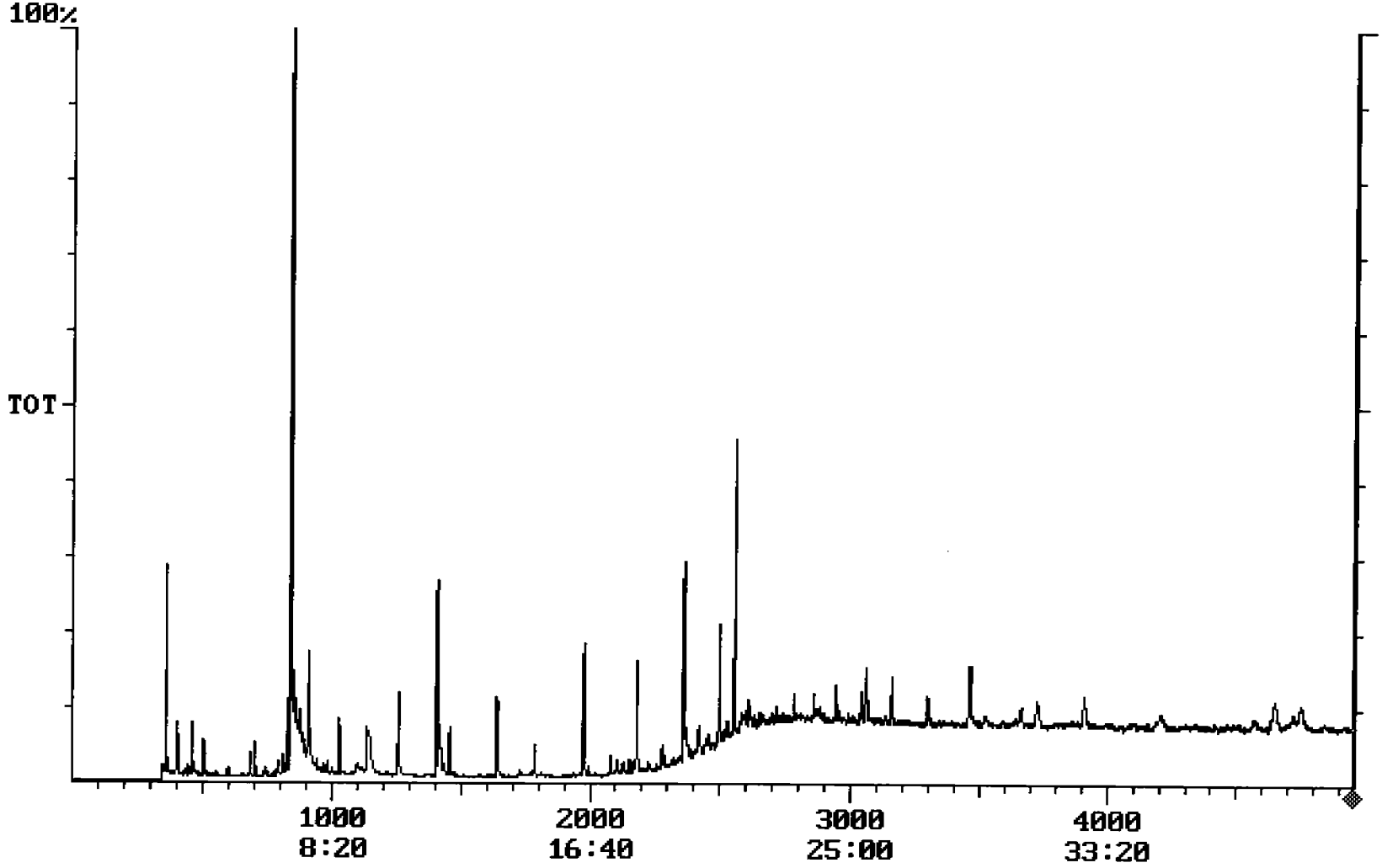
Chromatogram Plot C:\SATURN\DATA\305319 Date: 05/22/02 04:43:04
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1066338 Masses: 41-415
Plotted: 1 to 4944 Range: 1 to 4944 100% = 14177171



Operator ID: JMK
Output File: 305319.1B2
Data File: 305319.MS
Name: 305319
Sample:

Quant Time: 05/23/02 02:52
Injected at: 05/22/02 04:43
Dilution Factor: 1.00
Instrument ID: 133

305→1~1
9825015.5

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1179068	5.00	ng/ul	989	1.000
2)	*IS:D8-Naphthalene	13.67	1640	136	3967133	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2180	162	2635439	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	3674947	5.00	ng/ul	991	1.000
5)	*IS:D12-Chrysene	25.47	3057	240	3358330	5.00	ng/ul	593	1.000
6)	*IS:D12-Perylene	31.07	3729	264	2415790	5.00	ng/ul	756	1.000
7)	ACSUR:2-Fluorophenol	7.57	909	112	4453641	12.85	ng/ul	995	1.471
8)	ACSUR:D6-Phenol	9.48	1138	99	5664140	14.25	ng/ul	771	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	2600480	10.52	ng/ul	996	0.469
10)	BNSUR:D5-Nitrobenzene	11.82	1418	127	939689	8.28	NG/UL	979	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	5318674	7.65	ng/ul	972	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	4890782	7.93	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4496519	8.47	ng/ul	995	0.791
14)	Pyridine	5.40	648	79	0	0.00	ng/ul	0	1.146
15)	Phenol	0.00	1143	94	0	Not Found	ng/ul	219	0.000
16)	Aniline	9.70	1164	93	890	0.00	ng/ul	331	1.821
17)	Bis(2-Chloroethyl)Ether	9.76	1171	92	1013	0.01	ng/ul	338	0.833
18)	2-Chlorophenol	0.00	1202	128	0	Not Found	ng/ul	63	0.000
19)	1,3-Dichlorobenzene	10.37	1244	146	5144	0.01	ng/ul	774	1.660
20)	1,4-Dichlorobenzene	0.00	1268	146	0	Not Found	ng/ul	80	0.000
21)	Benzyl Alcohol	10.89	1307	108	49925	0.38	ng/ul	877	0.554
22)	1,2-Dichlorobenzene	10.90	1308	146	5335	0.02	ng/ul	616	1.498
23)	2-Methylphenol	11.11	1333	108	0	0.00	ng/ul	0	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.16	1339	45	0	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.32	1358	108	0	0.00	ng/ul	51	1.246
26)	N-Nitrosodi-N-Propylamine	0.00	1366	70	0	Not Found	ng/ul	287	0.000
27)	Hexachloroethane	11.82	1418	119	0	0.00	ng/ul	888	0.605
28)	Nitrobenzene	11.84	1421	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	0.00	1495	82	0	Not Found	ng/ul	242	0.000
30)	2-Nitrophenol	12.53	1504	109	207	0.00	ng/ul	756	0.286

* Compound is ISTD

Operator ID: JMK
Output File: 305319.1B2
Data File: 305319.MS
Name: 305319
Sample:

Quant Time: 05/23/02 02:52
Injected at: 05/22/02 04:43
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.61	1513	107	0	0.00	ng/ul	0	0.530
32)	Benzoic Acid	12.70	1524	105	0	0.00	ng/ul	0	0.068
33)	Bis(2-Chloroethoxy)Methane	12.96	1555	92	0	0.00	ng/ul	0	0.440
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	82	0.000
35)	1,2,4-Trichlorobenzene	13.50	1620	180	1127	0.00	ng/ul	646	0.398
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	666	0.000
37)	4-Chloroaniline	13.90	1668	127	380	0.00	ng/ul	398	0.568
38)	2,6-Dichlorophenol	13.92	1671	162	0	0.00	ng/ul	398	0.344
39)	Hexachlorobutadiene	13.96	1675	225	0	0.00	ng/ul	347	0.312
40)	4-Chloro-3-Methylphenol	15.08	1810	107	79807	0.19	ng/ul	949	0.534 0.0067
41)	2-Methylnaphthalene	15.52	1863	142	12583	0.02	ng/ul	931	0.639
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	2	0.000
43)	2,4,6-Trichlorophenol	0.00	1950	196	0	Not Found	ng/ul	161	0.000
44)	2,4,5-Trichlorophenol	0.00	1961	196	0	Not Found	ng/ul	192	0.000
45)	2-Chloronapthalene	0.00	2019	162	0	Not Found	ng/ul	506	0.000
46)	2-Nitroaniline	17.09	2051	138	0	0.00	ng/ul	425	0.409
47)	Dimethyl Phthalate	0.00	2098	163	0	Not Found	ng/ul	504	0.000
48)	2,6-Dinitrotoluene	17.70	2124	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	285	0.000
50)	3-Nitroaniline	18.05	2166	138	0	0.00	ng/ul	0	0.338
51)	Acenaphthene	18.22	2187	152	3768	0.00	ng/ul	626	1.500
52)	2,4-Dinitrophenol	18.25	2190	184	0	0.00	ng/ul	552	0.060
53)	4-Nitrophenol	18.20	2184	65	0	0.00	ng/ul	17	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	624	0.000
55)	2,4-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	888	0.000
56)	Benzo(b)Fluoranthene	0.00	3522	252	0	Not Found	ng/ul	488	0.000
57)	Diethyl Phthalate	19.04	2285	149	609075	0.53	ng/ul	948	2.186 0.018
58)	Fluorene	19.26	2311	166	13641	0.02	ng/ul	704	1.161
59)	4-Chlorophenyl Phenyl Ether	0.00	2306	204	0	Not Found	ng/ul	217	0.000
60)	4-Nitroaniline	19.25	2310	108	0	0.00	ng/ul	400	0.736

* Compound is ISTD

Operator ID: JMK
Output File: 305319.1B2
Data File: 305319.MS
Name: 305319
Sample:

Quant Time: 05/23/02 02:52
Injected at: 05/22/02 04:43
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	218	0.000
62)	N-Nitrosodiphenylamine	19.42	2331	169	0	0.00	ng/ul	184	0.509
63)	1,2-Diphenylhydrazine	19.43	2332	77	49	0.00	ng/ul	0	1.258
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	482	0.000
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	188	0.000
66)	Pentachlorophenol	0.00	2460	266	0	Not Found	ng/ul	277	0.000
67)	Phenanthrene	20.84	2501	178	41317	0.053	ng/ul	549	1.076 0.0518
68)	Anthracene	20.92	2510	178	8867	0.01	ng/ul	222	1.183
69)	Carbazole	21.16	2539	167	0	0.00	ng/ul	0	1.075
70)	Di-n-Butyl Phthalate	21.52	2583	149	1242162	0.84	ng/ul	894	2.017 0.028
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	47	0.000
72)	Benzidine	22.60	2712	184	0	0.00	ng/ul	331	0.403
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	68	0.000
74)	Butyl Benzyl Phthalate	23.90	2868	149	5676	0.01	ng/ul	453	1.013
75)	3,3'-Dichlorobenzidine	25.29	3035	252	2232	0.01	ng/ul	783	0.519
76)	Bis(2-Ethylhexyl)Phthalate	25.04	3005	149	224797	0.21	ng/ul	631	1.633 0.007
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	0	0.000
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	40	0.000
79)	Di-n-Octylphthalate	26.89	3227	149	700	0.00	ng/ul	0	1.615
80)	Benzo(k)Fluoranthene	29.62	3554	252	6463	0.01	ng/ul	483	1.249
81)	Benzo(a)Pyrene	30.87	3704	252	2462	0.00	ng/ul	751	1.069
82)	Indeno(1,2,3-cd)Pyrene	0.00	4553	276	0	Not Found	ng/ul	0	0.000
83)	Dibenzo(a,h)Anthracene	0.00	4560	278	0	Not Found	ng/ul	0	0.000
84)	Benzo(g,h,i)Perylene	0.00	4819	276	0	Not Found	ng/ul	87	0.000
85)	N-Nitrosodimethylamine	5.11	613	73	433	0.01	ng/ul	0	0.325
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	30	0.000
87)	2,3-Dinitrotoluene	0.00	2226	165	0	Not Found	ng/ul	744	0.000
88)	2,4-Diaminotoluene	16.67	2001	121	1663	0.01	ng/ul	441	0.184
89)	2-Chloroaniline	12.53	1504	127	314	0.00	ng/ul	584	0.613
90)	5-Nitro-o-toluidine	19.37	2325	152	1032	0.00	ng/ul	396	0.435

* Compound is ISTD

Operator ID: JMK
Output File: 305319.1B2
Data File: 305319.MS
Name: 305319
Sample:

Quant Time: 05/23/02 02:52
Injected at: 05/22/02 04:43
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

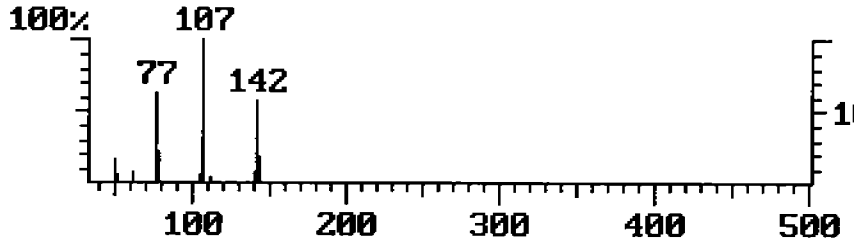
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.68	2241	143	741	0.00	ng/ul	892	0.867
92)	Benzaldehyde	9.42	1131	105	748	0.00	ng/ul	585	2.400
93)	Acetophenone	11.46	1375	105	175526	0.24	ng/ul	964	0.909
94)	Caprolactam	14.57	1749	85	1182	0.02	ng/ul	402	0.078
95)	Biphenyl	16.75	2010	154	20319	0.03	ng/ul	942	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	108	0.000

* Compound is ISTD

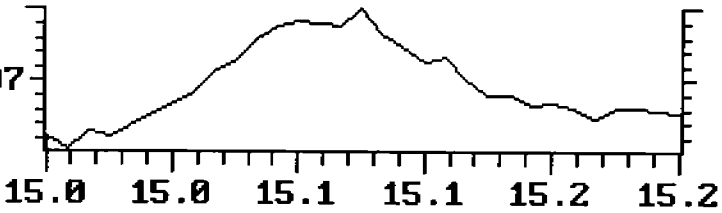
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 33 of 65
Data File: 305319 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:43 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1810
AGC: 769

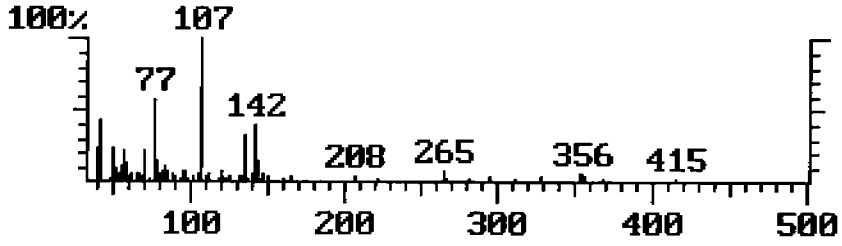
REFERENCE STANDARD SPECTRUM



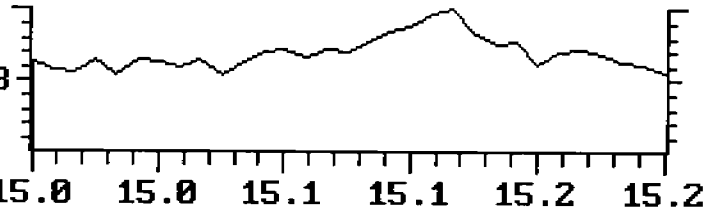
MASS 107 PLOT



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



BASE PEAK MASS PLOT



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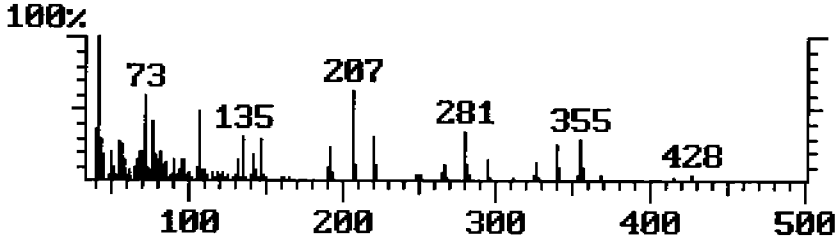
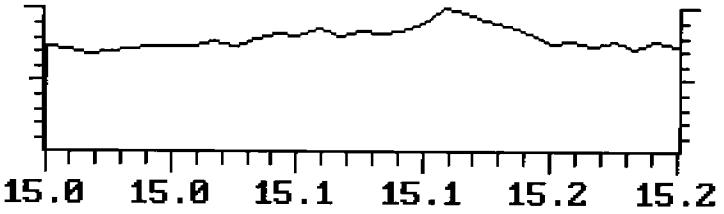


TOTAL ION PLOT

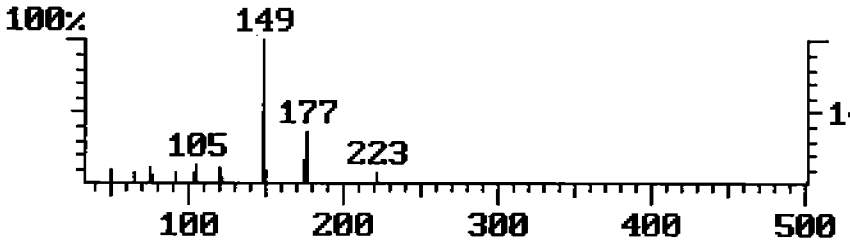


Approved_____ Date_____

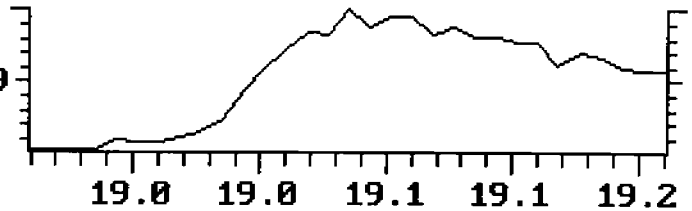
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 41 of 65
Data File: 305319 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:43 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2285
AGC: 264

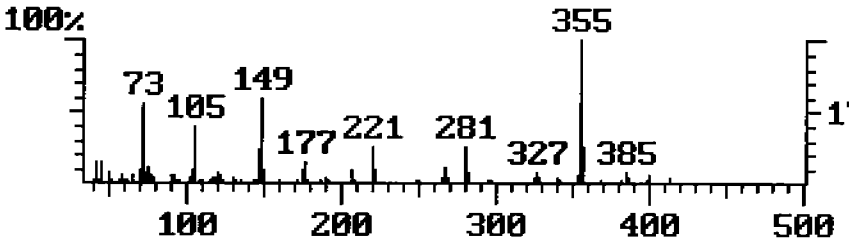
REFERENCE STANDARD SPECTRUM



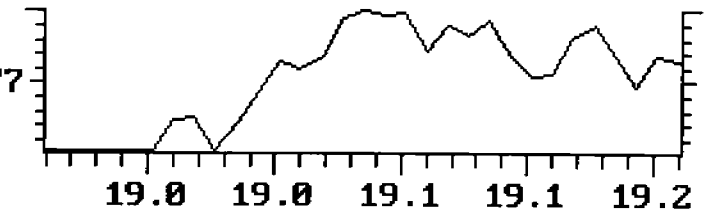
MASS 149 PLOT



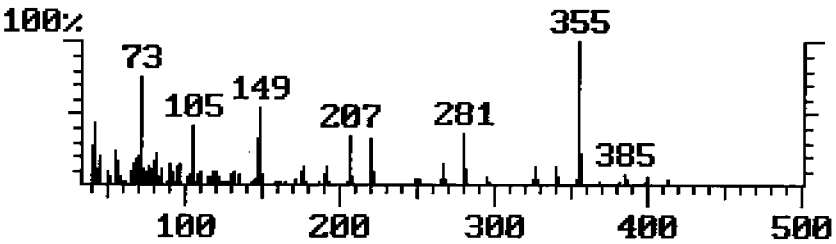
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



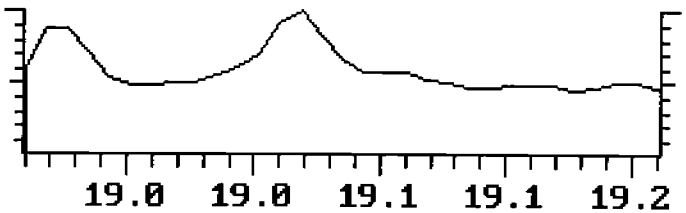
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



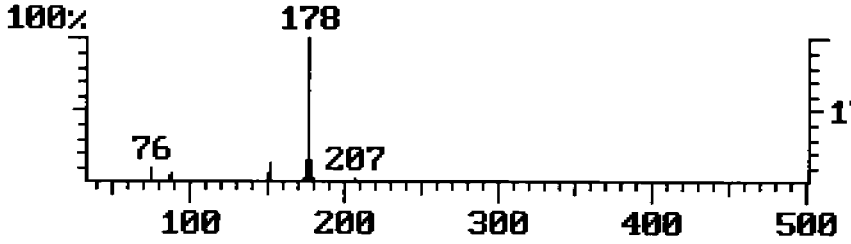
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 65
Data File: 305319 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:43 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

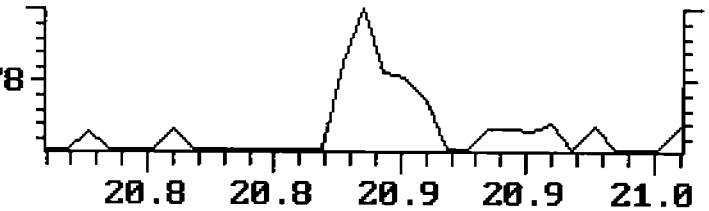
Phenanthrene

SCAN#: 2501
AGC: 110

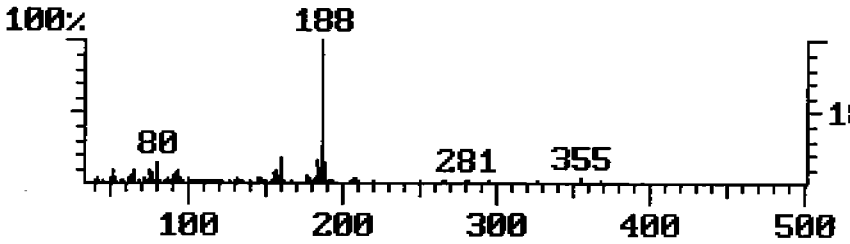
REFERENCE STANDARD SPECTRUM



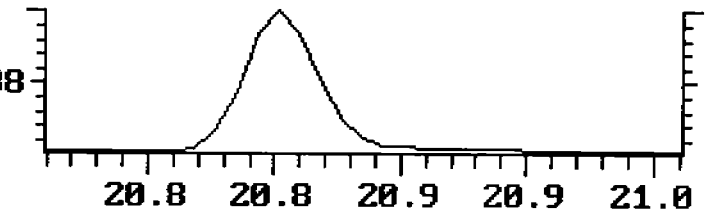
MASS 178 PLOT



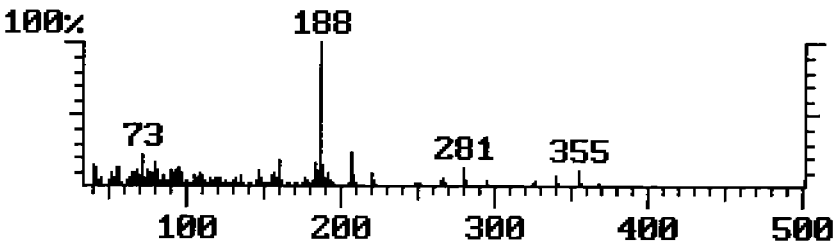
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



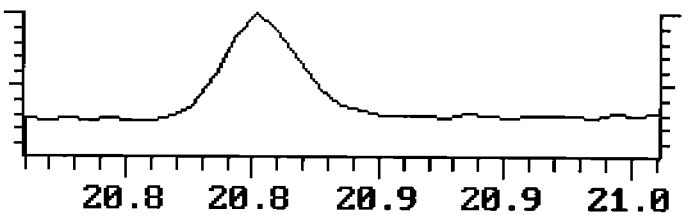
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

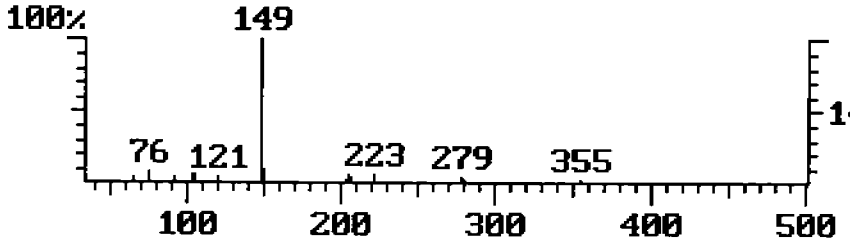


Approved_____ Date_____

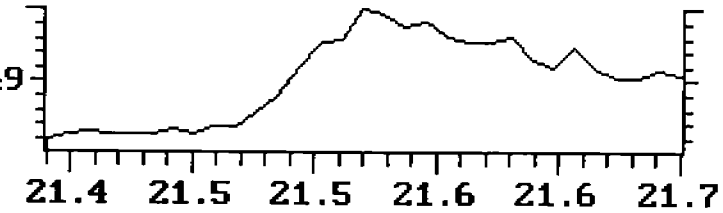
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 65
Data File: 305319 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:43 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2583
AGC: 97

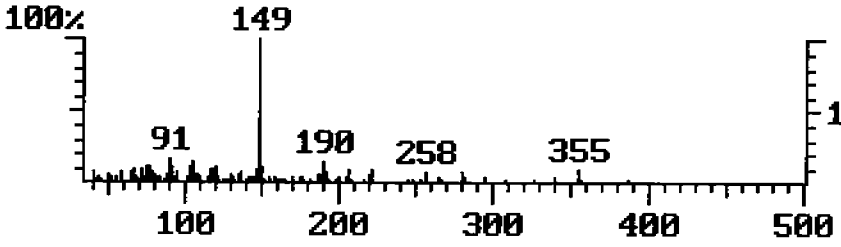
REFERENCE STANDARD SPECTRUM



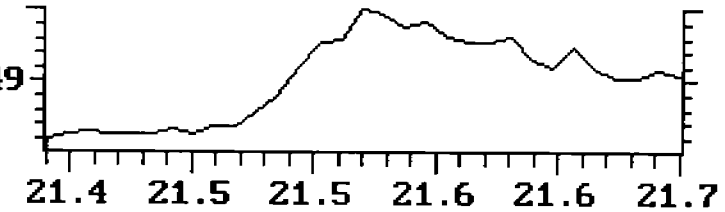
MASS 149 PLOT



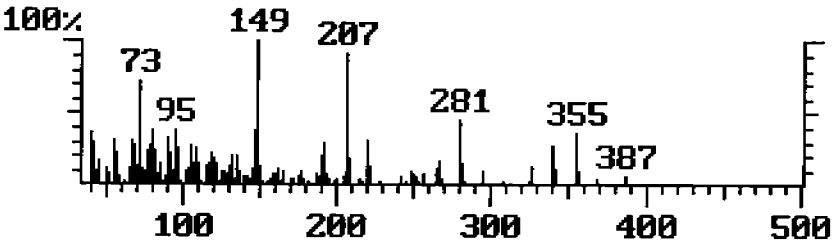
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



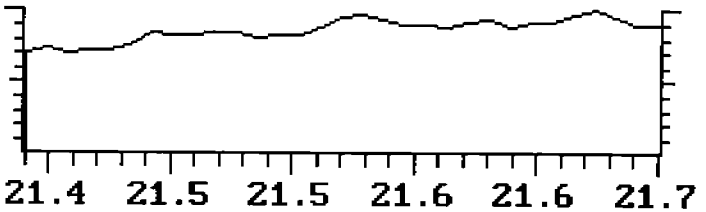
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

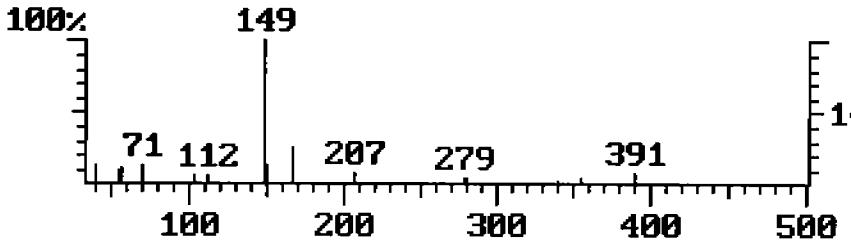


Approved_____ Date_____

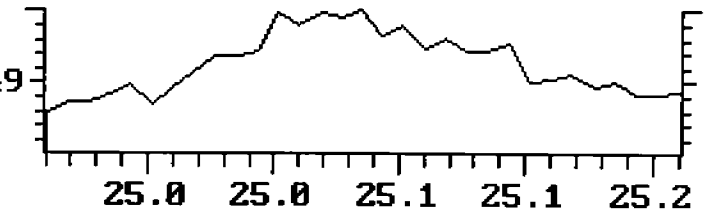
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 53 of 65
Data File: 305319 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:43 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 3005
AGC: 113

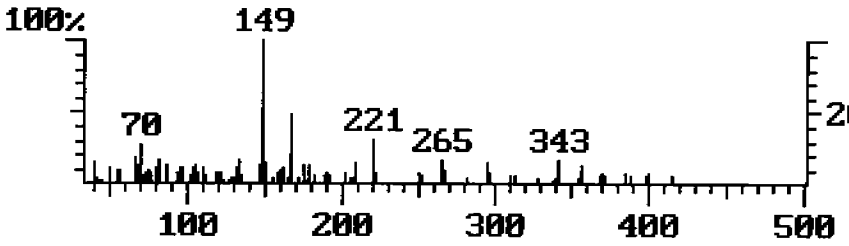
REFERENCE STANDARD SPECTRUM



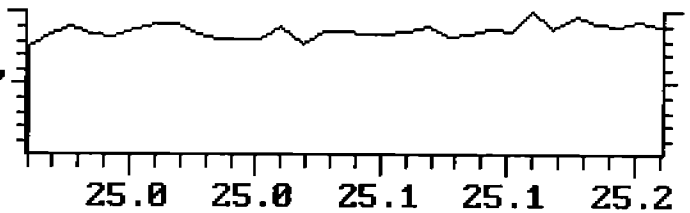
MASS 149 PLOT



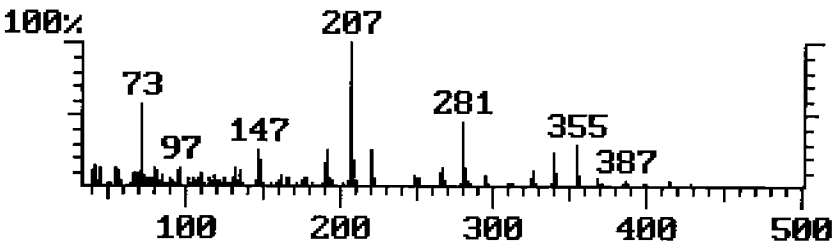
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



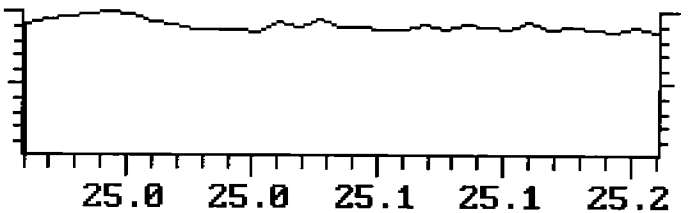
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
2BWP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:52
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305320
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.006**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	**0.001**	J	0.001	0.002

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
2BWP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:52
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305320
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.044**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	**0.001**	J	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.034**		0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.017**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.015**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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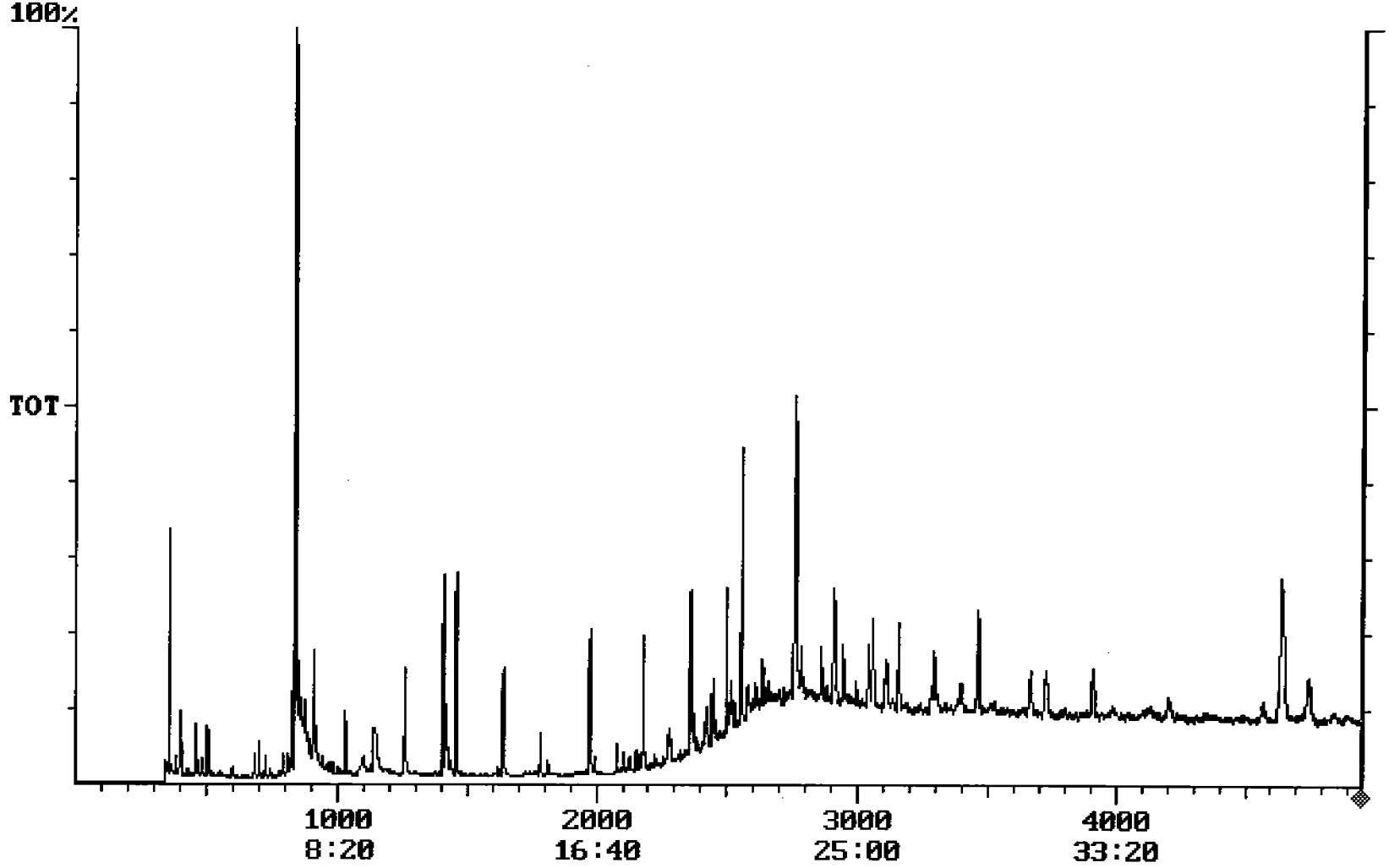
Chromatogram Plot C:\SATURN\DATA\305320 Date: 05/22/02 05:34:03
Comment: INSTRUMENT 133
Scan: 4943 Seg: 1 Group: 0 Retention: 41:12 RIC: 1056906 Masses: 41-428
Plotted: 1 to 4943 Range: 1 to 4943 100% = 12230062



QUANT REPORT

Operator ID: JMK
Output File: 305320.1B2
Data File: 305320.MS
Name: 305320
Sample:

Quant Time: 05/23/02 03:00
Injected at: 05/22/02 05:34
Dilution Factor: 1.00
Instrument ID: 133

305 → 1 ml
972 solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1353824	5.00	ng/ul	991	1.000
2)	*IS:D8-Naphthalene	13.67	1640	136	4447447	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2180	162	2739891	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	4195265	5.00	ng/ul	994	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	3745601	5.00	ng/ul	625	1.000
6)	*IS:D12-Perylene	31.03	3724	264	3889498	5.00	ng/ul	874	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	3854391	9.68	ng/ul	997	1.471
8)	ACSUR:D6-Phenol	9.51	1141	99	5142644	11.27	ng/ul	853	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	1843748	7.18	ng/ul	994	0.469
10)	BNSUR:D5-Nitrobenzene	11.83	1420	127	889640	6.99	NG/UL	959	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	4632274	5.94	ng/ul	972	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	4478599	6.99	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	3801716	6.56	ng/ul	994	0.774
14)	Pyridine	5.43	652	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.44	1133	94	0	0.00	ng/ul	410	1.572
16)	Aniline	9.77	1172	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	9.79	1175	92	0	0.00	ng/ul	120	0.833
18)	2-Chlorophenol	9.99	1199	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.36	1243	146	3254	0.01	ng/ul	837	1.660
20)	1,4-Dichlorobenzene	0.00	1268	146	0	Not Found	ng/ul	148	0.000
21)	Benzyl Alcohol	10.87	1304	108	35720	0.24	ng/ul	903	0.554
22)	1,2-Dichlorobenzene	10.91	1309	146	3249	0.01	ng/ul	590	1.498
23)	2-Methylphenol	10.96	1316	108	0	0.00	ng/ul	295	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.11	1333	45	176	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.32	1358	108	0	0.00	ng/ul	361	1.246
26)	N-Nitrosodi-N-Propylamine	11.37	1365	70	806	0.00	ng/ul	139	0.678
27)	Hexachloroethane	11.81	1417	119	0	0.00	ng/ul	942	0.605
28)	Nitrobenzene	11.96	1435	77	0	0.00	ng/ul	147	0.505
29)	Isophorone	12.58	1510	82	766	0.00	ng/ul	0	0.714
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	225	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305320.1B2
Data File: 305320.MS
Name: 305320
Sample:

Quant Time: 05/23/02 03:00
Injected at: 05/22/02 05:34
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	205	0.000	
32)	Benzoic Acid	12.74	1529	105	0	0.00	ng/ul	0	0.068	
33)	Bis(2-Chloroethoxy)Methane	12.93	1552	92	0	0.00	ng/ul	8	0.440	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	207	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	81	0.000	
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	265	0.000	
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	289	0.000	
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	289	0.000	
39)	Hexachlorobutadiene	13.90	1668	225	0	0.00	ng/ul	347	0.312	
40)	4-Chloro-3-Methylphenol	15.07	1808	107	88150	0.19	ng/ul	957	0.534	0.0069
41)	2-Methylnaphthalene	15.53	1864	142	12584	0.02	ng/ul	915	0.639	
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	0.00	1950	196	0	Not Found	ng/ul	105	0.000	
44)	2,4,5-Trichlorophenol	0.00	1961	196	0	Not Found	ng/ul	180	0.000	
45)	2-Chloronapthalene	16.92	2030	162	1083	0.00	ng/ul	709	1.302	
46)	2-Nitroaniline	17.15	2058	138	0	0.00	ng/ul	287	0.409	
47)	Dimethyl Phthalate	0.00	2098	163	0	Not Found	ng/ul	679	0.000	
48)	2,6-Dinitrotoluene	17.69	2123	165	0	0.00	ng/ul	0	0.351	
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	148	0.000	
50)	3-Nitroaniline	17.89	2147	138	0	0.00	ng/ul	351	0.338	
51)	Acenaphthene	18.23	2188	152	11640	0.015	ng/ul	875	1.500	0.0035
52)	2,4-Dinitrophenol	18.28	2193	184	0	0.00	ng/ul	837	0.060	
53)	4-Nitrophenol	18.19	2183	65	0	0.00	ng/ul	2	0.119	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	512	0.000	
55)	2,4-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	853	0.000	
56)	Benzo(b)Fluoranthene	0.00	3522	252	0	Not Found	ng/ul	536	0.000	
57)	Diethyl Phthalate	18.96	2276	149	1542507	1.29	ng/ul	969	2.186	0.644
58)	Fluorene	19.24	2309	166	6194	0.01	ng/ul	620	1.161	
59)	4-Chlorophenyl Phenyl Ether	19.27	2312	204	0	0.00	ng/ul	331	0.783	
60)	4-Nitroaniline	19.23	2308	108	0	0.00	ng/ul	226	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305320.1B2
Data File: 305320.MS
Name: 305320
Sample:

Quant Time: 05/23/02 03:00
Injected at: 05/22/02 05:34
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.47	2336	198	0	0.00	ng/ul	315	0.116	
62)	N-Nitrosodiphenylamine	19.37	2324	169	0	0.00	ng/ul	584	0.509	
63)	1,2-Diphenylhydrazine	19.52	2343	77	93938	0.09	ng/ul	709	1.255	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	477	0.000	
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	23	0.000	
66)	Pentachlorophenol	0.00	2460	266	0	Not Found	ng/ul	146	0.000	
67)	Phenanthrene	20.85	2502	178	34225	0.04	ng/ul	418	1.076	0.0013
68)	Anthracene	20.93	2512	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	21.08	2530	167	2734	0.00	ng/ul	835	1.075	
70)	Di-n-Butyl Phthalate	21.47	2577	149	1675507	1.00	ng/ul	925	2.002	0.037
71)	Fluoranthene	22.58	2710	202	2834	0.00	ng/ul	343	1.113	
72)	Benzidine	0.00	2727	184	0	Not Found	ng/ul	222	0.000	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	32	0.000	
74)	Butyl Benzyl Phthalate	23.83	2860	149	366863	0.48	ng/ul	794	1.013	0.017
75)	3,3'-Dichlorobenzidine	25.17	3021	252	3504	0.01	ng/ul	703	0.519	
76)	Bis(2-Ethylhexyl)Phthalate	24.96	2995	149	524951	0.43	ng/ul	762	1.633	0.017
77)	Benzo(a)Anthracene	25.62	3075	228	0	0.00	ng/ul	345	1.289	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	131	0.000	
79)	Di-n-Octylphthalate	26.86	3224	149	13839	0.01	ng/ul	587	1.615	
80)	Benzo(k)Fluoranthene	29.54	3545	252	2822	0.00	ng/ul	434	1.249	
81)	Benzo(a)Pyrene	31.03	3724	252	3622	0.00	ng/ul	593	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4553	276	0	Not Found	ng/ul	32	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4560	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	40.07	4809	276	3124	0.00	ng/ul	428	1.284	
85)	N-Nitrosodimethylamine	5.16	620	73	775	0.01	ng/ul	326	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	41	0.000	
87)	2,3-Dinitrotoluene	18.47	2216	165	55	0.00	ng/ul	0	0.540	
88)	2,4-Diaminotoluene	16.57	1988	121	2870	0.02	ng/ul	457	0.184	
89)	2-Chloroaniline	12.52	1503	127	843	0.00	ng/ul	821	0.613	
90)	5-Nitro-o-toluidine	19.33	2320	152	1415	0.01	ng/ul	568	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305320.1B2
Data File: 305320.MS
Name: 305320
Sample:

Quant Time: 05/23/02 03:00
Injected at: 05/22/02 05:34
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

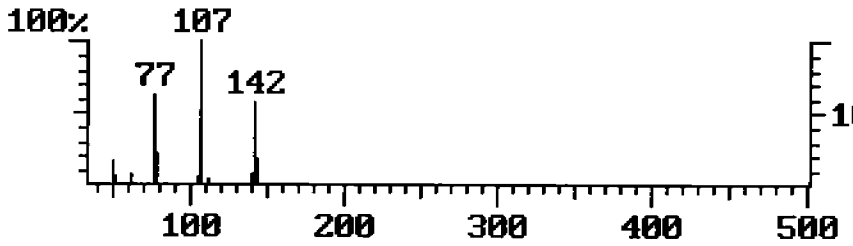
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.75	2250	143	1021	0.00	ng/ul	692	0.867
92)	Benzaldehyde	9.49	1139	105	94248	0.14	ng/ul	709	2.402
93)	Acetophenone	11.44	1373	105	169939	0.21	ng/ul	965	0.909
94)	Caprolactam	14.77	1773	85	4870	0.07	ng/ul	501	0.078
95)	Biphenyl	16.75	2010	154	18432	0.02	ng/ul	851	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

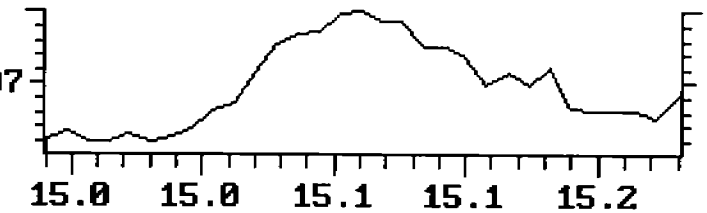
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 32 of 70
Data File: 305320 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:34 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1808
AGC: 627

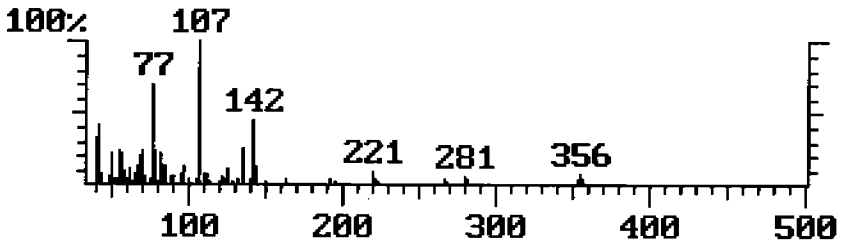
REFERENCE STANDARD SPECTRUM



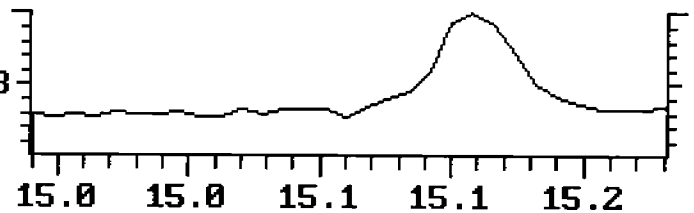
MASS 107 PLOT



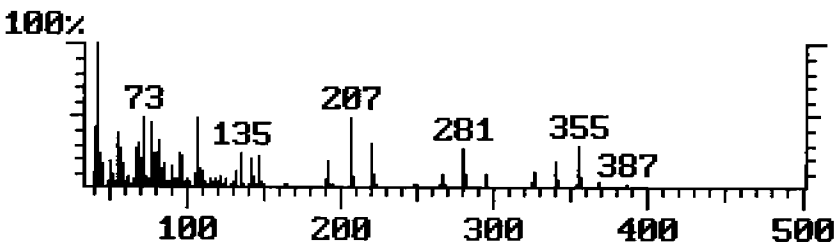
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

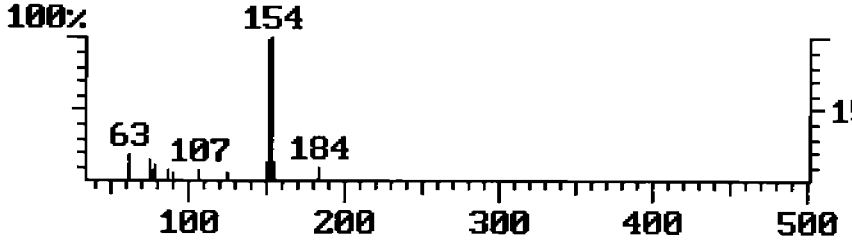


Approved_____ Date_____

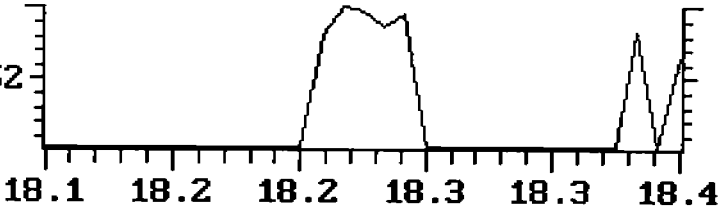
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 70
Data File: 305320 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:34 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Acenaphthene SCAN#: 2188
AGC: 406

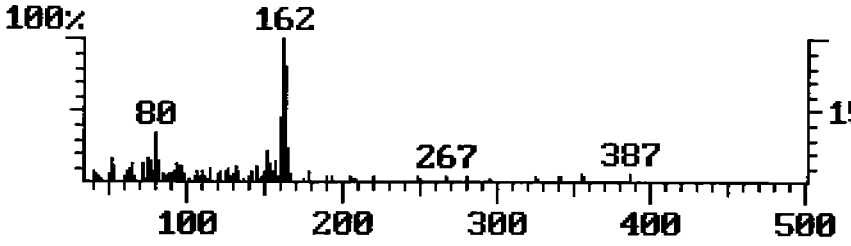
REFERENCE STANDARD SPECTRUM



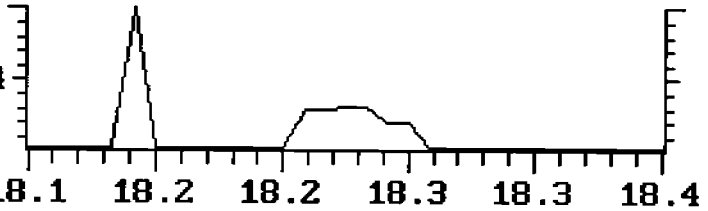
MASS 152 PLOT



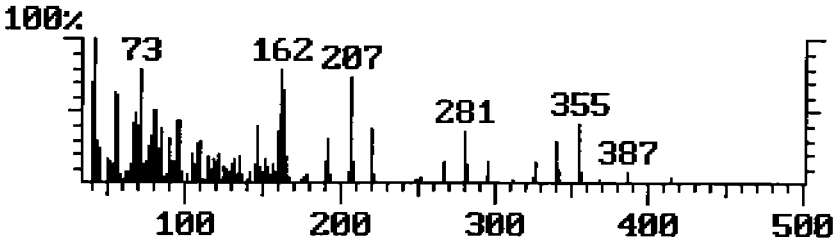
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



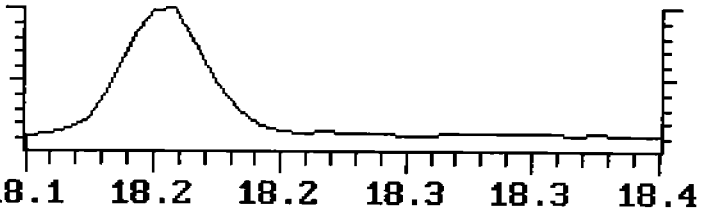
MASS 154 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

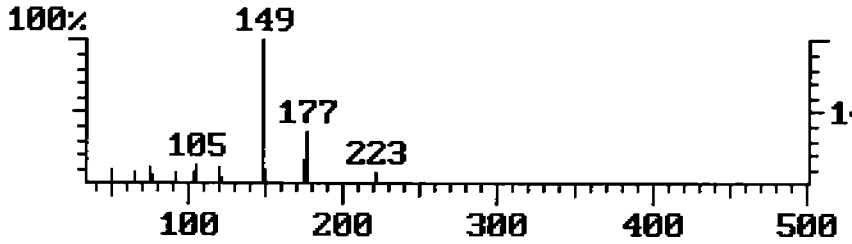


Approved_____ Date_____

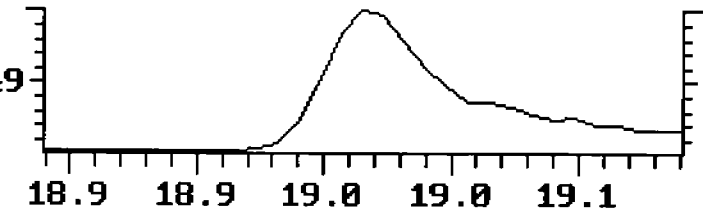
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 41 of 70
Data File: 305320 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:34 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2276
AGC: 186

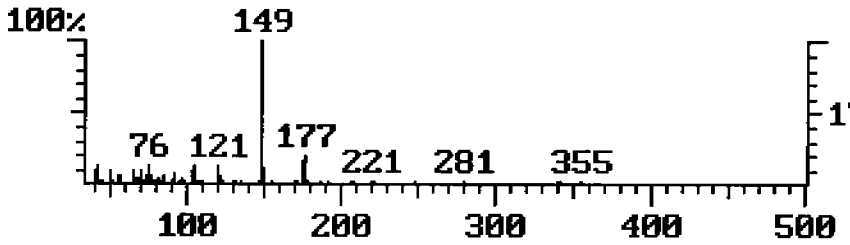
REFERENCE STANDARD SPECTRUM



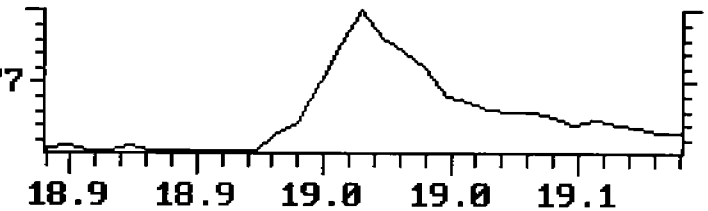
MASS 149 PLOT



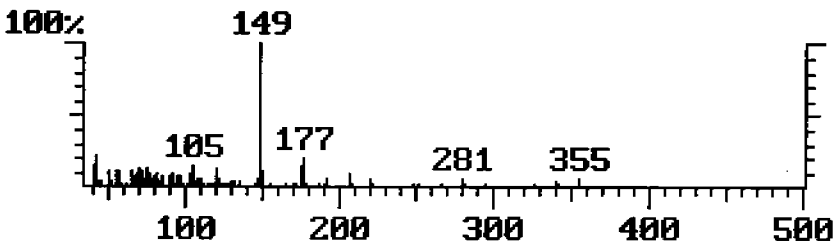
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



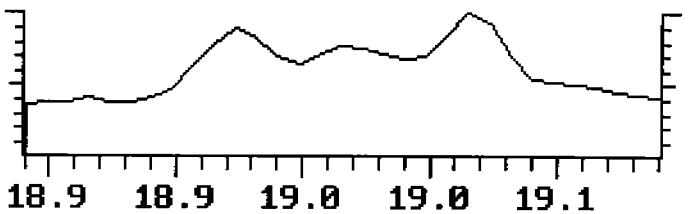
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



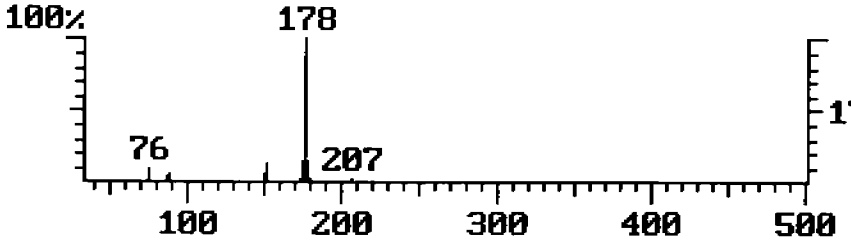
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 48 of 70
Data File: 305320 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:34 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

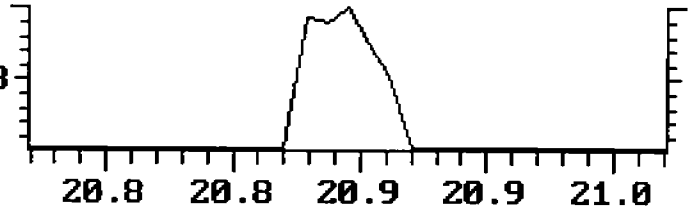
Phenanthrene

SCAN#: 2502
AGC: 126

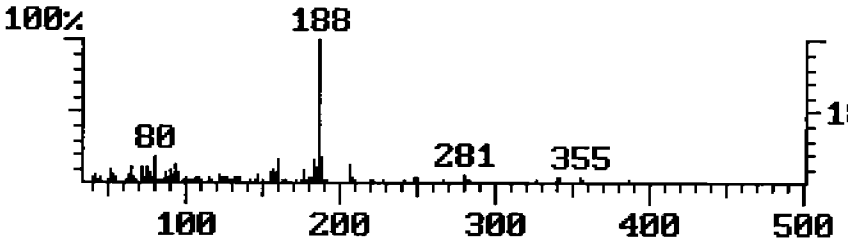
REFERENCE STANDARD SPECTRUM



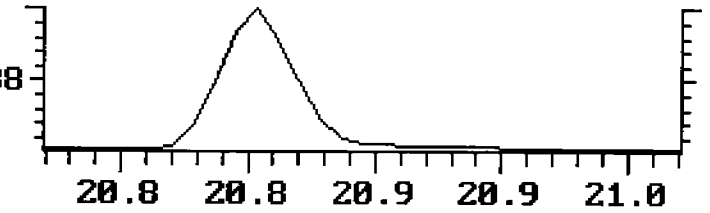
MASS 178 PLOT



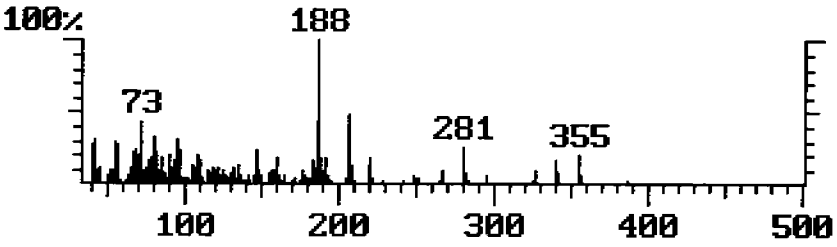
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



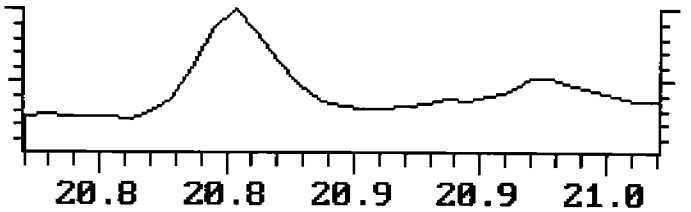
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

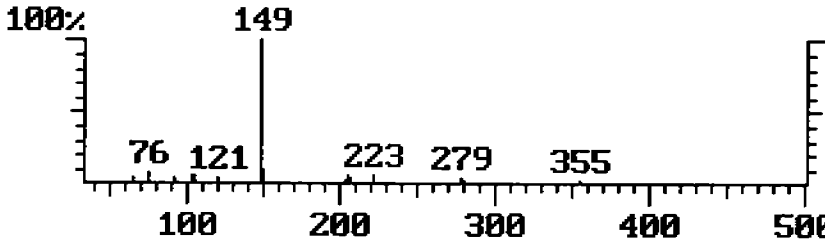


Approved_____ Date_____

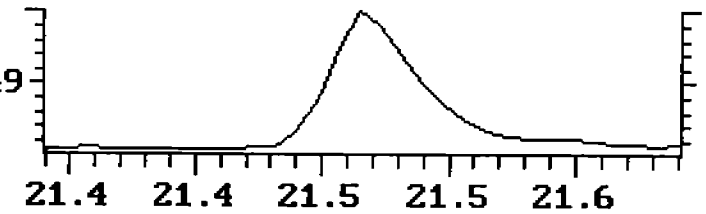
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 51 of 70
Data File: 305320 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:34 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2577
AGC: 80

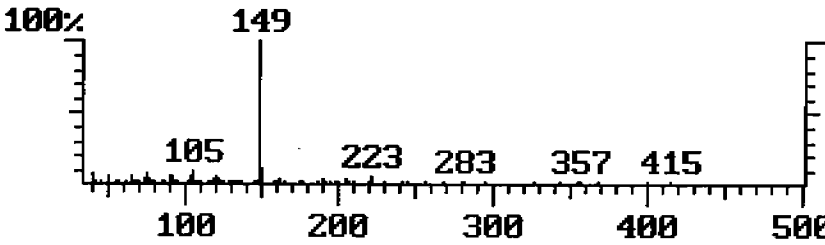
REFERENCE STANDARD SPECTRUM



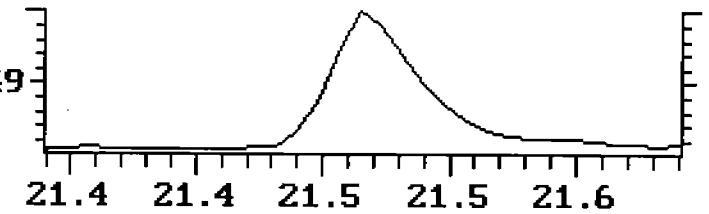
MASS 149 PLOT



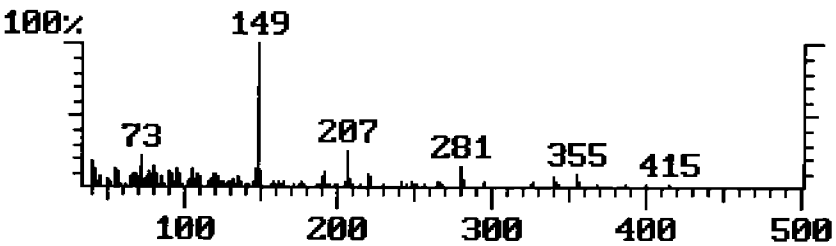
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



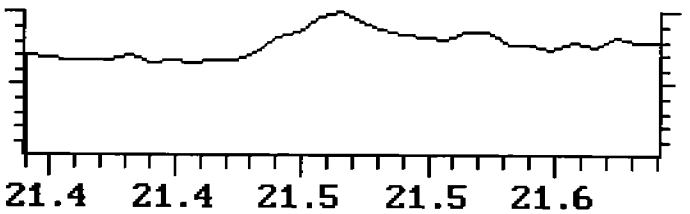
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

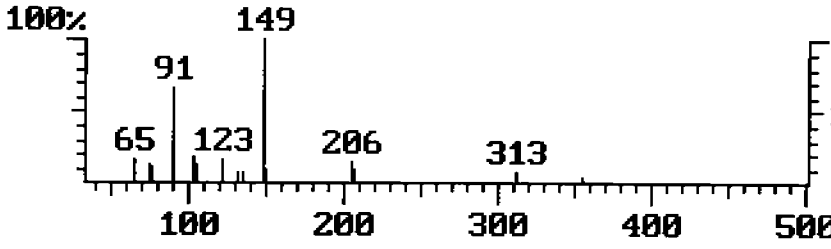


Approved_____ Date_____

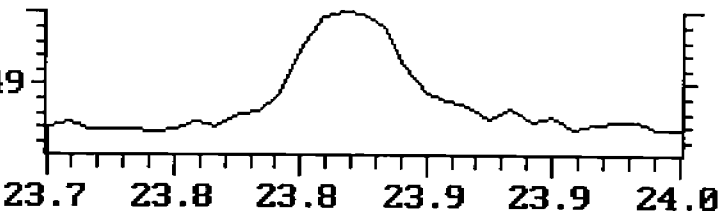
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 53 of 70
Data File: 305320 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:34 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2860
AGC: 56

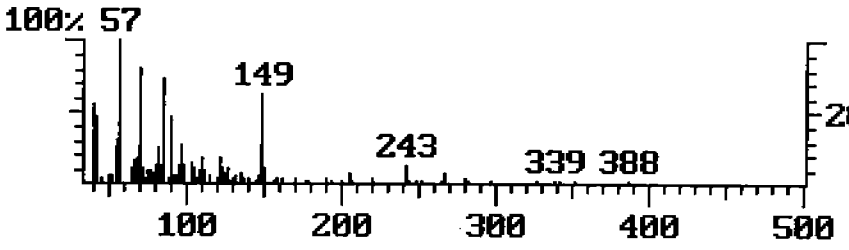
REFERENCE STANDARD SPECTRUM



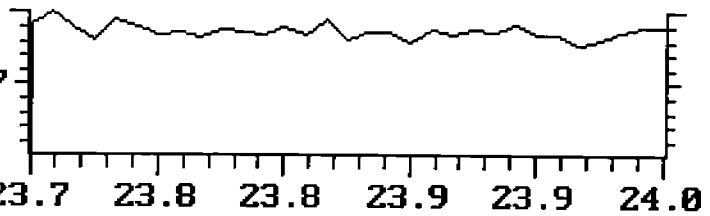
MASS 149 PLOT



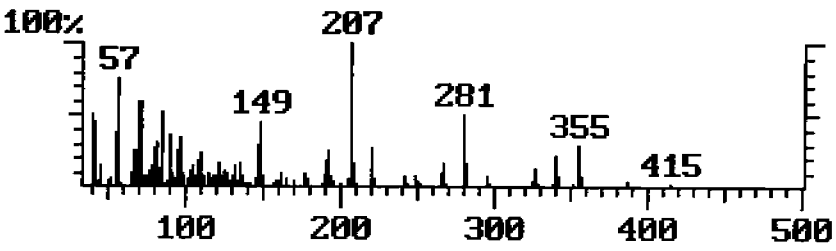
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



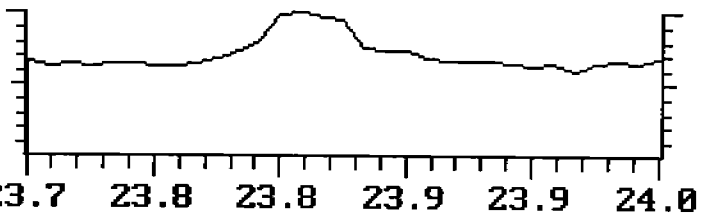
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

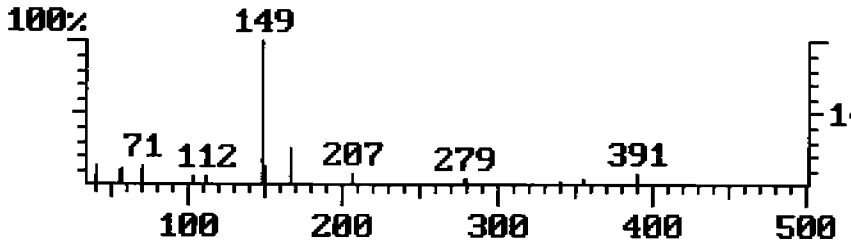


Approved_____ Date_____

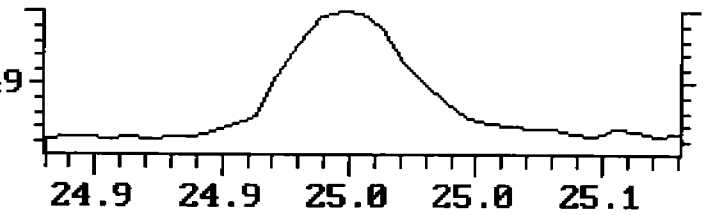
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 55 of 70
Data File: 305320 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:34 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2995
AGC: 86

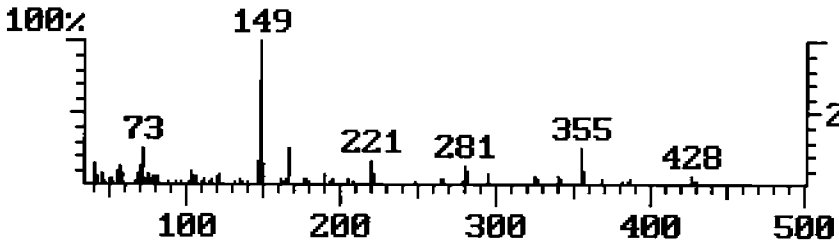
REFERENCE STANDARD SPECTRUM



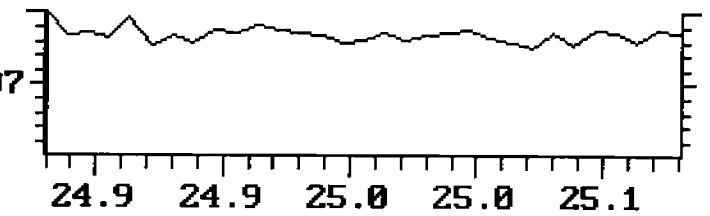
MASS 149 PLOT



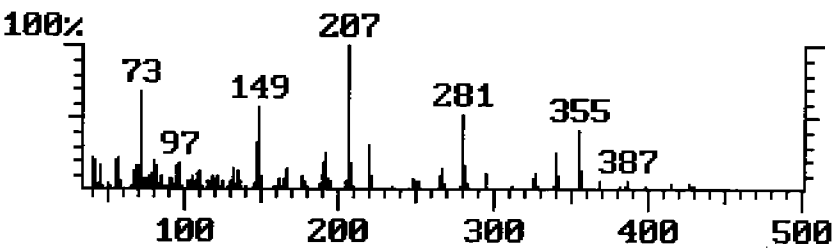
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



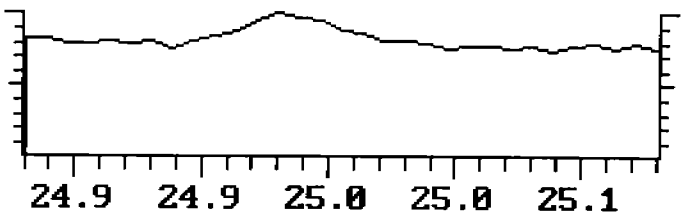
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
1DWP01005

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:55
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305321
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
1DWP01005

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 10:55
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305321
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.50**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.031**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.017**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.022**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.010**		0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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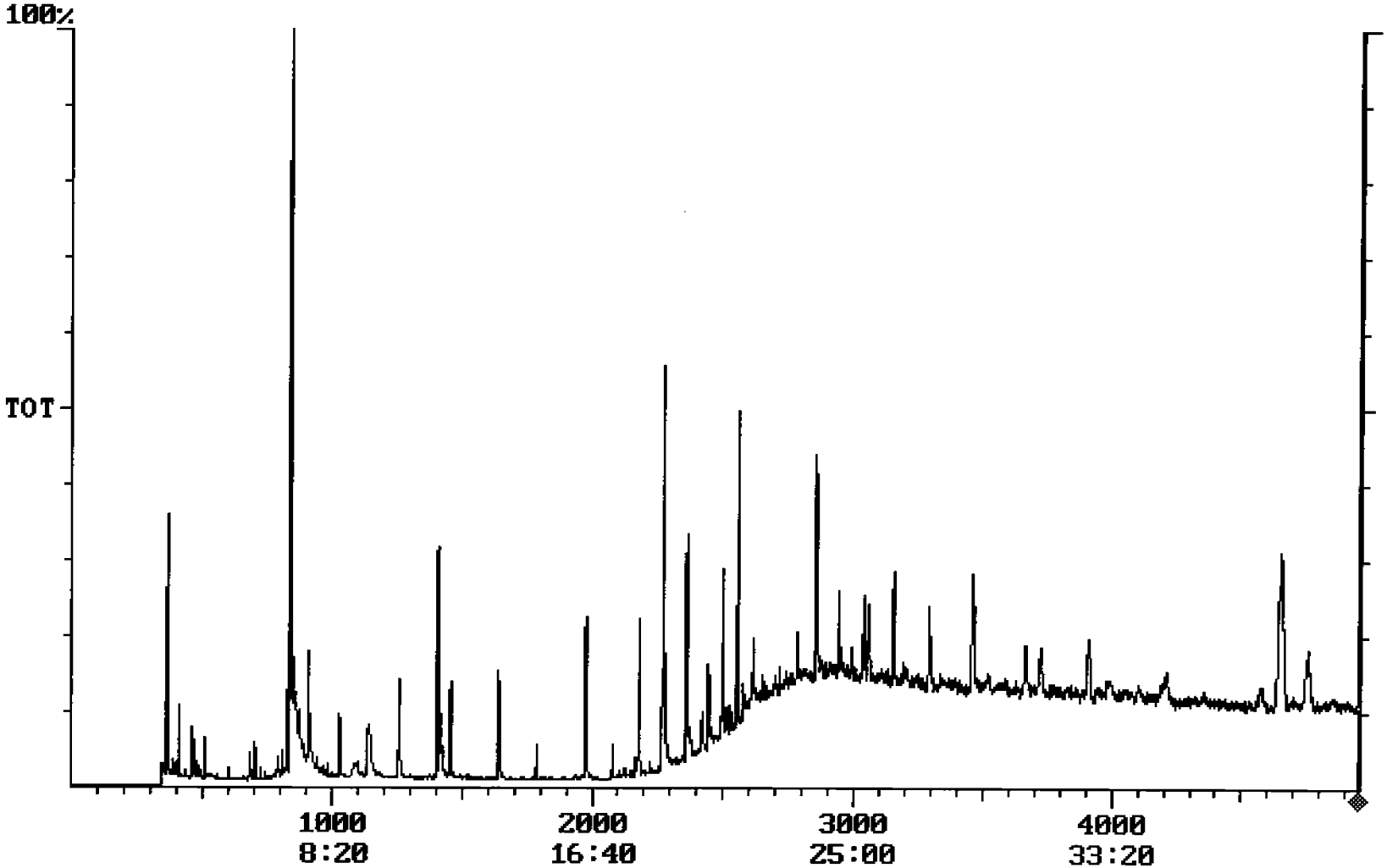
Chromatogram Plot C:\SATURN\DATA\305321 Date: 05/22/02 06:25:25
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1192437 Masses: 41-399
Plotted: 1 to 4944 Range: 1 to 4944 100% = 11022803



Operator ID: JMK
Output File: 305321.1B2
Data File: 305321.MS
Name: 305321
Sample:

Quant Time: 05/23/02 03:02
Injected at: 05/22/02 06:25
Dilution Factor: 1.00
Instrument ID: 133

305->1-1
97.2 solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.49	1259	152	1254681	5.00	ng/ul	991	1.000
2)	*IS:D8-Naphthalene	13.67	1640	136	4205341	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2750372	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	4188847	5.00	ng/ul	995	1.000
5)	*IS:D12-Chrysene	25.47	3057	240	3500734	5.00	ng/ul	679	1.000
6)	*IS:D12-Perylene	31.03	3724	264	3575445	5.00	ng/ul	703	1.000
7)	ACSUR:2-Fluorophenol	7.57	909	112	3723177	10.09	ng/ul	995	1.471
8)	ACSUR:D6-Phenol	9.54	1145	99	5093880	12.04	ng/ul	738	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	2001807	7.76	ng/ul	996	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	849524	7.06	NG/UL	958	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	4925842	6.68	ng/ul	971	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	4553882	7.08	ng/ul	998	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	3857594	7.08	ng/ul	993	0.778
14)	Pyridine	5.41	649	79	0	0.00	ng/ul	0	1.146
15)	Phenol	0.00	1143	94	0	Not Found	ng/ul	171	0.000
16)	Aniline	0.00	1167	93	0	Not Found	ng/ul	286	0.000
17)	Bis(2-Chloroethyl)Ether	9.74	1169	92	743	0.00	ng/ul	427	0.833
18)	2-Chlorophenol	0.00	1202	128	0	Not Found	ng/ul	0	0.000
19)	1,3-Dichlorobenzene	10.37	1244	146	2315	0.01	ng/ul	746	1.660
20)	1,4-Dichlorobenzene	0.00	1268	146	0	Not Found	ng/ul	211	0.000
21)	Benzyl Alcohol	10.87	1305	108	512	0.00	ng/ul	715	0.554
22)	1,2-Dichlorobenzene	10.91	1309	146	3728	0.01	ng/ul	694	1.498
23)	2-Methylphenol	10.86	1303	108	980	0.00	ng/ul	750	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.13	1336	45	4087	0.01	ng/ul	321	1.122
25)	4-Methylphenol	11.30	1356	108	0	0.00	ng/ul	413	1.246
26)	N-Nitrosodi-N-Propylamine	11.33	1360	70	986	0.01	ng/ul	0	0.678
27)	Hexachloroethane	11.82	1419	119	0	0.00	ng/ul	950	0.605
28)	Nitrobenzene	11.86	1423	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	12.51	1501	82	426	0.00	ng/ul	0	0.714
30)	2-Nitrophenol	12.83	1540	109	0	0.00	ng/ul	0	0.286

* Compound is ISTD

Operator ID: JMK
Output File: 305321.1B2
Data File: 305321.MS
Name: 305321
Sample:

Quant Time: 05/23/02 03:02
Injected at: 05/22/02 06:25
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.77	1533	107	18049	0.04	ng/ul	597	0.530
32)	Benzoic Acid	12.85	1542	105	0	0.00	ng/ul	0	0.068
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	536	0.000
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	188	0.000
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	382	0.000
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	364	0.000
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	377	0.000
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	274	0.000
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	936	0.000
41)	2-Methylnaphthalene	15.53	1864	142	9263	0.02	ng/ul	831	0.639
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	2	0.000
43)	2,4,6-Trichlorophenol	0.00	1951	196	0	Not Found	ng/ul	76	0.000
44)	2,4,5-Trichlorophenol	0.00	1962	196	0	Not Found	ng/ul	25	0.000
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	547	0.000
46)	2-Nitroaniline	17.17	2061	138	312	0.00	ng/ul	466	0.409
47)	Dimethyl Phthalate	17.48	2098	163	13516	0.01	ng/ul	833	1.919
48)	2,6-Dinitrotoluene	17.62	2115	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	521	0.000
50)	3-Nitroaniline	17.98	2158	138	614	0.00	ng/ul	682	0.338
51)	Acenaphthene	18.26	2191	152	0	0.00	ng/ul	0	1.500
52)	2,4-Dinitrophenol	18.26	2191	184	0	0.00	ng/ul	725	0.060
53)	4-Nitrophenol	18.20	2184	65	0	0.00	ng/ul	0	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	547	0.000
55)	2,4-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	882	0.000
56)	Benzo(b)Fluoranthene	0.00	3523	252	0	Not Found	ng/ul	433	0.000
57)	Diethyl Phthalate	18.93	2272	149	17486727	14.54	ng/ul	994	2.186
58)	Fluorene	19.24	2309	166	2714	0.00	ng/ul	804	1.161
59)	4-Chlorophenyl Phenyl Ether	0.00	2307	204	0	Not Found	ng/ul	118	0.000
60)	4-Nitroaniline	19.26	2311	108	1428	0.00	ng/ul	556	0.736

0.52

* Compound is ISTD

Operator ID: JMK
Output File: 305321.1B2
Data File: 305321.MS
Name: 305321
Sample:

Quant Time: 05/23/02 03:02
Injected at: 05/22/02 06:25
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	148	0.000	
62)	N-Nitrosodiphenylamine	19.33	2320	169	0	0.00	ng/ul	0	0.509	
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	532	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	383	0.000	
65)	Hexachlorobenzene	20.31	2437	284	1570	0.01	ng/ul	372	0.305	
66)	Pentachlorophenol	0.00	2461	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.84	2501	178	31989	0.04	ng/ul	486	1.076	
68)	Anthracene	20.92	2511	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	236	0.000	
70)	Di-n-Butyl Phthalate	21.46	2576	149	1527889	0.91	ng/ul	967	2.011	0.951
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	275	0.000	
72)	Benzidine	0.00	2728	184	0	Not Found	ng/ul	296	0.000	
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	34	0.000	
74)	Butyl Benzyl Phthalate	23.83	2860	149	348152	0.49	ng/ul	739	1.013	0.517
75)	3,3'-Dichlorobenzidine	0.00	3030	252	0	Not Found	ng/ul	266	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.93	2992	149	741532	0.65	ng/ul	781	1.633	0.672
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	228	0.000	
78)	Chrysene	25.43	3052	228	5077	0.01	ng/ul	361	1.191	
79)	Di-n-Octylphthalate	26.87	3224	149	342453	0.30	ng/ul	675	1.634	0.516
80)	Benzo(k)Fluoranthene	29.63	3556	252	3976	0.00	ng/ul	652	1.249	
81)	Benzo(a)Pyrene	30.95	3714	252	3976	0.01	ng/ul	424	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4554	276	0	Not Found	ng/ul	14	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4561	278	0	Not Found	ng/ul	71	0.000	
84)	Benzo(g,h,i)Perylene	40.10	4812	276	4858	0.01	ng/ul	312	1.284	
85)	N-Nitrosodimethylamine	5.19	623	73	7218	0.09	ng/ul	561	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	37	0.000	
87)	2,3-Dinitrotoluene	0.00	2224	165	0	Not Found	ng/ul	833	0.000	
88)	2,4-Diaminotoluene	16.63	1996	121	550	0.00	ng/ul	331	0.184	
89)	2-Chloroaniline	12.53	1504	127	452	0.00	ng/ul	669	0.613	
90)	5-Nitro-o-toluidine	19.39	2327	152	928	0.00	ng/ul	312	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305321.1B2
Data File: 305321.MS
Name: 305321
Sample:

Quant Time: 05/23/02 03:02
Injected at: 05/22/02 06:25
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

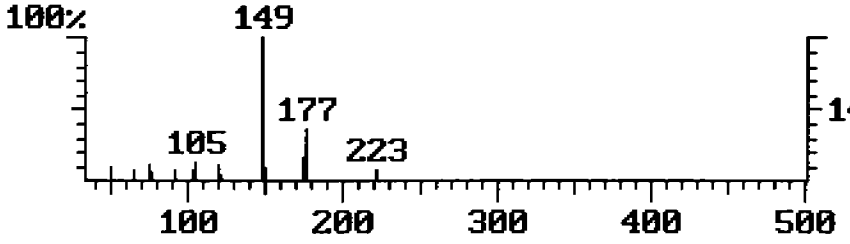
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.72	2247	143	2199	0.00	ng/ul	591	0.867
92)	Benzaldehyde	9.42	1130	105	1830	0.00	ng/ul	662	2.400
93)	Acetophenone	11.46	1375	105	47510	0.06	ng/ul	886	0.909
94)	Caprolactam	14.54	1745	85	8667	0.13	ng/ul	348	0.078
95)	Biphenyl	16.74	2009	154	13536	0.02	ng/ul	881	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	127	0.000

* Compound is ISTD

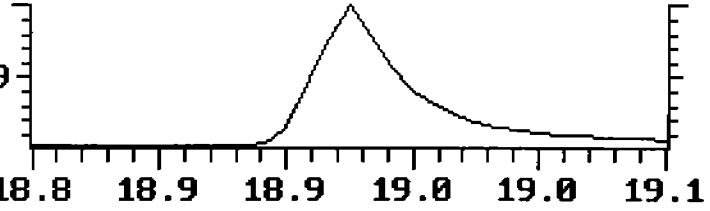
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 37 of 60
Data File: 305321 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:25 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2272
AGC: 24

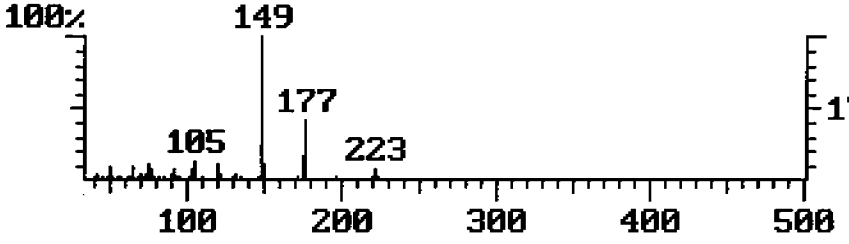
REFERENCE STANDARD SPECTRUM



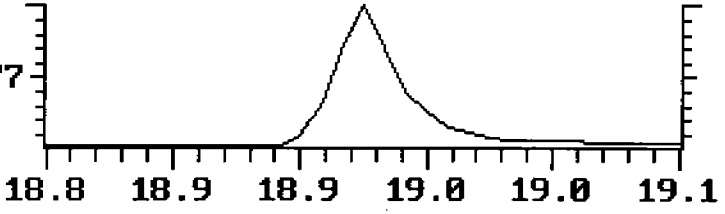
MASS 149 PLOT



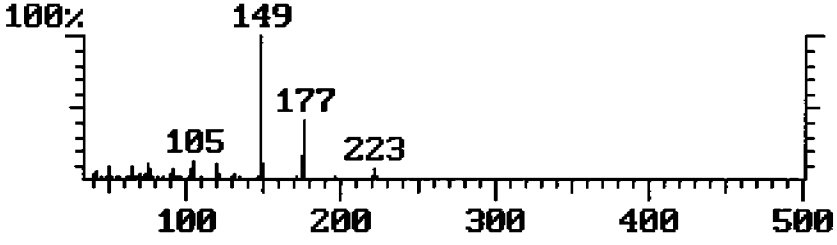
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



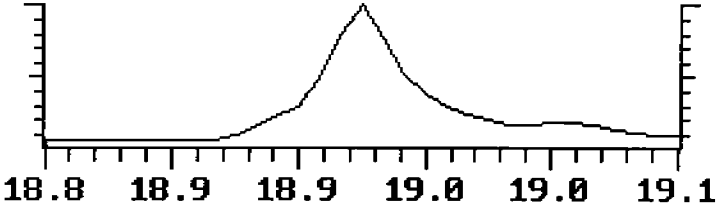
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

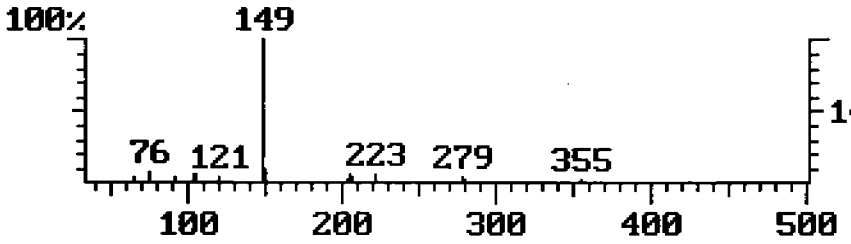


Approved_____ Date_____

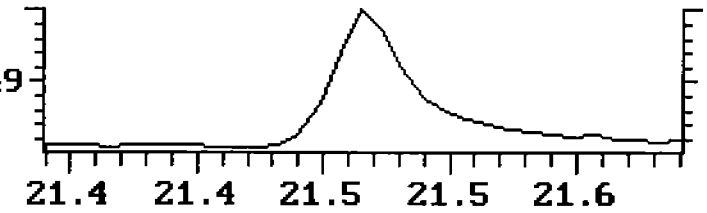
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 60
Data File: 305321 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:25 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2576
AGC: 83

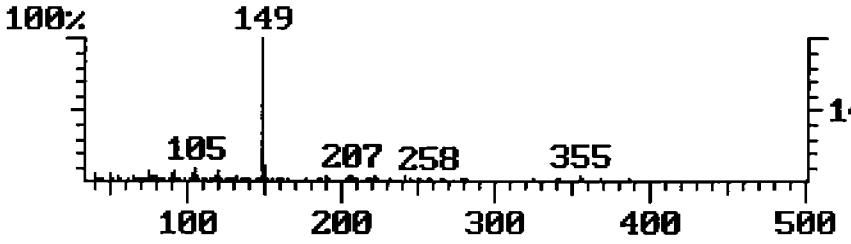
REFERENCE STANDARD SPECTRUM



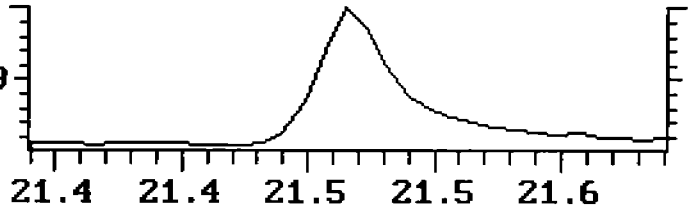
MASS 149 PLOT



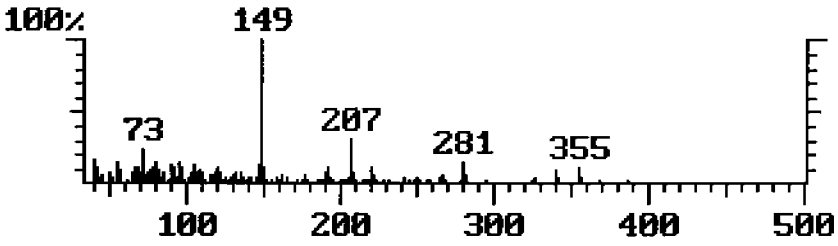
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



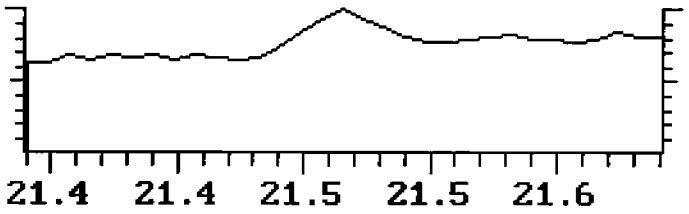
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

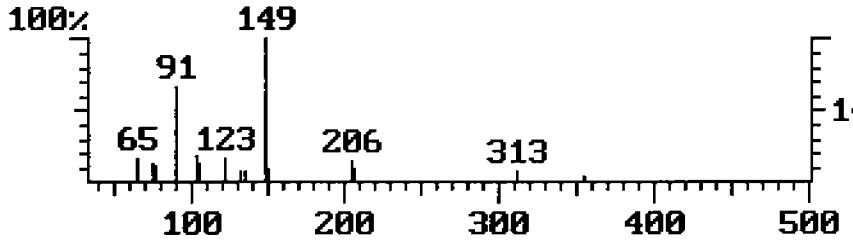


Approved_____ Date_____

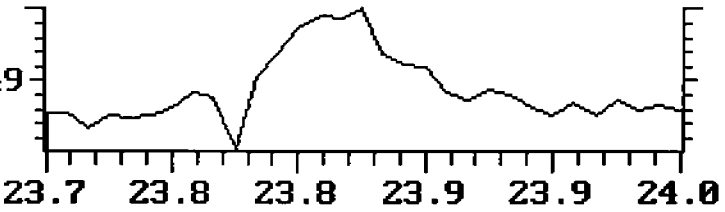
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 60
Data File: 305321 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:25 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2860
AGC: 48

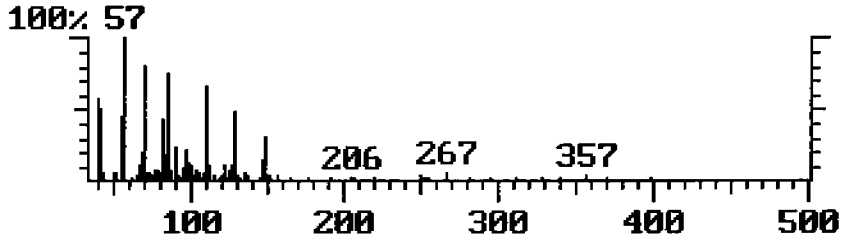
REFERENCE STANDARD SPECTRUM



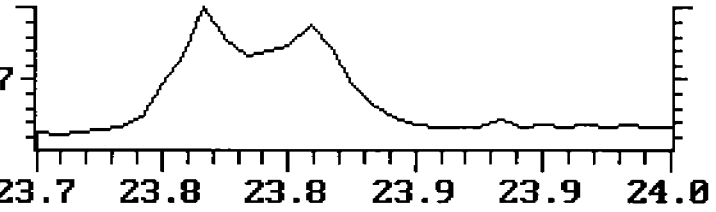
MASS 149 PLOT



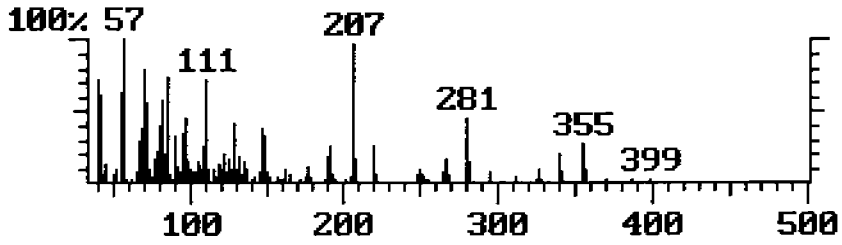
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



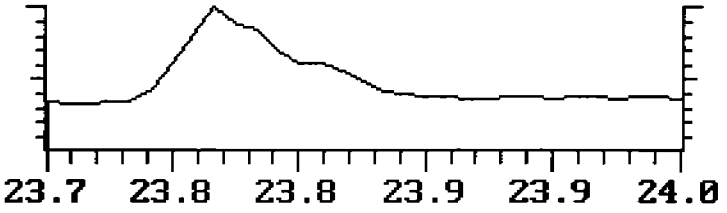
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

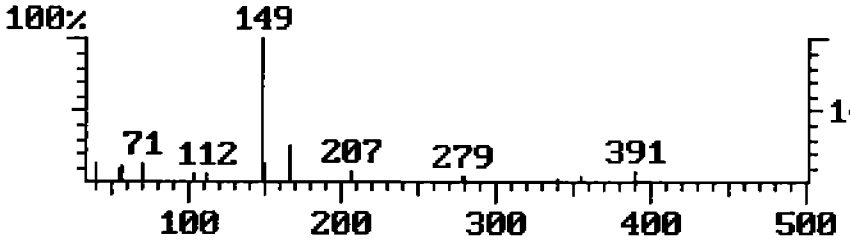


Approved_____ Date_____

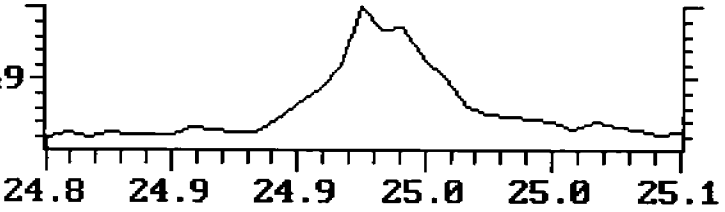
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 60
Data File: 305321 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:25 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2992
AGC: 64

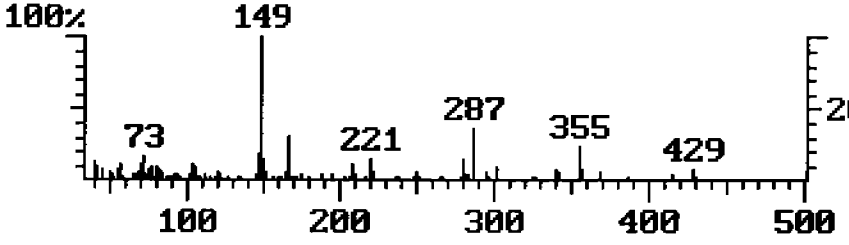
REFERENCE STANDARD SPECTRUM



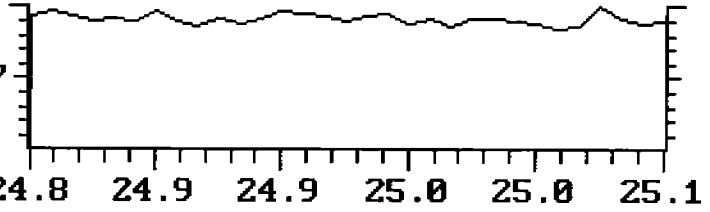
MASS 149 PLOT



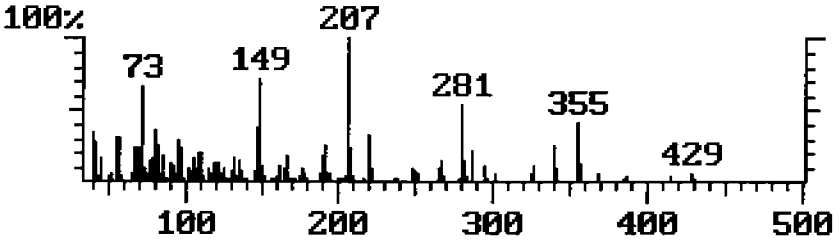
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



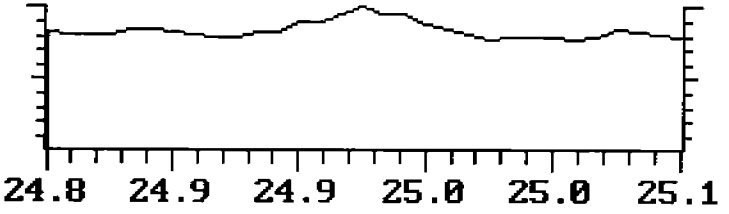
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

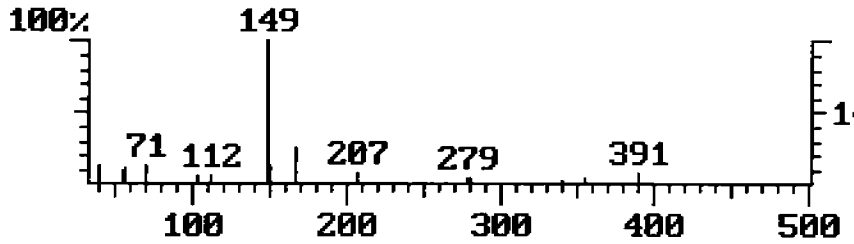


Approved_____ Date_____

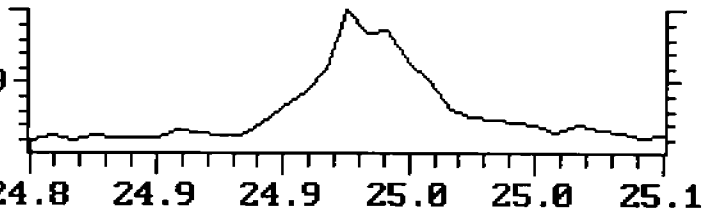
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 60
Data File: 305321 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:25 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2992
AGC: 64

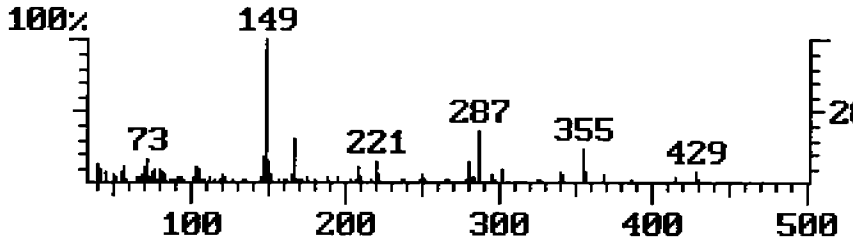
REFERENCE STANDARD SPECTRUM



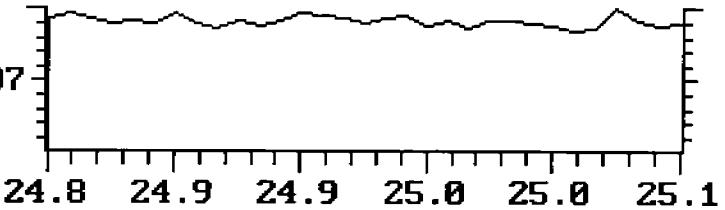
MASS 149 PLOT



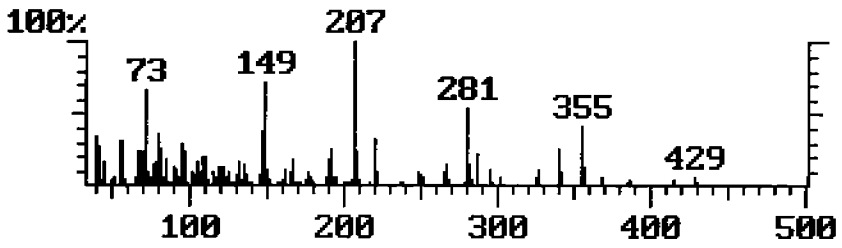
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



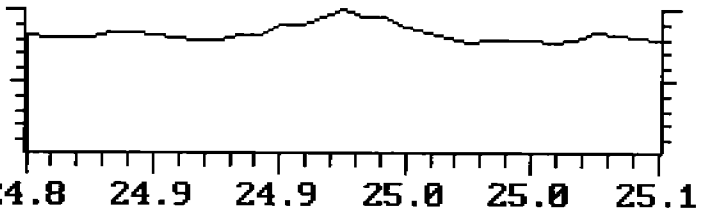
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

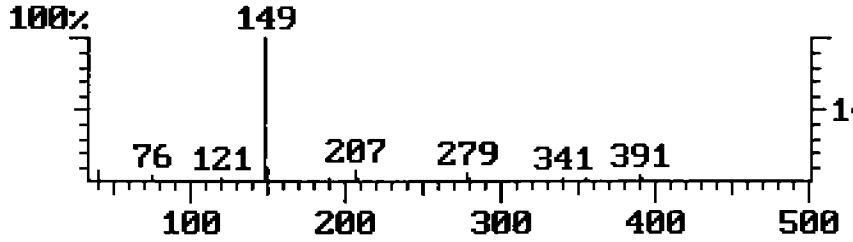


Approved_____ Date_____

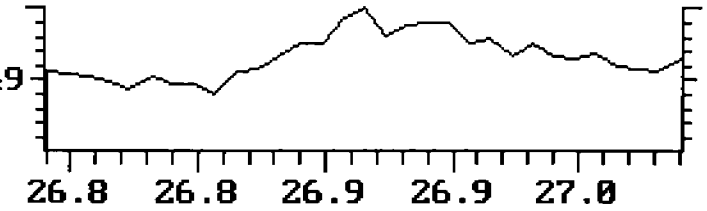
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 48 of 60
Data File: 305321 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:25 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3224
AGC: 80

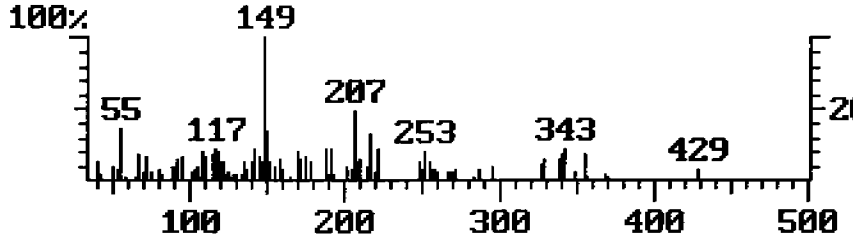
REFERENCE STANDARD SPECTRUM



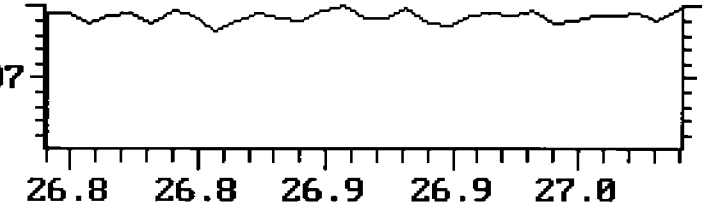
MASS 149 PLOT



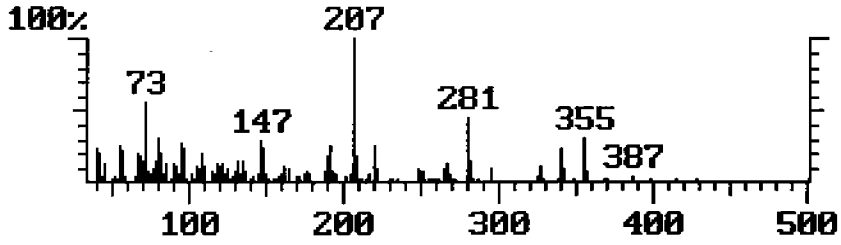
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



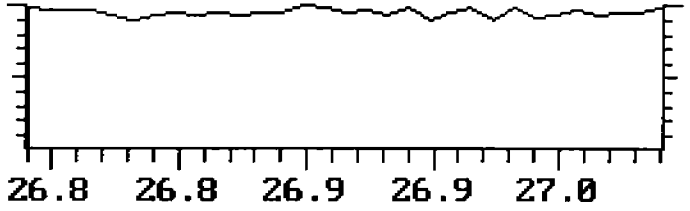
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
3DNS01006

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:00
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305322
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
3DNS01006

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:00
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305322
Batch No: 186085

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.23**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.028**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.012**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.016**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.002**	J	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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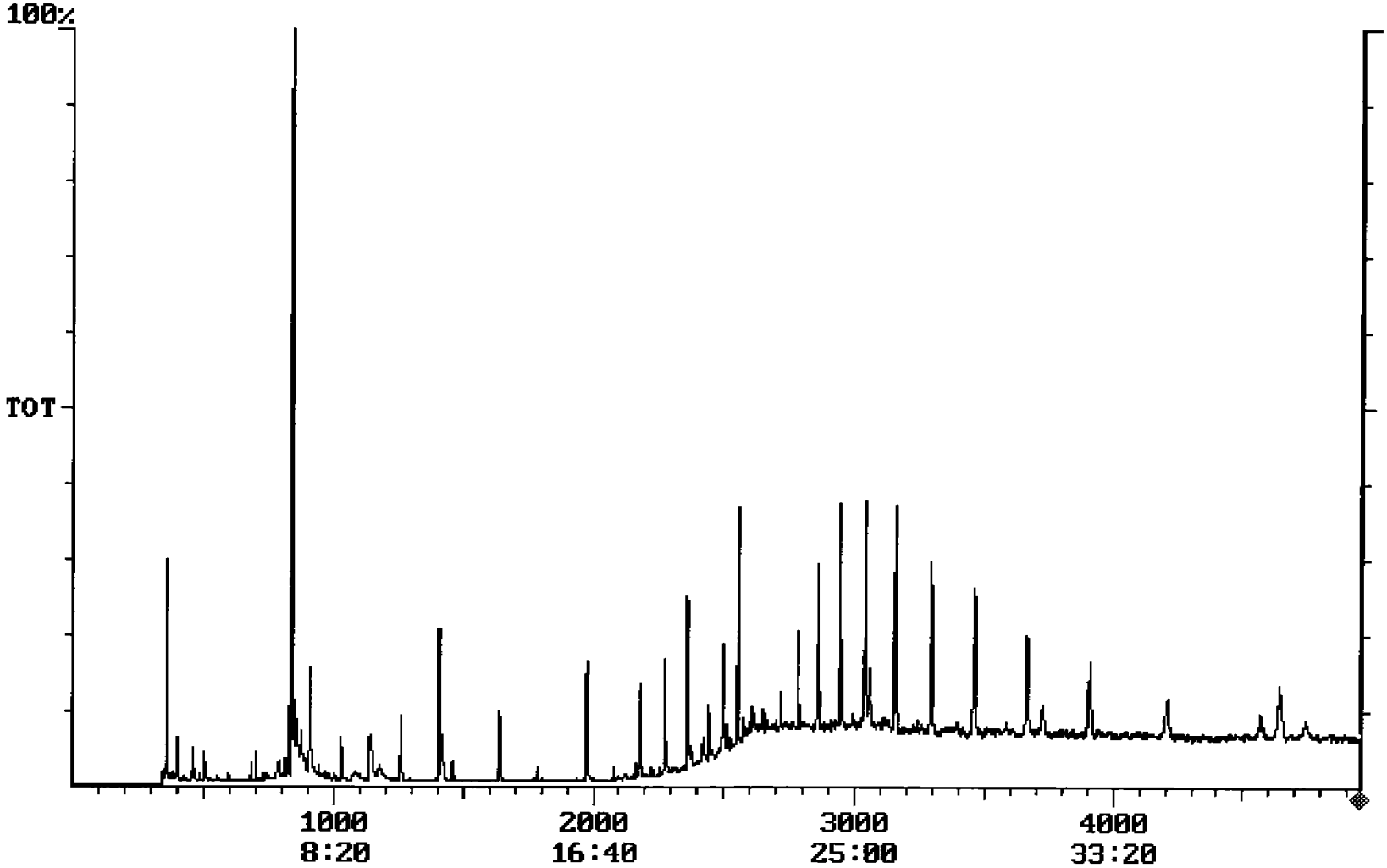
Chromatogram Plot C:\SATURN\DATA\305322 Date: 05/22/02 07:17:12
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1122404 Masses: 41-429
Plotted: 1 to 4944 Range: 1 to 4944 100% = 16111785



Operator ID: JMK
Output File: 305322.1B2
Data File: 305322.MS
Name: 305322
Sample:

Quant Time: 05/23/02 03:04
Injected at: 05/22/02 07:17
Dilution Factor: 1.00
Instrument ID: 133

305->1m-1
93%solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1168252	5.00	ng/ul	991	1.000
2)	*IS:D8-Naphthalene	13.67	1640	136	3981483	5.00	ng/ul	1000	1.000
3)	*IS:D10-Acenaphthene	18.17	2180	162	2512102	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	3779400	5.00	ng/ul	994	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	3543895	5.00	ng/ul	594	1.000
6)	*IS:D12-Perylene	31.04	3725	264	3689581	5.00	ng/ul	761	1.000
7)	ACSUR:2-Fluorophenol	7.56	907	112	4284878	12.47	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.48	1138	99	5484749	13.92	ng/ul	911	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	2739615	11.63	ng/ul	993	0.469
10)	BNSUR:D5-Nitrobenzene	11.83	1419	127	860256	7.55	NG/UL	976	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	4940555	7.08	ng/ul	972	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	4707112	8.01	ng/ul	998	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4189721	7.56	ng/ul	993	0.783
14)	Pyridine	5.41	649	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.45	1134	94	0	0.00	ng/ul	336	1.572
16)	Aniline	0.00	1167	93	0	Not Found	ng/ul	2	0.000
17)	Bis(2-Chloroethyl)Ether	0.00	1178	92	0	Not Found	ng/ul	79	0.000
18)	2-Chlorophenol	10.07	1208	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.37	1244	146	2148	0.01	ng/ul	629	1.660
20)	1,4-Dichlorobenzene	0.00	1268	146	0	Not Found	ng/ul	194	0.000
21)	Benzyl Alcohol	10.86	1303	108	316	0.00	ng/ul	485	0.554
22)	1,2-Dichlorobenzene	10.88	1306	146	3997	0.01	ng/ul	756	1.498
23)	2-Methylphenol	11.12	1334	108	0	0.00	ng/ul	254	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.04	1325	45	0	0.00	ng/ul	565	1.122
25)	4-Methylphenol	0.00	1359	108	0	Not Found	ng/ul	444	0.000
26)	N-Nitrosodi-N-Propylamine	0.00	1366	70	0	Not Found	ng/ul	191	0.000
27)	Hexachloroethane	0.00	1412	119	0	Not Found	ng/ul	952	0.000
28)	Nitrobenzene	0.00	1426	77	0	Not Found	ng/ul	230	0.000
29)	Isophorone	0.00	1496	82	0	Not Found	ng/ul	641	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	450	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305322.1B2
Data File: 305322.MS
Name: 305322
Sample:

Quant Time: 05/23/02 03:04
Injected at: 05/22/02 07:17
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	455	0.000
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	0	0.000
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	795	0.000
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	46	0.000
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	629	0.000
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	520	0.000
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	467	0.000
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	467	0.000
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	972	0.000
41)	2-Methylnaphthalene	15.52	1863	142	2750	0.01	ng/ul	764	0.639
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	2	0.000
43)	2,4,6-Trichlorophenol	0.00	1951	196	0	Not Found	ng/ul	2	0.000
44)	2,4,5-Trichlorophenol	0.00	1962	196	0	Not Found	ng/ul	0	0.000
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	644	0.000
46)	2-Nitroaniline	17.09	2051	138	292	0.00	ng/ul	576	0.409
47)	Dimethyl Phthalate	0.00	2097	163	0	Not Found	ng/ul	720	0.000
48)	2,6-Dinitrotoluene	17.60	2112	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	504	0.000
50)	3-Nitroaniline	18.11	2173	138	644	0.00	ng/ul	400	0.338
51)	Acenaphthene	18.24	2189	152	561	0.00	ng/ul	483	1.500
52)	2,4-Dinitrophenol	18.27	2192	184	0	0.00	ng/ul	460	0.060
53)	4-Nitrophenol	18.23	2187	65	0	0.00	ng/ul	0	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	645	0.000
55)	2,4-Dinitrotoluene	0.00	2222	165	0	Not Found	ng/ul	703	0.000
56)	Benzo(b)Fluoranthene	0.00	3523	252	0	Not Found	ng/ul	572	0.000
57)	Diethyl Phthalate	18.93	2272	149	7127489	6.49	ng/ul	997	2.186
58)	Fluorene	19.18	2302	166	867	0.00	ng/ul	668	1.161
59)	4-Chlorophenyl Phenyl Ether	0.00	2307	204	0	Not Found	ng/ul	254	0.000
60)	4-Nitroaniline	19.34	2321	108	5206	0.01	ng/ul	549	0.736

0.23

* Compound is ISTD

Operator ID: JMK
Output File: 305322.1B2
Data File: 305322.MS
Name: 305322
Sample:

Quant Time: 05/23/02 03:04
Injected at: 05/22/02 07:17
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.23	2308	198	0	0.00	ng/ul	324	0.116	
62)	N-Nitrosodiphenylamine	19.34	2321	169	0	0.00	ng/ul	286	0.509	
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	695	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	357	0.000	
65)	Hexachlorobenzene	20.24	2429	284	1449	0.01	ng/ul	494	0.305	
66)	Pentachlorophenol	0.00	2461	266	0	Not Found	ng/ul	40	0.000	
67)	Phenanthrene	20.83	2500	178	0	0.00	ng/ul	0	1.076	
68)	Anthracene	20.93	2512	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	21.15	2538	167	0	0.00	ng/ul	0	1.075	
70)	Di-n-Butyl Phthalate	21.47	2576	149	1199353	0.78	ng/ul	923	2.023	0.024
71)	Fluoranthene	22.55	2706	202	3333	0.00	ng/ul	603	1.113	
72)	Benzidine	22.66	2719	184	0	0.00	ng/ul	336	0.403	
73)	Pyrene	23.09	2771	202	3431	0.00	ng/ul	516	1.244	
74)	Butyl Benzyl Phthalate	23.83	2860	149	242246	0.34	ng/ul	697	1.013	0.012
75)	3,3'-Dichlorobenzidine	25.20	3024	252	3431	0.01	ng/ul	632	0.520	
76)	Bis(2-Ethylhexyl)Phthalate	24.93	2992	149	522473	0.45	ng/ul	817	1.633	0.016
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	134	0.000	
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	140	0.000	
79)	Di-n-Octylphthalate	26.89	3227	149	55386	0.05	ng/ul	377	1.618	0.0017
80)	Benzo(k)Fluoranthene	29.59	3551	252	2370	0.00	ng/ul	471	1.249	
81)	Benzo(a)Pyrene	30.89	3707	252	3333	0.00	ng/ul	552	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4554	276	0	Not Found	ng/ul	6	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4561	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4820	276	0	Not Found	ng/ul	148	0.000	
85)	N-Nitrosodimethylamine	5.11	613	73	161	0.00	ng/ul	0	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	41	0.000	
87)	2,3-Dinitrotoluene	0.00	2199	165	0	Not Found	ng/ul	881	0.000	
88)	2,4-Diaminotoluene	16.64	1997	121	2369	0.02	ng/ul	565	0.184	
89)	2-Chloroaniline	12.74	1529	127	699	0.00	ng/ul	694	0.613	
90)	5-Nitro-o-toluidine	19.20	2304	152	1374	0.01	ng/ul	629	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305322.1B2
Data File: 305322.MS
Name: 305322
Sample:

Quant Time: 05/23/02 03:04
Injected at: 05/22/02 07:17
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

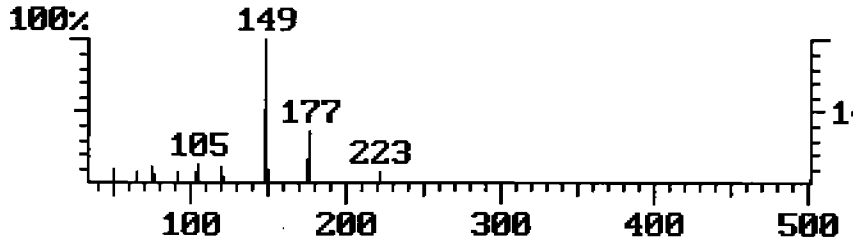
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.72	2247	143	775	0.00	ng/ul	581	0.867
92)	Benzaldehyde	9.42	1130	105	1928	0.00	ng/ul	879	2.400
93)	Acetophenone	11.56	1387	105	6681	0.01	ng/ul	841	0.909
94)	Caprolactam	14.71	1765	85	19095	0.31	ng/ul	652	0.079
95)	Biphenyl	16.75	2010	154	12358	0.02	ng/ul	902	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

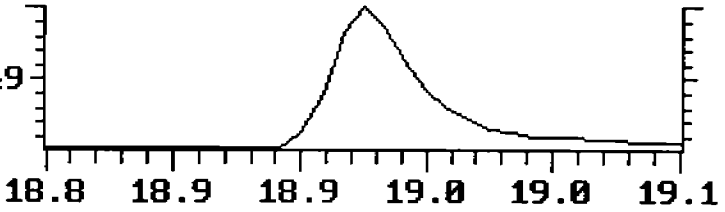
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 29 of 56
Data File: 305322 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:17 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2272
AGC: 46

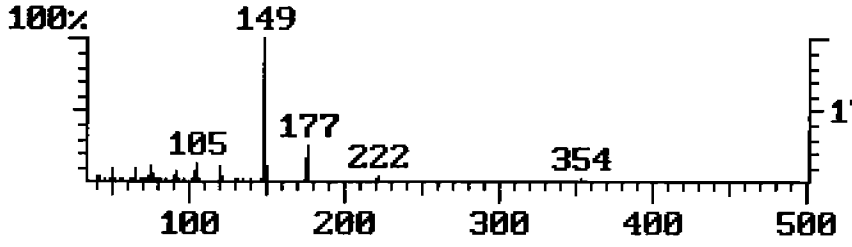
REFERENCE STANDARD SPECTRUM



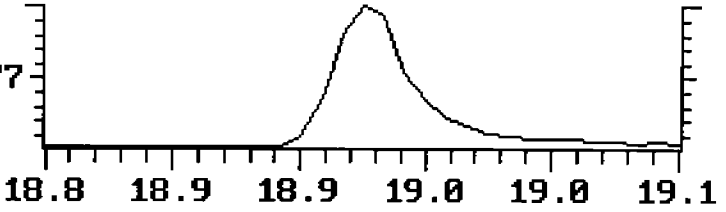
MASS 149 PLOT



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



MASS 177 PLOT



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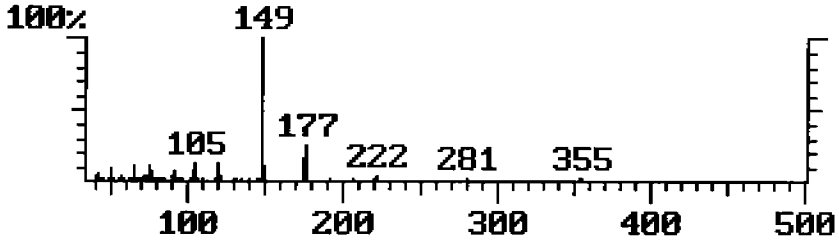
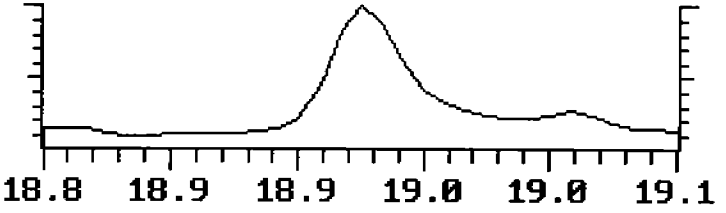


TOTAL ION PLOT

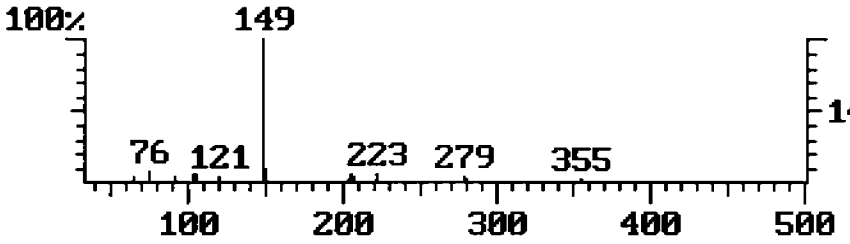


Approved_____ Date_____

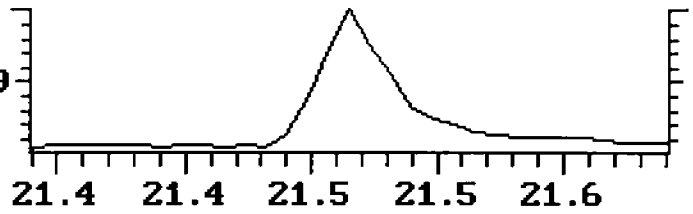
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 56
Data File: 305322 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:17 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2576
AGC: 83

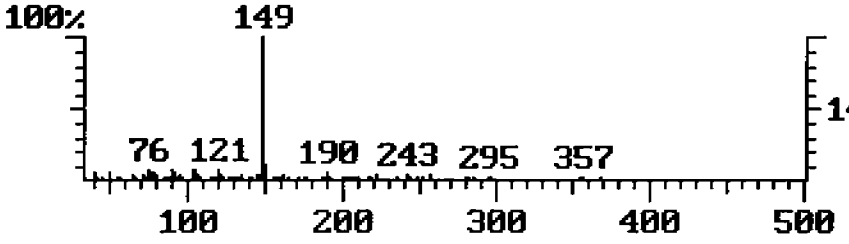
REFERENCE STANDARD SPECTRUM



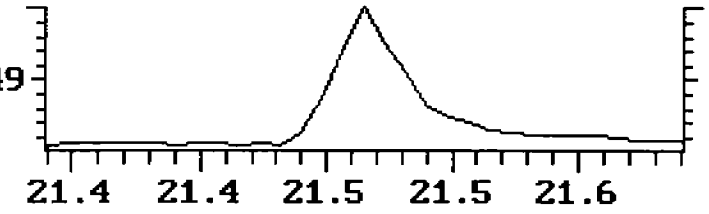
MASS 149 PLOT



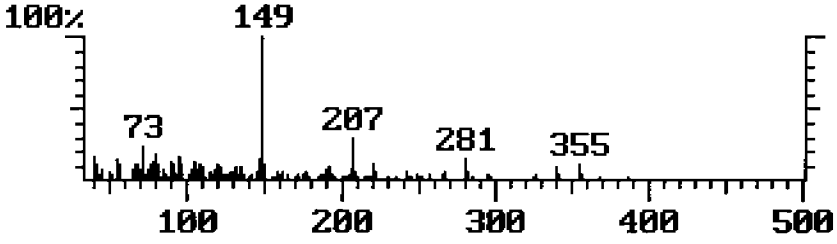
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



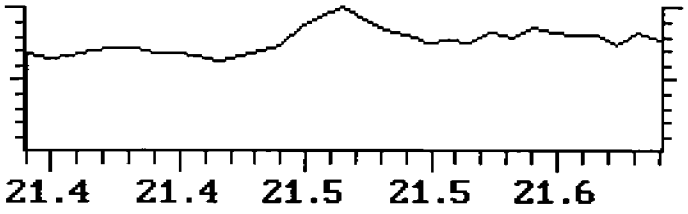
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

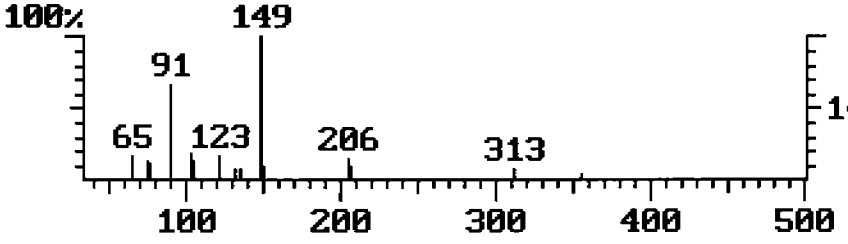


Approved_____ Date_____

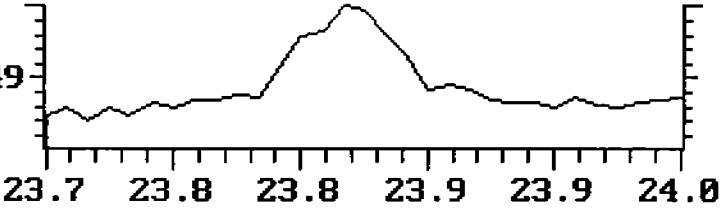
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 42 of 56
Data File: 305322 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:17 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2860
AGC: 27

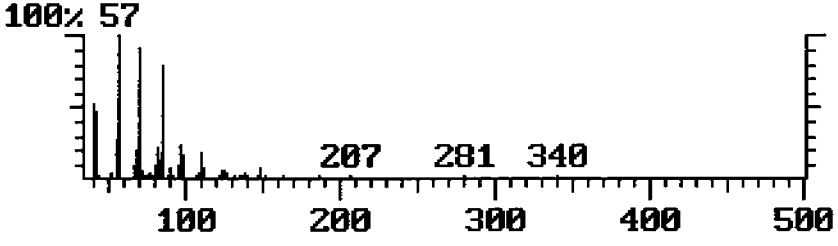
REFERENCE STANDARD SPECTRUM



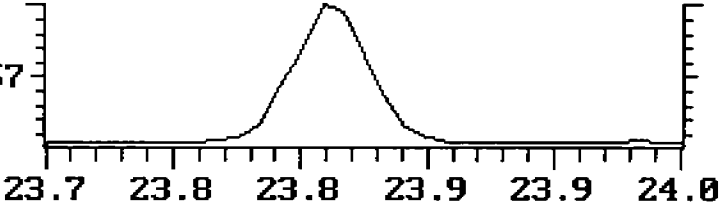
MASS 149 PLOT



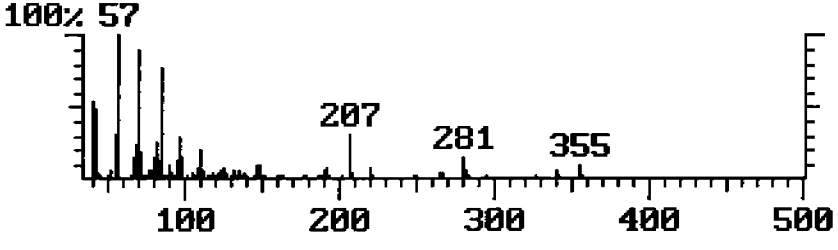
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



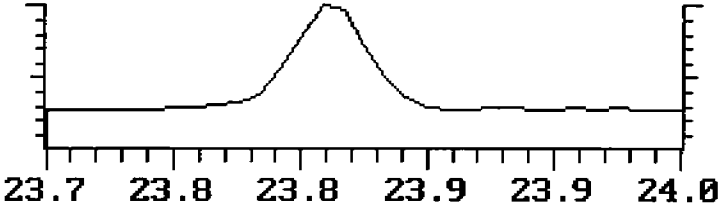
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

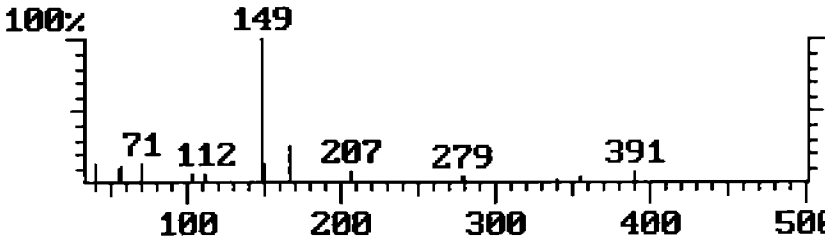


Approved_____ Date_____

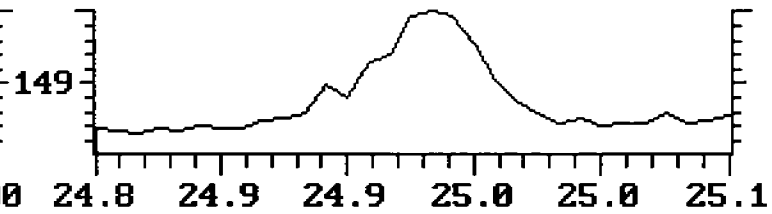
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 56
Data File: 305322 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:17 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2992
AGC: 78

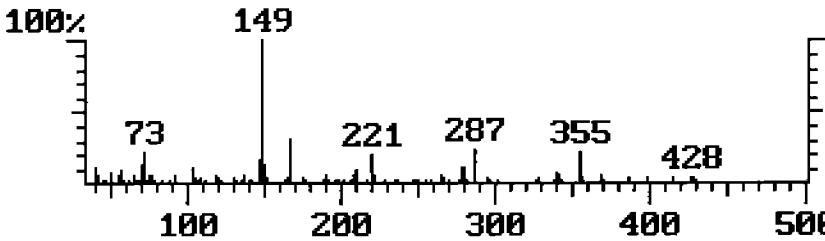
REFERENCE STANDARD SPECTRUM



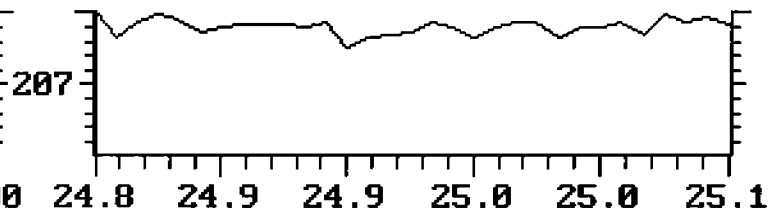
MASS 149 PLOT



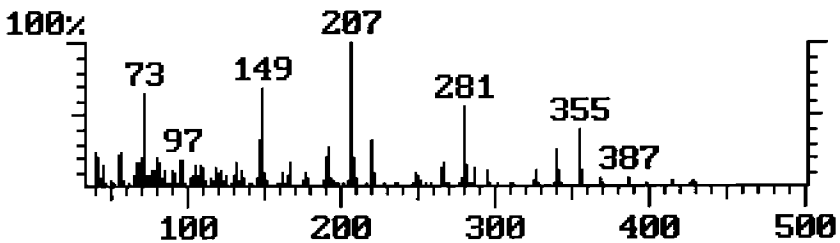
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



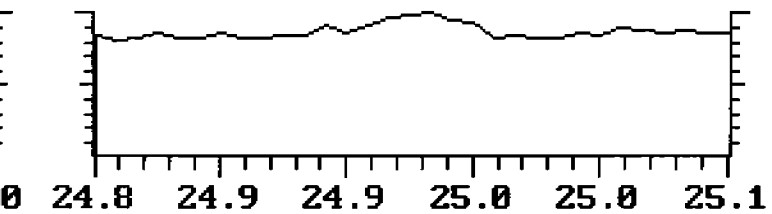
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

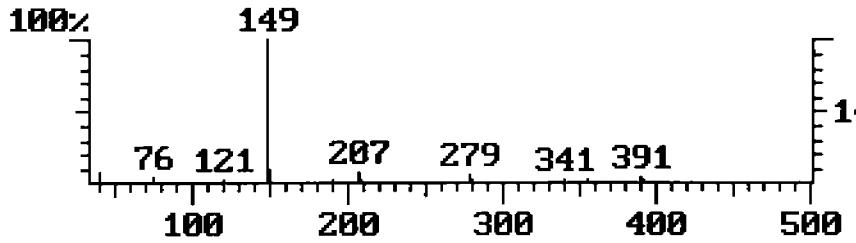


Approved_____ Date_____

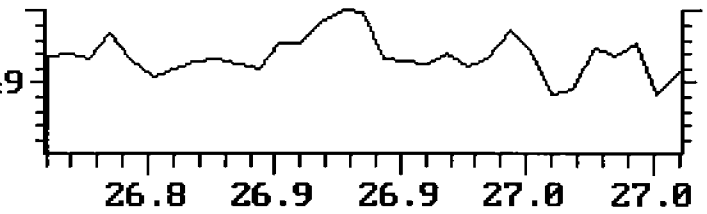
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 56
Data File: 305322 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:17 am Calibration Date: 05/22/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3227
AGC: 112

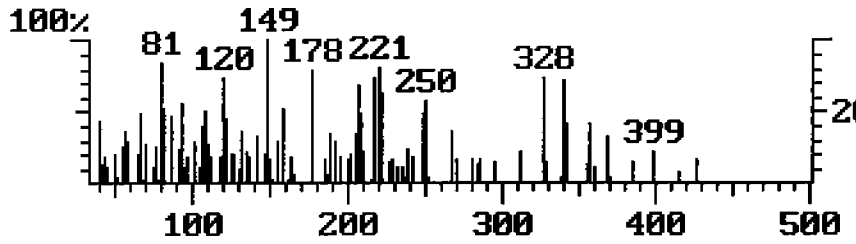
REFERENCE STANDARD SPECTRUM



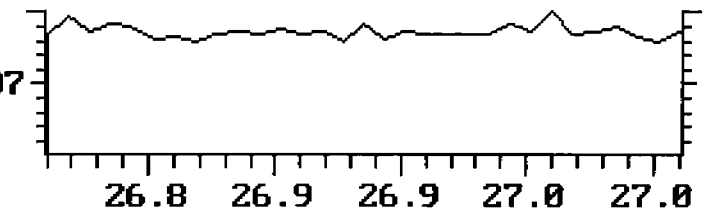
MASS 149 PLOT



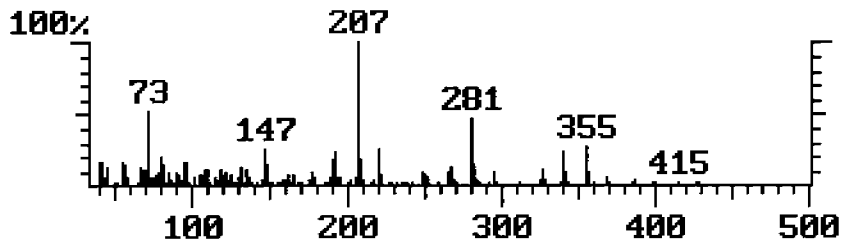
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



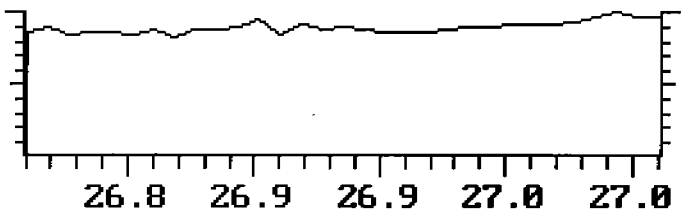
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
5CNS01007

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:07
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305323
Batch No: 186142

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
5CNS01007

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:07
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305323
Batch No: 186142

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.021**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.038**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.016**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.025**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.002**	J	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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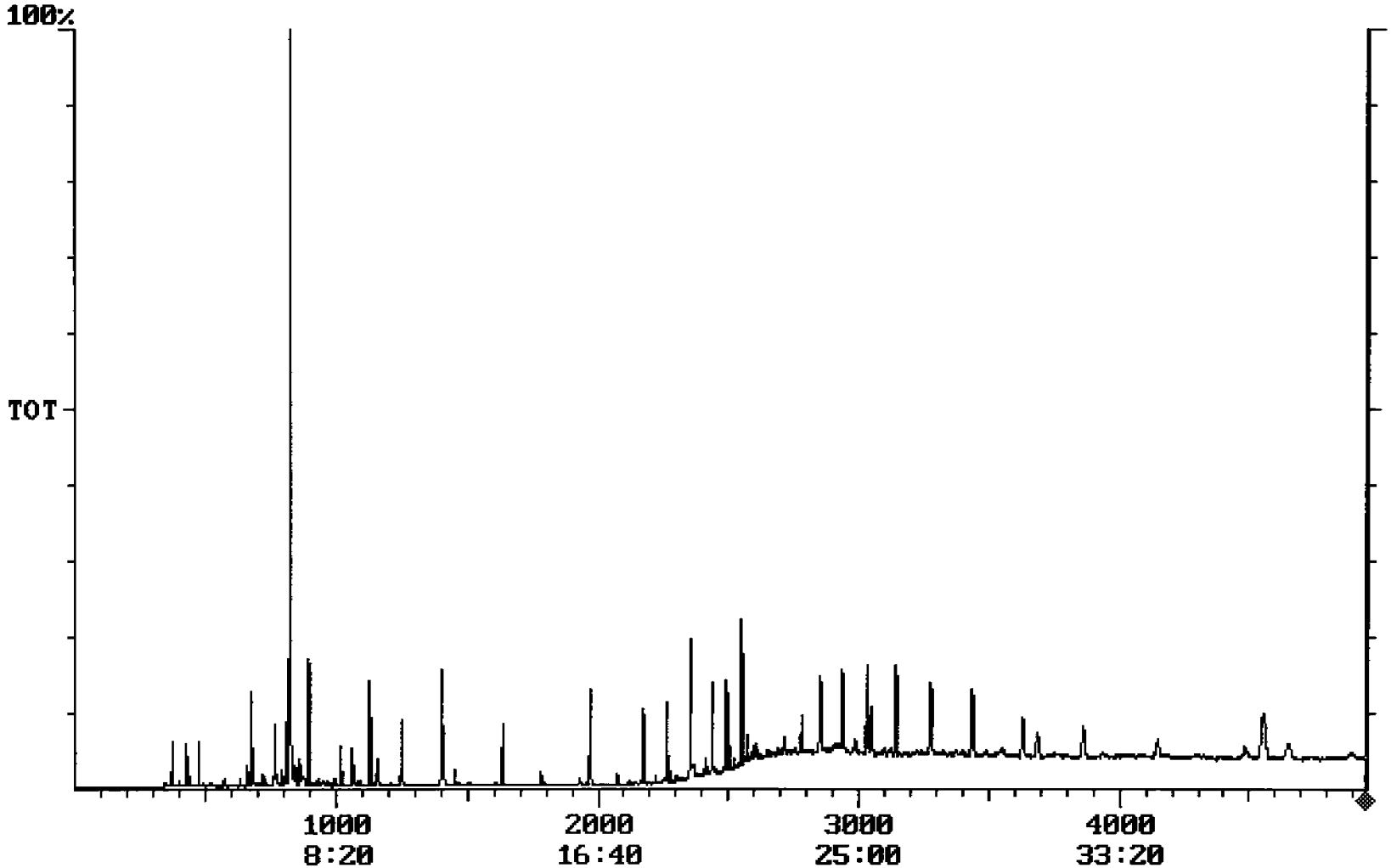
Chromatogram Plot C:\SATURN\DATA\305323 Date: 05/22/02 20:06:43
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1042526 Masses: 41-430
Plotted: 1 to 4944 Range: 1 to 4944 100% = 25657375



QUANT REPORT

Operator ID: JMK
Output File: 305323.1B2
Data File: 305323.MS
Name: 305323
Sample:

Quant Time: 05/23/02 03:43
Injected at: 05/22/02 20:06
Dilution Factor: 1.00
Instrument ID: 133

3 g → 1 ml
8 & 250 lids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.42	1251	152	1462592	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.62	1634	136	4647942	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.12	2175	162	2986411	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.77	2493	188	4302484	5.00	ng/ul	928	1.000
5)	*IS:D12-Chrysene	25.39	3047	240	4211338	5.00	ng/ul	494	1.000
6)	*IS:D12-Perylene	30.71	3685	264	4465401	5.00	ng/ul	825	1.000
7)	ACSUR:2-Fluorophenol	7.46	895	112	5584294	12.99	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.41	1129	99	6810441	13.81	ng/ul	767	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.63	2356	330	2998960	10.71	ng/ul	995	0.469
10)	BNSUR:D5-Nitrobenzene	11.75	1410	127	1122357	8.44	NG/UL	958	0.144
11)	BNSUR:Decafluorobiphenyl	11.68	1402	334	5794816	7.11	ng/ul	963	0.877
12)	BNSUR:2-Fluorobiphenyl	16.42	1970	172	5350878	7.66	ng/ul	997	1.170
13)	BNSUR:O-Terphenyl	21.25	2550	230	4299721	6.60	ng/ul	995	0.774
14)	Pyridine	5.32	638	79	0	0.00	ng/ul	0	1.146
15)	Phenol	0.00	1132	94	0	Not Found	ng/ul	246	0.000
16)	Aniline	9.74	1169	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	0.00	1167	92	0	Not Found	ng/ul	117	0.000
18)	2-Chlorophenol	9.95	1194	128	0	0.00	ng/ul	27	1.661
19)	1,3-Dichlorobenzene	10.29	1235	146	5657	0.01	ng/ul	802	1.660
20)	1,4-Dichlorobenzene	10.48	1258	146	1516	0.00	ng/ul	663	1.616
21)	Benzyl Alcohol	10.67	1281	108	505	0.00	ng/ul	659	0.554
22)	1,2-Dichlorobenzene	10.82	1299	146	5373	0.01	ng/ul	786	1.498
23)	2-Methylphenol	11.05	1326	108	0	0.00	ng/ul	397	1.299
24)	Bis(2-Chloroisopropyl)Ether	10.91	1309	45	758	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.26	1351	108	1393	0.00	ng/ul	804	1.246
26)	N-Nitrosodi-N-Propylamine	11.22	1347	70	2859	0.01	ng/ul	308	0.678
27)	Hexachloroethane	11.75	1410	119	0	0.00	ng/ul	959	0.605
28)	Nitrobenzene	11.82	1419	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	12.44	1493	82	0	0.00	ng/ul	0	0.714
30)	2-Nitrophenol	0.00	1513	109	0	Not Found	ng/ul	631	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305323.1B2
Data File: 305323.MS
Name: 305323
Sample:

Quant Time: 05/23/02 03:43
Injected at: 05/22/02 20:06
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1514	107	0	Not Found	ng/ul	452	0.000	
32)	Benzoic Acid	0.00	1526	105	0	Not Found	ng/ul	871	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1547	92	0	Not Found	ng/ul	751	0.000	
34)	2,4-Dichlorophenol	0.00	1581	162	0	Not Found	ng/ul	145	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1613	180	0	Not Found	ng/ul	811	0.000	
36)	Naphthalene	0.00	1638	128	0	Not Found	ng/ul	606	0.000	
37)	4-Chloroaniline	0.00	1652	127	0	Not Found	ng/ul	602	0.000	
38)	2,6-Dichlorophenol	0.00	1652	162	0	Not Found	ng/ul	463	0.000	
39)	Hexachlorobutadiene	0.00	1675	225	0	Not Found	ng/ul	426	0.000	
40)	4-Chloro-3-Methylphenol	0.00	1793	107	0	Not Found	ng/ul	997	0.000	
41)	2-Methylnaphthalene	15.47	1857	142	5690	0.01	ng/ul	920	0.639	
42)	Hexachlorocyclopentadiene	0.00	1903	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	0.00	1940	196	0	Not Found	ng/ul	0	0.000	
44)	2,4,5-Trichlorophenol	0.00	1955	196	0	Not Found	ng/ul	50	0.000	
45)	2-Chloronapthalene	16.78	2014	162	1960	0.00	ng/ul	716	1.302	
46)	2-Nitroaniline	17.01	2041	138	2132	0.01	ng/ul	571	0.409	
47)	Dimethyl Phthalate	17.42	2090	163	20591	0.02	ng/ul	945	1.919	
48)	2,6-Dinitrotoluene	17.60	2112	165	0	0.00	ng/ul	0	0.351	
49)	Acenaphthylene	0.00	2138	152	0	Not Found	ng/ul	528	0.000	
50)	3-Nitroaniline	17.99	2159	138	592	0.00	ng/ul	625	0.338	
51)	Acenaphthene	18.20	2184	152	1579	0.00	ng/ul	437	1.500	
52)	2,4-Dinitrophenol	18.22	2186	184	0	0.00	ng/ul	437	0.060	
53)	4-Nitrophenol	18.42	2211	65	0	0.00	ng/ul	457	0.119	
54)	Dibenzofuran	0.00	2225	168	0	Not Found	ng/ul	561	0.000	
55)	2,4-Dinitrotoluene	0.00	2215	165	0	Not Found	ng/ul	921	0.000	
56)	Benzo(b)Fluoranthene	0.00	3472	252	0	Not Found	ng/ul	579	0.000	
57)	Diethyl Phthalate	18.90	2268	149	712968	0.55	ng/ul	906	2.186	0.021
58)	Fluorene	19.05	2286	166	436	0.00	ng/ul	745	1.161	
59)	4-Chlorophenyl Phenyl Ether	0.00	2301	204	0	Not Found	ng/ul	153	0.000	
60)	4-Nitroaniline	19.15	2298	108	4160	0.01	ng/ul	696	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305323.1B2
Data File: 305323.MS
Name: 305323
Sample:

Quant Time: 05/23/02 03:43
Injected at: 05/22/02 20:06
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2309	198	0	Not Found	ng/ul	232	0.000	
62)	N-Nitrosodiphenylamine	19.32	2319	169	0	0.00	ng/ul	0	0.509	
63)	1,2-Diphenylhydrazine	19.47	2337	77	27116	0.03	ng/ul	796	1.257	
64)	4-Bromophenyl Phenyl Ether	0.00	2400	248	0	Not Found	ng/ul	472	0.000	
65)	Hexachlorobenzene	19.97	2397	284	975	0.00	ng/ul	590	0.305	
66)	Pentachlorophenol	20.45	2454	266	4410	0.02	ng/ul	531	0.232	
67)	Phenanthrene	20.81	2497	178	21011	0.02	ng/ul	170	1.076	
68)	Anthracene	20.89	2507	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	0.00	2529	167	0	Not Found	ng/ul	185	0.000	
70)	Di-n-Butyl Phthalate	21.43	2572	149	1727076	1.00	ng/ul	939	2.002	0.038
71)	Fluoranthene	0.00	2705	202	0	Not Found	ng/ul	178	0.000	
72)	Benzidine	22.58	2710	184	3365	0.01	ng/ul	440	0.403	
73)	Pyrene	0.00	2751	202	0	Not Found	ng/ul	186	0.000	
74)	Butyl Benzyl Phthalate	23.77	2853	149	353782	0.41	ng/ul	688	1.013	0.016
75)	3,3'-Dichlorobenzidine	25.01	3001	252	3794	0.01	ng/ul	627	0.519	
76)	Bis(2-Ethylhexyl)Phthalate	24.88	2986	149	899103	0.65	ng/ul	768	1.633	0.025
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	2	0.000	
78)	Chrysene	0.00	3056	228	0	Not Found	ng/ul	2	0.000	
79)	Di-n-Octylphthalate	26.76	3211	149	69849	0.05	ng/ul	639	1.618	0.0025
80)	Benzo(k)Fluoranthene	28.90	3468	252	2840	0.00	ng/ul	703	1.249	
81)	Benzo(a)Pyrene	30.38	3646	252	2857	0.00	ng/ul	367	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4454	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4464	278	0	Not Found	ng/ul	30	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4697	276	0	Not Found	ng/ul	11	0.000	
85)	N-Nitrosodimethylamine	4.84	581	73	0	0.00	ng/ul	60	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2251	232	0	Not Found	ng/ul	47	0.000	
87)	2,3-Dinitrotoluene	18.46	2215	165	21730	0.07	ng/ul	713	0.540	
88)	2,4-Diaminotoluene	16.55	1986	121	3595	0.02	ng/ul	715	0.184	
89)	2-Chloroaniline	12.63	1516	127	339	0.00	ng/ul	797	0.613	
90)	5-Nitro-o-toluidine	19.16	2299	152	1381	0.01	ng/ul	557	0.435	

* Compound is ISTD

Operator ID: JMK Quant Time: 05/23/02 03:43
Output File: 305323.1B2 Injected at: 05/22/02 20:06
Data File: 305323.MS Dilution Factor: 1.00
Name: 305323 Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

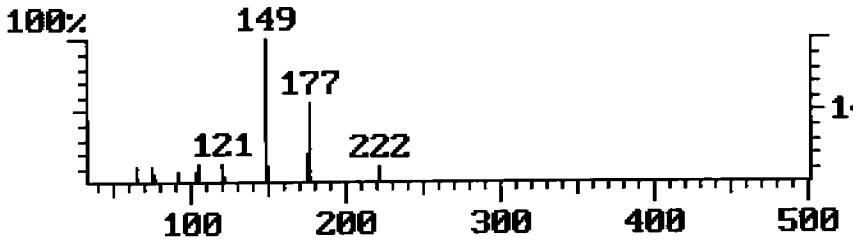
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.78	2254	143	906	0.00	ng/ul	773	0.867
92)	Benzaldehyde	9.50	1140	105	3390	0.00	ng/ul	767	2.400
93)	Acetophenone	11.36	1363	105	29013	0.03	ng/ul	843	0.909
94)	Caprolactam	14.61	1753	85	99059	1.30	ng/ul	734	0.082
95)	Biphenyl	16.70	2004	154	14437	0.02	ng/ul	933	1.531
96)	Atrazine	0.00	2425	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

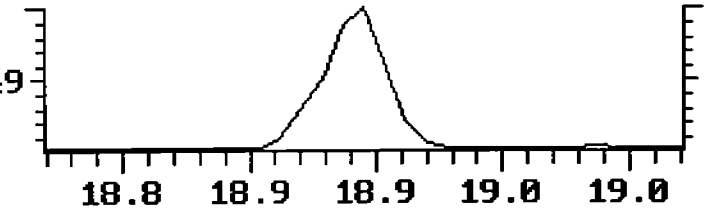
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 37 of 63
Data File: 305323 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:06 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2268
AGC: 115

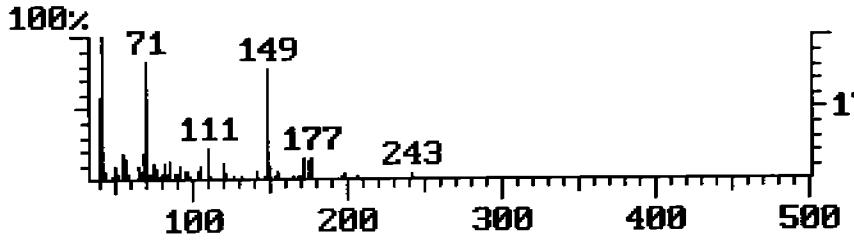
REFERENCE STANDARD SPECTRUM



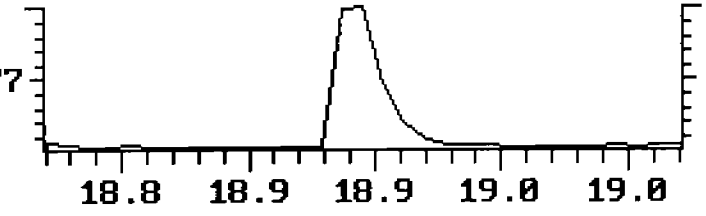
MASS 149 PLOT



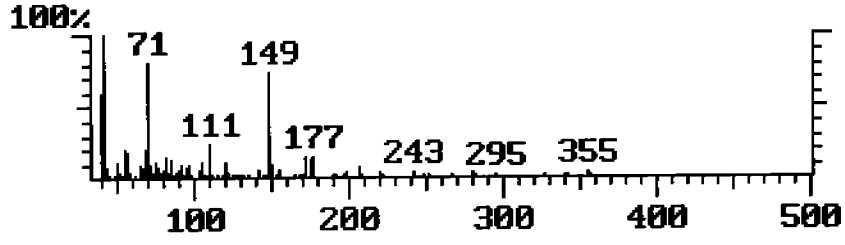
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



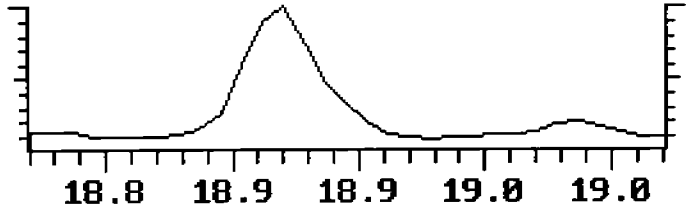
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

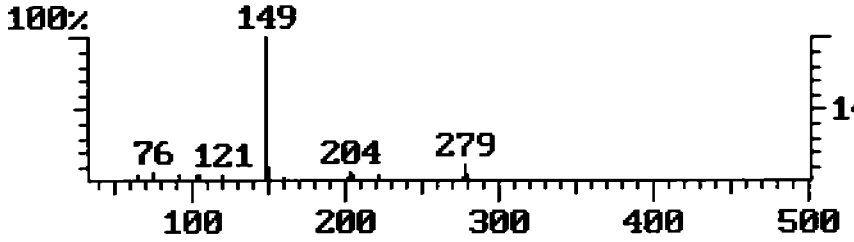


Approved_____ Date_____

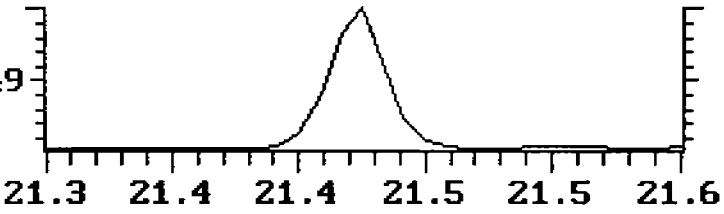
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 63
Data File: 305323 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:06 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2572
AGC: 69

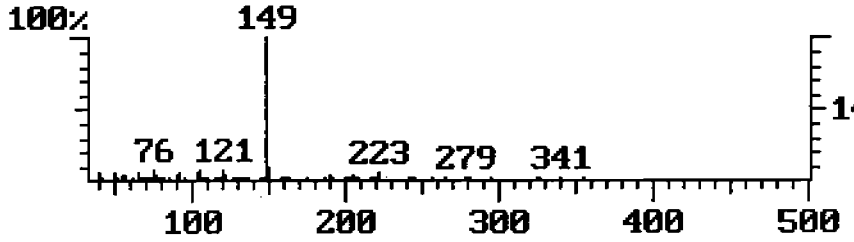
REFERENCE STANDARD SPECTRUM



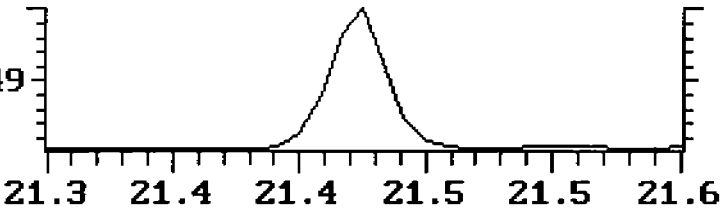
MASS 149 PLOT



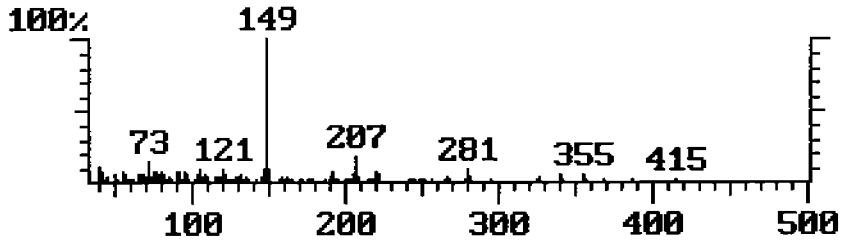
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



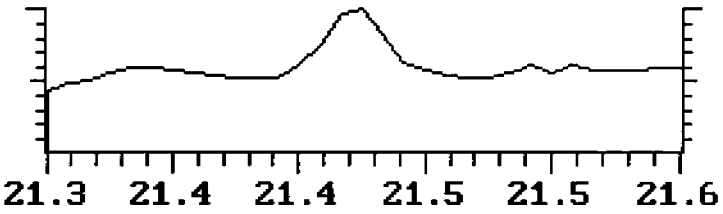
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

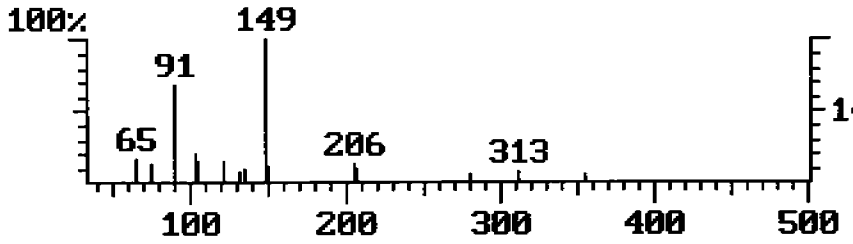


Approved_____ Date_____

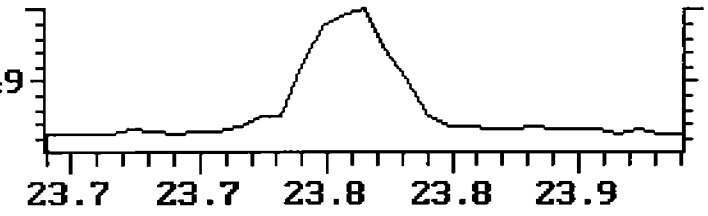
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 48 of 63
Data File: 305323 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:06 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2853
AGC: 26

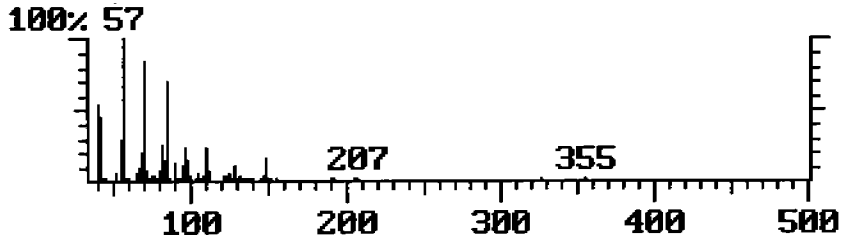
REFERENCE STANDARD SPECTRUM



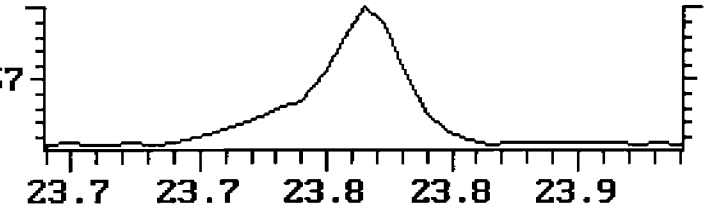
MASS 149 PLOT



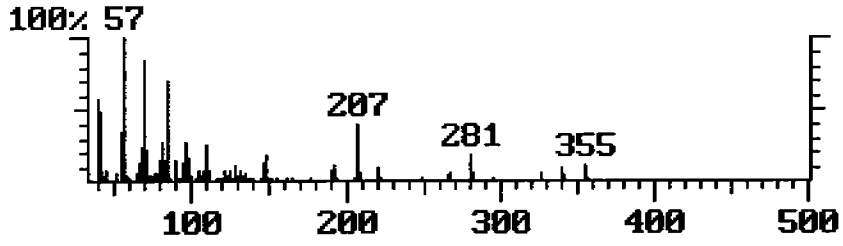
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



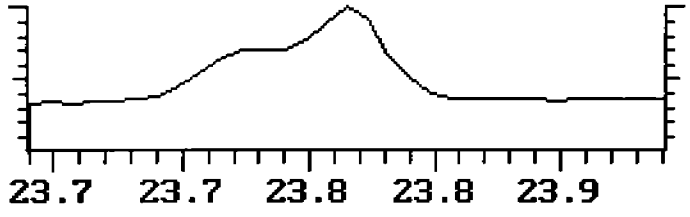
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

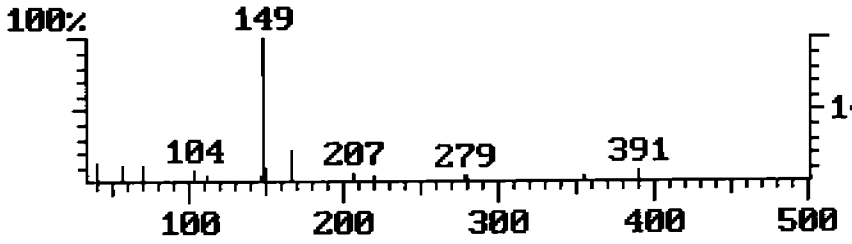


Approved_____ Date_____

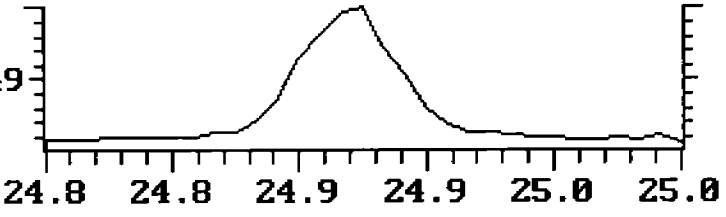
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 63
Data File: 305323 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:06 pm Calibration Date: 05/23/02
Sample: Operator: JMKi
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2986
AGC: 80

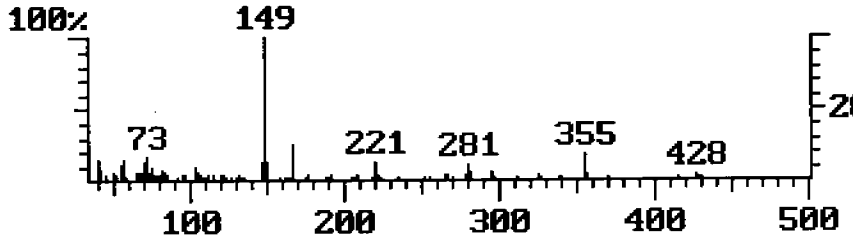
REFERENCE STANDARD SPECTRUM



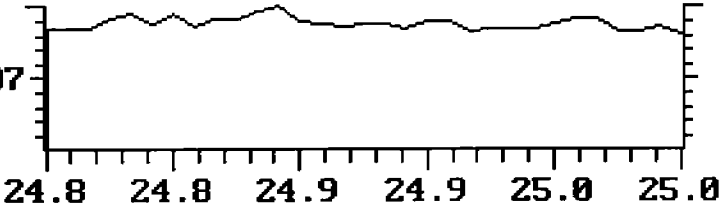
MASS 149 PLOT



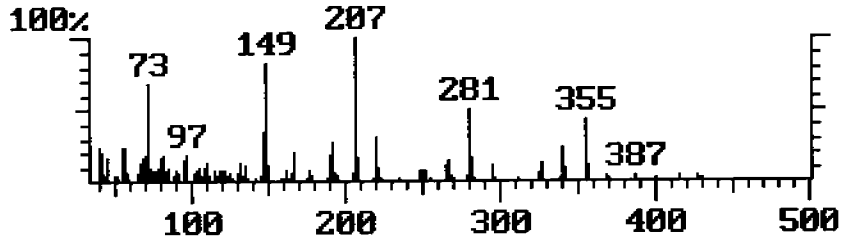
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



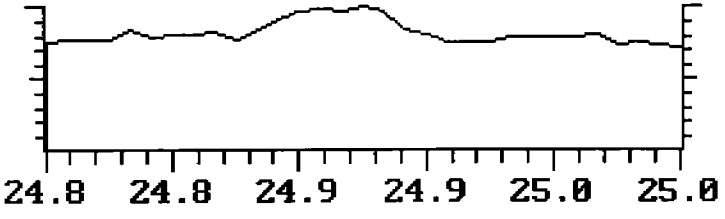
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

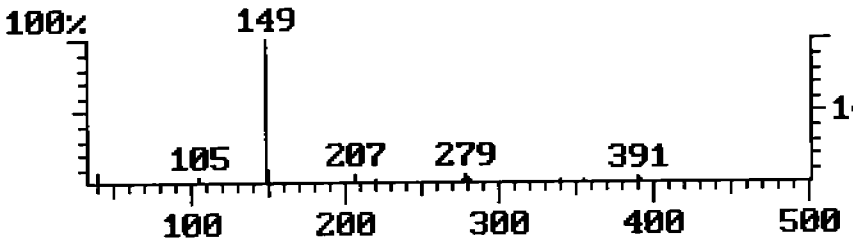


Approved_____ Date_____

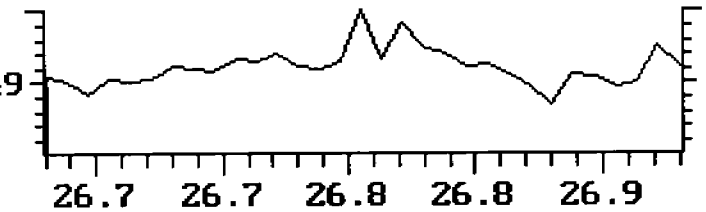
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 51 of 63
Data File: 305323 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:06 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3211
AGC: 116

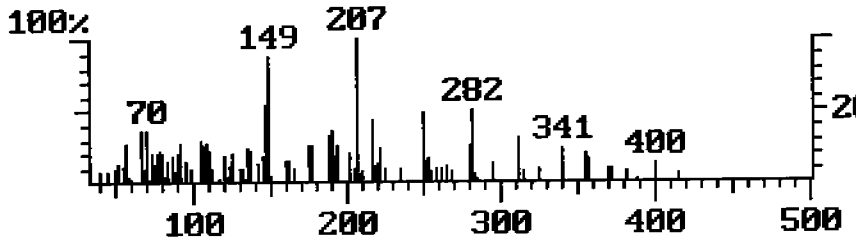
REFERENCE STANDARD SPECTRUM



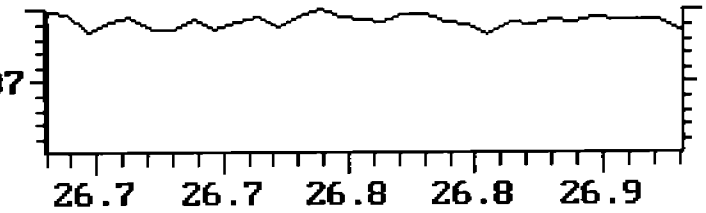
MASS 149 PLOT



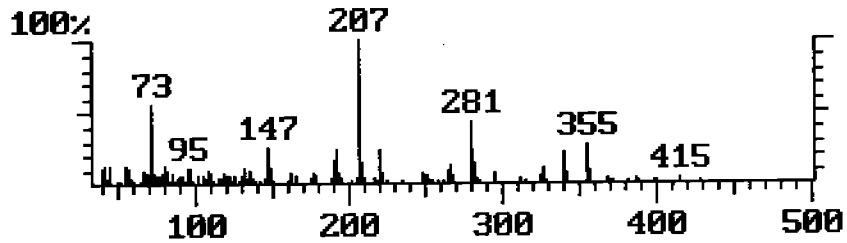
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



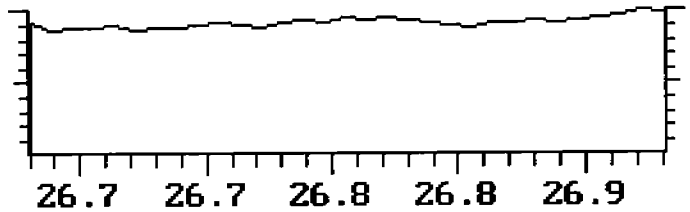
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
2AWP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:30
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305324
Batch No: 186142

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	**0.002**	J	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.007**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
2AWP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:30
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305324
Batch No: 186142

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.013**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.030**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.011**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.012**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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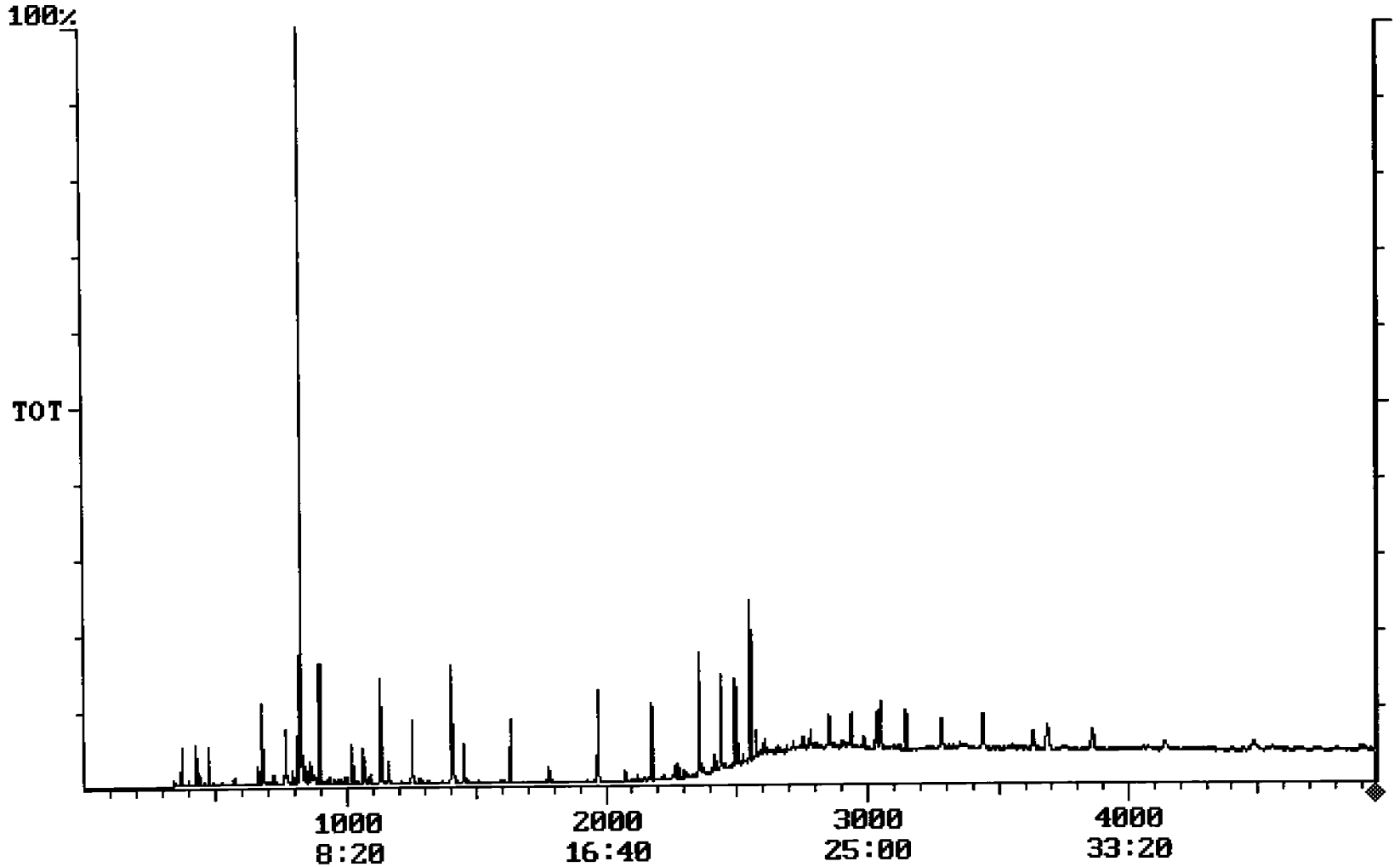
000589

Chromatogram Plot C:\SATURN\DATA\305324 Date: 05/22/02 20:57:28
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 953728 Masses: 41-429
Plotted: 1 to 4944 Range: 1 to 4944 100% = 23822740



QUANT REPORT

Operator ID: JMK
Output File: 305324.1B2
Data File: 305324.MS
Name: 305324
Sample:

Quant Time: 05/23/02 03:52
Injected at: 05/22/02 20:57
Dilution Factor: 1.00
Instrument ID: 133

Jog → 1m 1
100% solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.43	1252	152	1374117	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.62	1634	136	4500830	5.00	ng/ul	998	1.000
3)	*IS:D10-Acenaphthene	18.12	2175	162	2916458	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.77	2493	188	4331554	5.00	ng/ul	938	1.000
5)	*IS:D12-Chrysene	25.39	3047	240	4046031	5.00	ng/ul	516	1.000
6)	*IS:D12-Perylene	30.72	3686	264	4285699	5.00	ng/ul	796	1.000
7)	ACSUR:2-Fluorophenol	7.46	895	112	5117624	12.67	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.41	1129	99	6135173	13.24	ng/ul	820	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.62	2355	330	2369575	8.67	ng/ul	997	0.469
10)	BNSUR:D5-Nitrobenzene	11.75	1410	127	1049731	8.15	NG/UL	934	0.144
11)	BNSUR:Decafluorobiphenyl	11.68	1402	334	5340253	6.77	ng/ul	944	0.877
12)	BNSUR:2-Fluorobiphenyl	16.42	1970	172	4795228	7.03	ng/ul	998	1.170
13)	BNSUR:O-Terphenyl	21.26	2551	230	4255740	6.78	ng/ul	997	0.776
14)	Pyridine	5.21	625	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.44	1133	94	20090	0.05	ng/ul	310	1.572 0.0015
16)	Aniline	0.00	1156	93	0	Not Found	ng/ul	46	0.000
17)	Bis(2-Chloroethyl)Ether	0.00	1167	92	0	Not Found	ng/ul	144	0.000
18)	2-Chlorophenol	9.99	1199	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.30	1236	146	6008	0.01	ng/ul	890	1.660
20)	1,4-Dichlorobenzene	10.45	1254	146	0	0.00	ng/ul	0	1.616
21)	Benzyl Alcohol	10.68	1282	108	10225	0.07	ng/ul	923	0.554
22)	1,2-Dichlorobenzene	10.85	1302	146	6002	0.01	ng/ul	770	1.498
23)	2-Methylphenol	10.89	1307	108	333	0.00	ng/ul	557	1.299
24)	Bis(2-Chloroisopropyl)Ether	0.00	1318	45	0	Not Found	ng/ul	179	0.000
25)	4-Methylphenol	11.27	1353	108	3714	0.01	ng/ul	717	1.246
26)	N-Nitrosodi-N-Propylamine	11.32	1358	70	592	0.00	ng/ul	96	0.678
27)	Hexachloroethane	11.69	1403	119	0	0.00	ng/ul	936	0.605
28)	Nitrobenzene	11.76	1411	77	122	0.00	ng/ul	0	0.505
29)	Isophorone	12.43	1491	82	397	0.00	ng/ul	0	0.714
30)	2-Nitrophenol	12.72	1526	109	0	0.00	ng/ul	127	0.286

* Compound is ISTD

Operator ID: JMK
Output File: 305324.1B2
Data File: 305324.MS
Name: 305324
Sample:

Quant Time: 05/23/02 03:52
Injected at: 05/22/02 20:57
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	12.72	1527	107	0	0.00	ng/ul	0	0.530	
32)	Benzoic Acid	12.65	1518	105	0	0.00	ng/ul	0	0.068	
33)	Bis(2-Chloroethoxy)Methane	12.92	1550	92	0	0.00	ng/ul	0	0.440	
34)	2,4-Dichlorophenol	0.00	1581	162	0	Not Found	ng/ul	107	0.000	
35)	1,2,4-Trichlorobenzene	13.45	1614	180	1050	0.00	ng/ul	692	0.398	
36)	Naphthalene	0.00	1638	128	0	Not Found	ng/ul	582	0.000	
37)	4-Chloroaniline	13.67	1640	127	0	0.00	ng/ul	0	0.568	
38)	2,6-Dichlorophenol	13.76	1651	162	199	0.00	ng/ul	595	0.344	
39)	Hexachlorobutadiene	14.12	1694	225	228	0.00	ng/ul	633	0.312	
40)	4-Chloro-3-Methylphenol	14.95	1794	107	99392	0.21	ng/ul	992	0.534	0.0009
41)	2-Methylnaphthalene	15.48	1858	142	5115	0.01	ng/ul	893	0.639	
42)	Hexachlorocyclopentadiene	15.83	1900	237	462	0.00	ng/ul	356	0.414	
43)	2,4,6-Trichlorophenol	0.00	1940	196	0	Not Found	ng/ul	2	0.000	
44)	2,4,5-Trichlorophenol	0.00	1955	196	0	Not Found	ng/ul	0	0.000	
45)	2-Chloronapthalene	0.00	2010	162	0	Not Found	ng/ul	656	0.000	
46)	2-Nitroaniline	16.93	2032	138	0	0.00	ng/ul	0	0.409	
47)	Dimethyl Phthalate	17.41	2089	163	21316	0.02	ng/ul	961	1.919	
48)	2,6-Dinitrotoluene	17.56	2107	165	0	0.00	ng/ul	0	0.351	
49)	Acenaphthylene	0.00	2138	152	0	Not Found	ng/ul	415	0.000	
50)	3-Nitroaniline	17.95	2154	138	0	0.00	ng/ul	10	0.338	
51)	Acenaphthene	18.21	2185	152	3118	0.00	ng/ul	635	1.500	
52)	2,4-Dinitrophenol	18.22	2187	184	0	0.00	ng/ul	635	0.060	
53)	4-Nitrophenol	18.17	2180	65	0	0.00	ng/ul	0	0.119	
54)	Dibenzofuran	0.00	2225	168	0	Not Found	ng/ul	649	0.000	
55)	2,4-Dinitrotoluene	0.00	2215	165	0	Not Found	ng/ul	956	0.000	
56)	Benzo(b)Fluoranthene	0.00	3472	252	0	Not Found	ng/ul	534	0.000	
57)	Diethyl Phthalate	18.90	2268	149	498391	0.39	ng/ul	903	2.186	0.013
58)	Fluorene	19.10	2292	166	0	0.00	ng/ul	457	1.161	
59)	4-Chlorophenyl Phenyl Ether	0.00	2301	204	0	Not Found	ng/ul	81	0.000	
60)	4-Nitroaniline	19.18	2302	108	0	0.00	ng/ul	402	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305324.1B2
Data File: 305324.MS
Name: 305324
Sample:

Quant Time: 05/23/02 03:52
Injected at: 05/22/02 20:57
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2309	198	0	Not Found	ng/ul	232	0.000	
62)	N-Nitrosodiphenylamine	19.31	2317	169	0	0.00	ng/ul	208	0.509	
63)	1,2-Diphenylhydrazine	19.47	2337	77	41838	0.04	ng/ul	769	1.256	
64)	4-Bromophenyl Phenyl Ether	0.00	2400	248	0	Not Found	ng/ul	371	0.000	
65)	Hexachlorobenzene	20.02	2403	284	770	0.00	ng/ul	629	0.305	
66)	Pentachlorophenol	20.30	2436	266	0	0.00	ng/ul	363	0.232	
67)	Phenanthrene	20.82	2498	178	24626	0.03	ng/ul	432	1.076	
68)	Anthracene	20.88	2506	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	21.08	2530	167	0	0.00	ng/ul	0	1.075	
70)	Di-n-Butyl Phthalate	21.43	2572	149	1549995	0.89	ng/ul	926	2.012	0.030
71)	Fluoranthene	22.53	2704	202	0	0.00	ng/ul	0	1.113	
72)	Benzidine	0.00	2719	184	0	Not Found	ng/ul	0	0.000	
73)	Pyrene	22.95	2754	202	6437	0.01	ng/ul	581	1.244	
74)	Butyl Benzyl Phthalate	23.77	2852	149	271105	0.33	ng/ul	766	1.013	0.011
75)	3,3'-Dichlorobenzidine	25.09	3011	252	0	0.00	ng/ul	413	0.519	
76)	Bis(2-Ethylhexyl)Phthalate	24.88	2986	149	487642	0.37	ng/ul	767	1.633	0.012
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	274	0.000	
78)	Chrysene	25.47	3056	228	2734	0.00	ng/ul	657	1.191	
79)	Di-n-Octylphthalate	26.95	3234	149	0	0.00	ng/ul	0	1.615	
80)	Benzo(k)Fluoranthene	29.08	3490	252	0	0.00	ng/ul	0	1.249	
81)	Benzo(a)Pyrene	30.47	3657	252	8362	0.01	ng/ul	940	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4454	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4464	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4697	276	0	Not Found	ng/ul	0	0.000	
85)	N-Nitrosodimethylamine	4.92	590	73	136	0.00	ng/ul	0	0.325	
86)	2,3,4,6-tetrachlorophenol	0.00	2251	232	0	Not Found	ng/ul	69	0.000	
87)	2,3-Dinitrotoluene	18.38	2206	165	0	0.00	ng/ul	0	0.540	
88)	2,4-Diaminotoluene	16.56	1987	121	2667	0.02	ng/ul	658	0.184	
89)	2-Chloroaniline	12.47	1497	127	424	0.00	ng/ul	843	0.613	
90)	5-Nitro-o-toluidine	19.20	2304	152	1125	0.00	ng/ul	546	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305324.1B2
Data File: 305324.MS
Name: 305324
Sample:

Quant Time: 05/23/02 03:52
Injected at: 05/22/02 20:57
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.73	2248	143	1453	0.00	ng/ul	770	0.867
92)	Benzaldehyde	9.50	1140	105	6026	0.01	ng/ul	820	2.400
93)	Acetophenone	11.36	1363	105	55088	0.07	ng/ul	932	0.909
94)	Caprolactam	14.68	1762	85	40633	0.57	ng/ul	735	0.080
95)	Biphenyl	16.70	2004	154	13967	0.02	ng/ul	924	1.531
96)	Atrazine	0.00	2425	200	0	Not Found	ng/ul	2	0.000

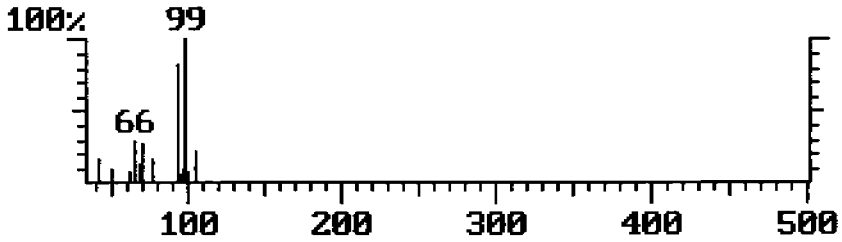
* Compound is ISTD

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 15 of 74
Data File: 305324 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:57 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

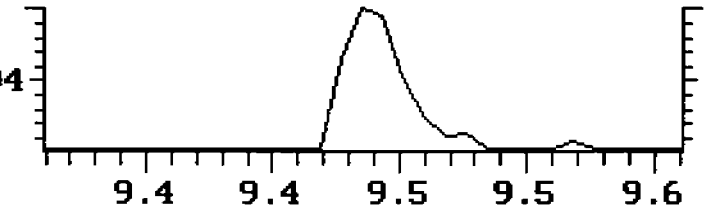
Phenol

SCAN#: 1133
AGC: 183

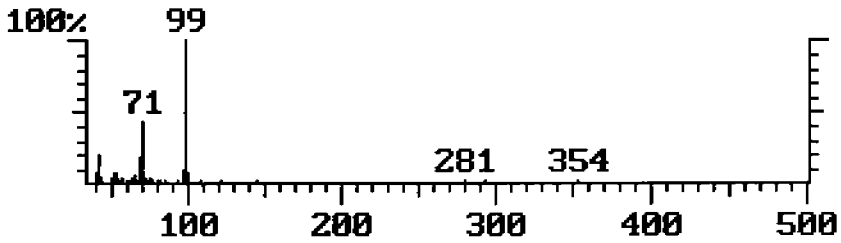
REFERENCE STANDARD SPECTRUM



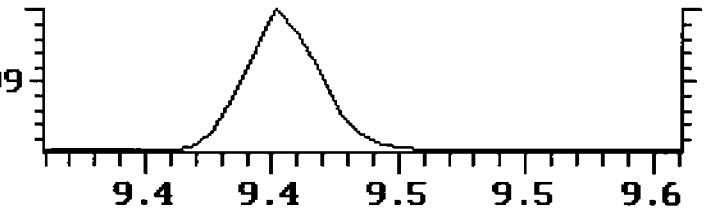
MASS 94 PLOT



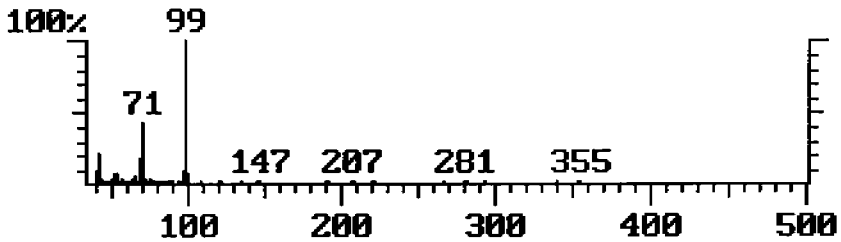
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



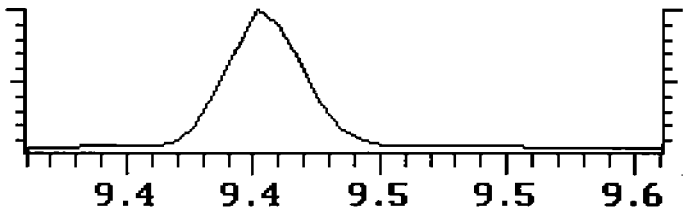
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



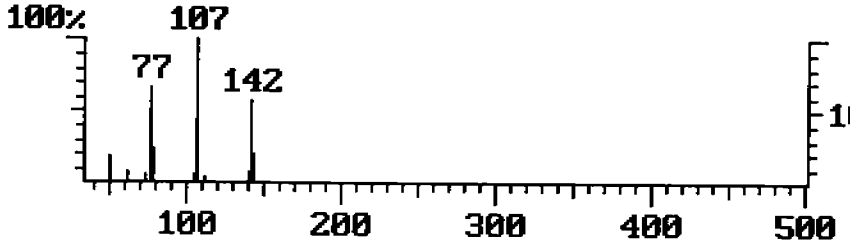
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 35 of 74
Data File: 305324 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:57 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

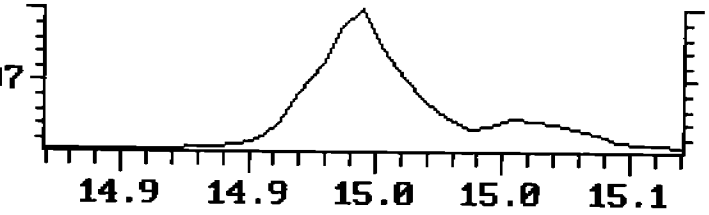
4-Chloro-3-Methylphenol

SCAN#: 1794
AGC: 780

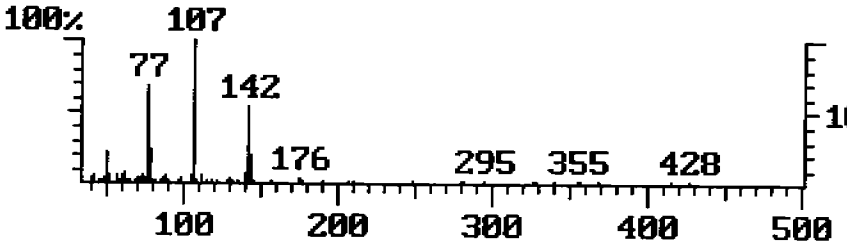
REFERENCE STANDARD SPECTRUM



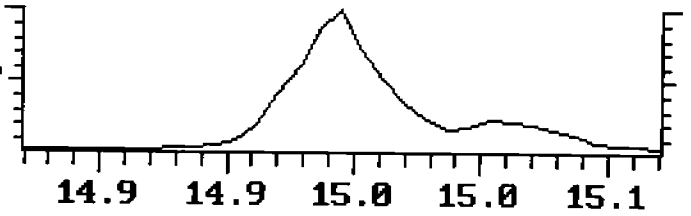
MASS 107 PLOT



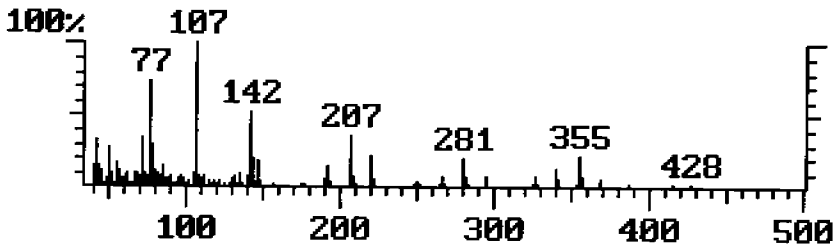
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



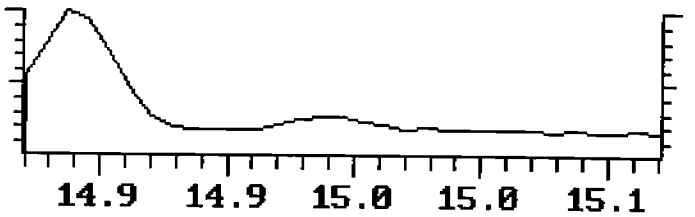
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

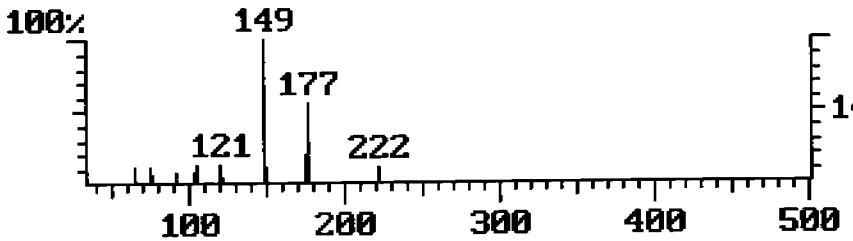


Approved_____ Date_____

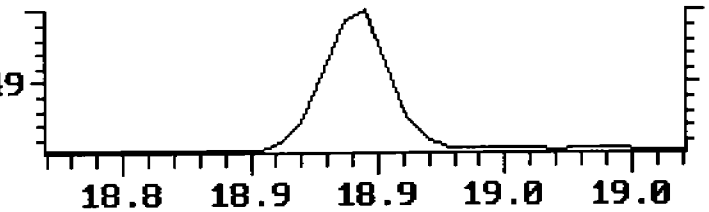
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 74
Data File: 305324 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:57 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2268
AGC: 167

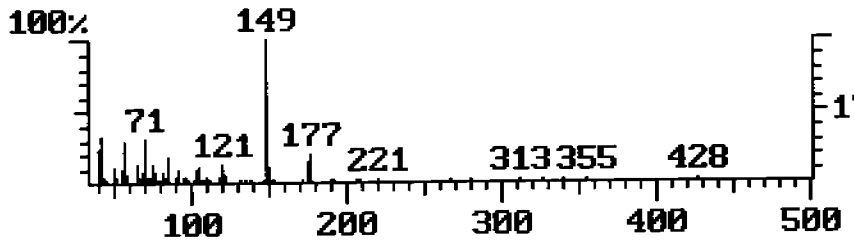
REFERENCE STANDARD SPECTRUM



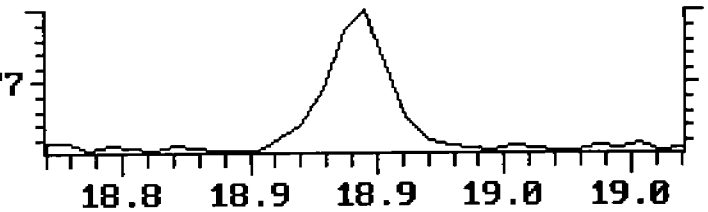
MASS 149 PLOT



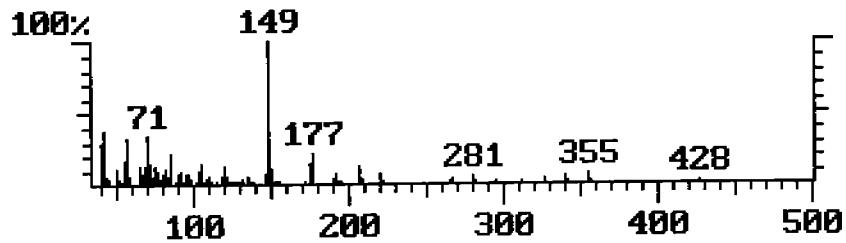
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



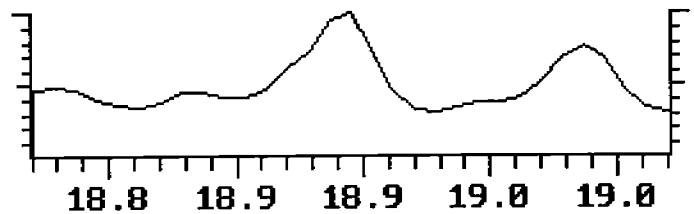
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

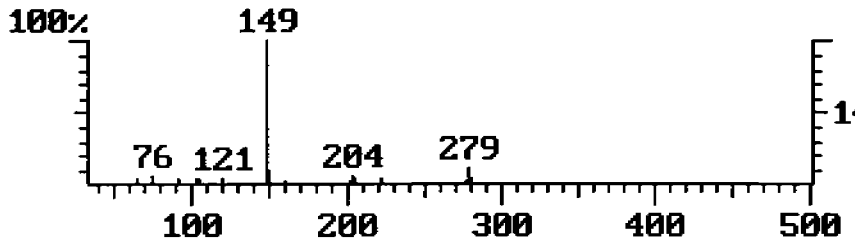


Approved_____ Date_____

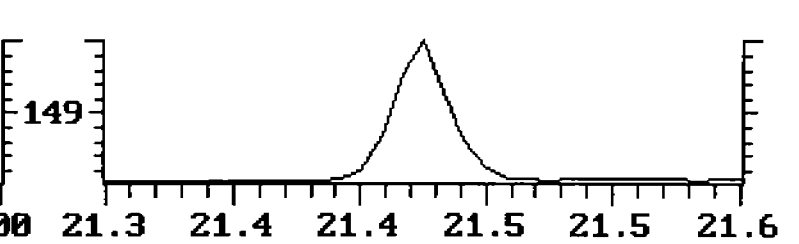
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 55 of 74
Data File: 305324 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:57 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2572
AGC: 80

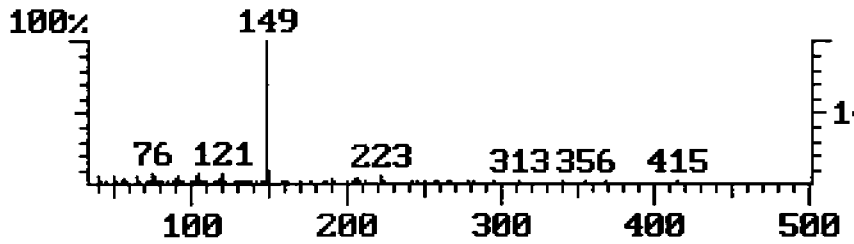
REFERENCE STANDARD SPECTRUM



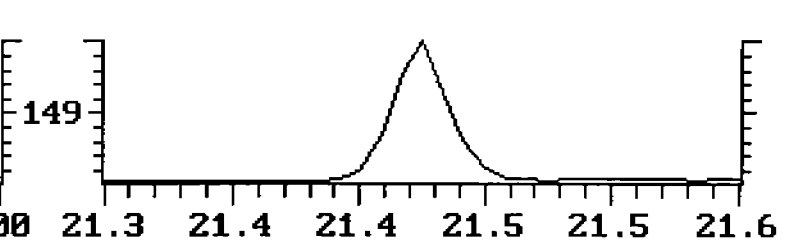
MASS 149 PLOT



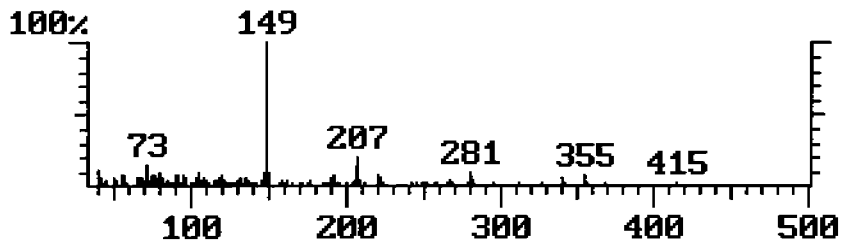
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



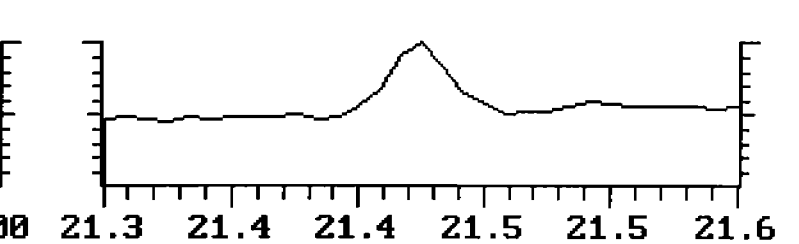
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



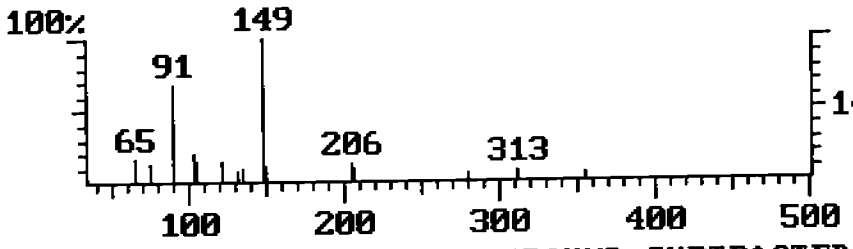
Approved_____ Date_____

Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 58 of 74
Data File: 305324 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:57 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

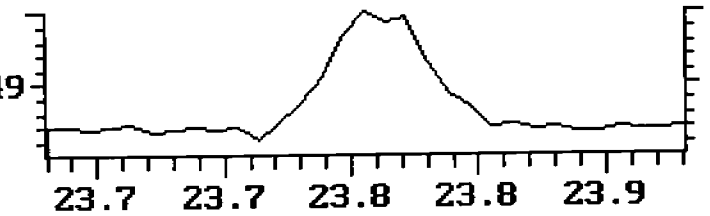
Butyl Benzyl Phthalate

SCAN#: 2852
AGC: 56

REFERENCE STANDARD SPECTRUM

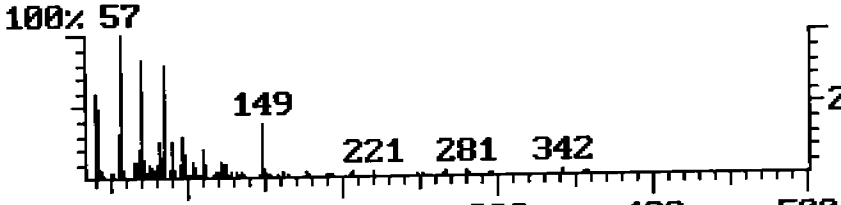


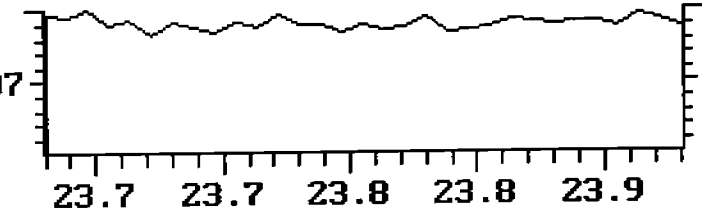
MASS 149 PLOT



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

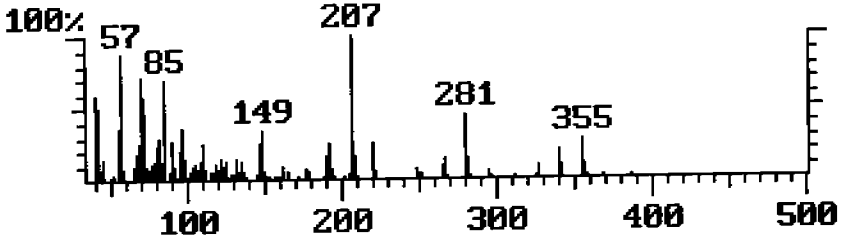
BASE PEAK MASS PLOT

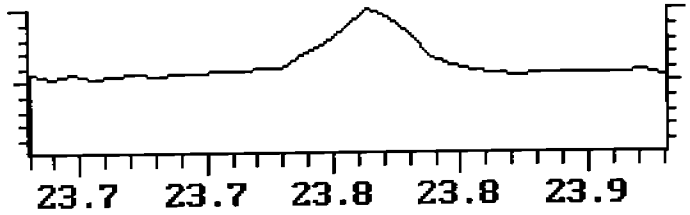




SAMPLE SPECTRUM (UNALTERED)

TOTAL ION PLOT



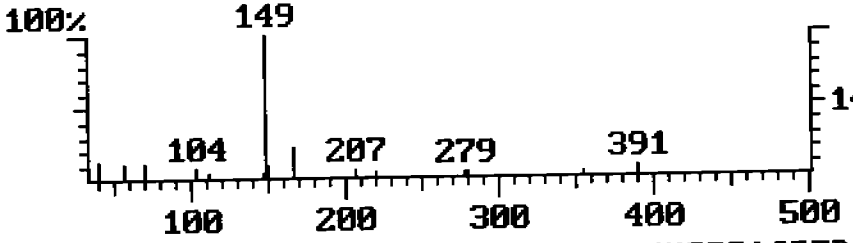


Approved _____ Date _____

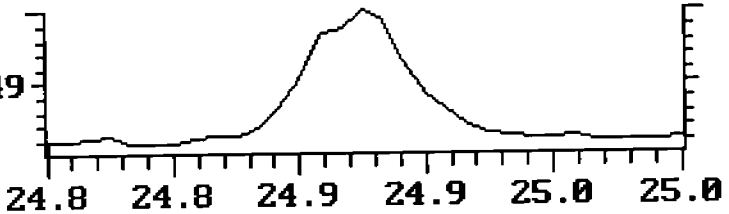
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 60 of 74
Data File: 305324 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 8:57 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2986
AGC: 96

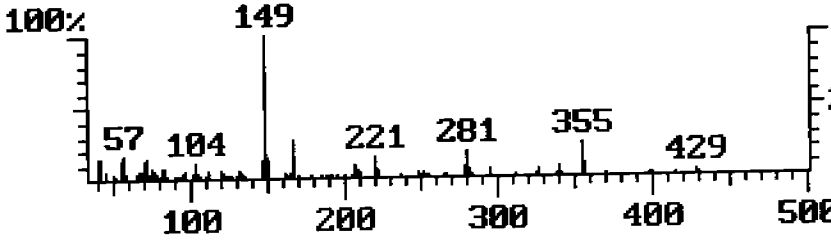
REFERENCE STANDARD SPECTRUM



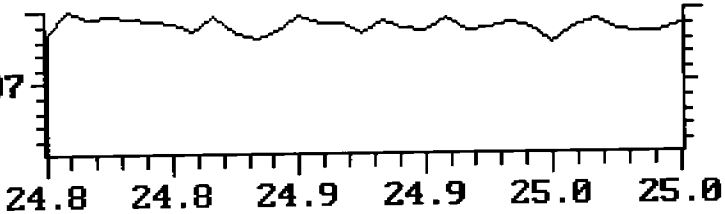
MASS 149 PLOT



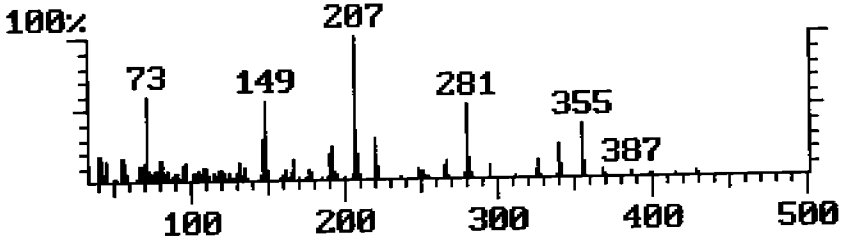
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



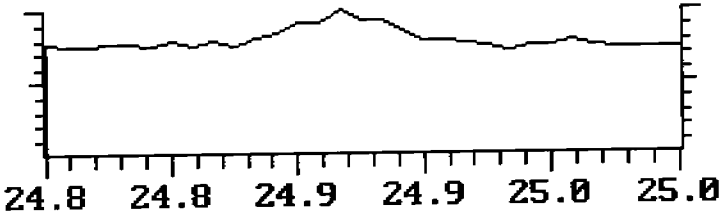
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved _____ Date _____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
4AWP01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:33
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305325
Batch No: 186142

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
4AWP01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:33
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305325
Batch No: 186142

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.010**		0.002	0.005
84-66-2	Diethylphthalate	**0.024**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	**0.002**	J	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.041**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.019**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.013**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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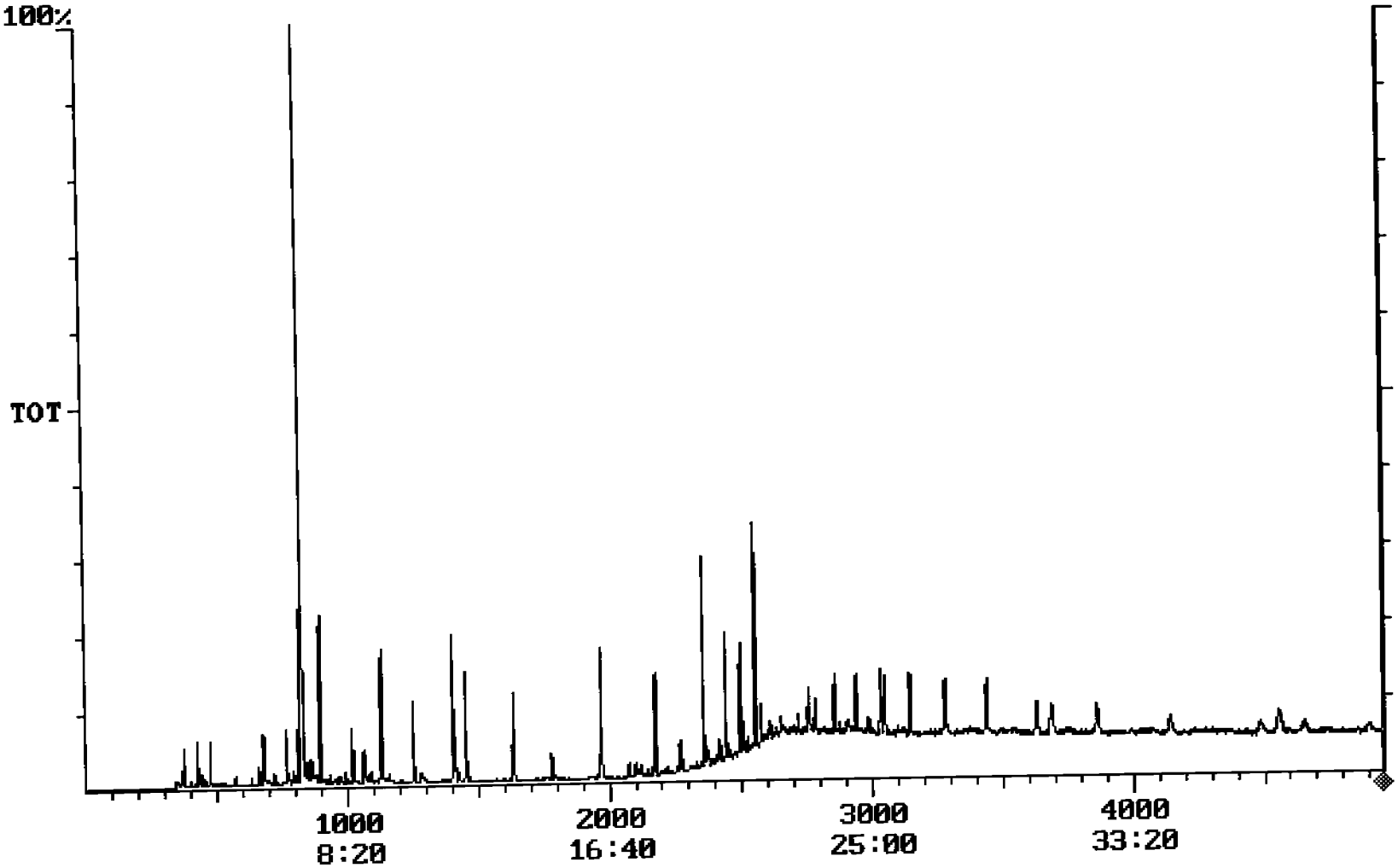
000602

Chromatogram Plot C:\SATURN\DATA\305325 Date: 05/22/02 21:48:36
Comment: INSTRUMENT 133
Scan: 4943 Seg: 1 Group: 0 Retention: 41:12 RIC: 963553 Masses: 41-429
Plotted: 1 to 4943 Range: 1 to 4943 100% = 18623785



QUANT REPORT

Operator ID: JMK
Output File: 305325.1B2
Data File: 305325.MS
Name: 305325
Sample:

Quant Time: 05/23/02 03:58
Injected at: 05/22/02 21:48
Dilution Factor: 1.00
Instrument ID: 133

305 → 1m 1
99% solids

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.43	1252	152	1383374	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.62	1634	136	4573822	5.00	ng/ul	998	1.000
3)	*IS:D10-Acenaphthene	18.12	2175	162	2933701	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.77	2493	188	4208950	5.00	ng/ul	965	1.000
5)	*IS:D12-Chrysene	25.41	3049	240	3985012	5.00	ng/ul	507	1.000
6)	*IS:D12-Perylene	30.72	3686	264	4041233	5.00	ng/ul	867	1.000
7)	ACSUR:2-Fluorophenol	7.47	896	112	5393786	13.26	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.42	1130	99	6322129	13.55	ng/ul	814	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.63	2356	330	3273787	11.90	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.76	1411	127	1002804	7.66	NG/UL	970	0.144
11)	BNSUR:Decafluorobiphenyl	11.68	1402	334	5173009	6.45	ng/ul	942	0.877
12)	BNSUR:2-Fluorobiphenyl	16.42	1970	172	4951627	7.21	ng/ul	998	1.170
13)	BNSUR:O-Terphenyl	21.26	2551	230	4681922	7.51	ng/ul	996	0.782
14)	Pyridine	5.32	638	79	0	0.00	ng/ul	0	1.146
15)	Phenol	0.00	1132	94	0	Not Found	ng/ul	248	0.000
16)	Aniline	9.64	1157	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	0.00	1167	92	0	Not Found	ng/ul	7	0.000
18)	2-Chlorophenol	9.95	1194	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.31	1237	146	5905	0.01	ng/ul	871	1.660
20)	1,4-Dichlorobenzene	10.46	1255	146	0	0.00	ng/ul	0	1.616
21)	Benzyl Alcohol	10.69	1283	108	19424	0.13	ng/ul	914	0.554
22)	1,2-Dichlorobenzene	10.83	1300	146	6225	0.02	ng/ul	736	1.498
23)	2-Methylphenol	10.87	1305	108	0	0.00	ng/ul	45	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.12	1334	45	0	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.23	1348	108	0	0.00	ng/ul	554	1.246
26)	N-Nitrosodi-N-Propylamine	0.00	1357	70	0	Not Found	ng/ul	250	0.000
27)	Hexachloroethane	11.73	1407	119	0	0.00	ng/ul	923	0.605
28)	Nitrobenzene	11.78	1414	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	0.00	1481	82	0	Not Found	ng/ul	716	0.000
30)	2-Nitrophenol	0.00	1513	109	0	Not Found	ng/ul	498	0.000

* Compound is ISTD

Operator ID: JMK
Output File: 305325.1B2
Data File: 305325.MS
Name: 305325
Sample:

Quant Time: 05/23/02 03:58
Injected at: 05/22/02 21:48
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1514	107	0	Not Found	ng/ul	454	0.000	
32)	Benzoic Acid	0.00	1526	105	0	Not Found	ng/ul	598	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1546	92	0	Not Found	ng/ul	532	0.000	
34)	2,4-Dichlorophenol	0.00	1581	162	0	Not Found	ng/ul	107	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1613	180	0	Not Found	ng/ul	752	0.000	
36)	Naphthalene	0.00	1638	128	0	Not Found	ng/ul	498	0.000	
37)	4-Chloroaniline	0.00	1652	127	0	Not Found	ng/ul	618	0.000	
38)	2,6-Dichlorophenol	0.00	1652	162	0	Not Found	ng/ul	618	0.000	
39)	Hexachlorobutadiene	0.00	1675	225	0	Not Found	ng/ul	315	0.000	
40)	4-Chloro-3-Methylphenol	0.00	1793	107	0	Not Found	ng/ul	982	0.000	
41)	2-Methylnaphthalene	15.47	1856	142	7090	0.01	ng/ul	887	0.639	
42)	Hexachlorocyclopentadiene	0.00	1903	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	0.00	1940	196	0	Not Found	ng/ul	35	0.000	
44)	2,4,5-Trichlorophenol	0.00	1955	196	0	Not Found	ng/ul	170	0.000	
45)	2-Chloronapthalene	0.00	2010	162	0	Not Found	ng/ul	323	0.000	
46)	2-Nitroaniline	17.03	2043	138	6232	0.03	ng/ul	908	0.409	
47)	Dimethyl Phthalate	17.42	2091	163	29036	0.03	ng/ul	953	1.919	
48)	2,6-Dinitrotoluene	17.57	2108	165	1088	0.01	ng/ul	491	0.351	
49)	Acenaphthylene	17.95	2154	152	472	0.00	ng/ul	754	1.715	
50)	3-Nitroaniline	17.81	2137	138	697	0.00	ng/ul	626	0.338	
51)	Acenaphthene	18.19	2183	152	3658	0.00	ng/ul	723	1.500	
52)	2,4-Dinitrophenol	18.22	2187	184	0	0.00	ng/ul	723	0.060	
53)	4-Nitrophenol	18.17	2181	65	0	0.00	ng/ul	262	0.119	
54)	Dibenzofuran	18.56	2227	168	7931	0.01	ng/ul	713	1.772	
55)	2,4-Dinitrotoluene	18.47	2216	165	92765	0.29	ng/ul	963	0.547	0.597
56)	Benzo(b)Fluoranthene	29.03	3484	252	13079	0.01	ng/ul	795	1.096	
57)	Diethyl Phthalate	18.90	2268	149	899128	0.70	ng/ul	931	2.186	0.524
58)	Fluorene	19.06	2287	166	725	0.00	ng/ul	378	1.161	
59)	4-Chlorophenyl Phenyl Ether	19.16	2299	204	0	0.00	ng/ul	388	0.783	
60)	4-Nitroaniline	19.18	2302	108	2064	0.00	ng/ul	684	0.736	

* Compound is ISTD

Operator ID: JMK
Output File: 305325.1B2
Data File: 305325.MS
Name: 305325
Sample:

Quant Time: 05/23/02 03:58
Injected at: 05/22/02 21:48
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.18	2302	198	0	0.00	ng/ul	352	0.116	
62)	N-Nitrosodiphenylamine	19.36	2323	169	0	0.00	ng/ul	213	0.509	
63)	1,2-Diphenylhydrazine	19.48	2338	77	82220	0.08	ng/ul	796	1.255	
64)	4-Bromophenyl Phenyl Ether	0.00	2400	248	0	Not Found	ng/ul	165	0.000	
65)	Hexachlorobenzene	20.02	2403	284	1419	0.01	ng/ul	331	0.305	
66)	Pentachlorophenol	20.31	2437	266	0	0.00	ng/ul	362	0.232	
67)	Phenanthrene	20.81	2498	178	39956	0.045	ng/ul	394	1.076	0.05 (R
68)	Anthracene	20.91	2509	178	0	0.00	ng/ul	0	1.183	
69)	Carbazole	21.12	2534	167	0	0.00	ng/ul	0	1.075	
70)	Di-n-Butyl Phthalate	21.44	2573	149	2031571	1.22	ng/ul	944	1.981	0.541
71)	Fluoranthene	22.57	2708	202	2826	0.00	ng/ul	494	1.113	
72)	Benzidine	0.00	2719	184	0	Not Found	ng/ul	47	0.000	
73)	Pyrene	0.00	2751	202	0	Not Found	ng/ul	9	0.000	
74)	Butyl Benzyl Phthalate	23.78	2854	149	448190	0.56	ng/ul	768	1.013	0.518
75)	3,3'-Dichlorobenzidine	25.16	3019	252	7369	0.02	ng/ul	750	0.520	
76)	Bis(2-Ethylhexyl)Phthalate	24.89	2987	149	513258	0.39	ng/ul	746	1.633	0.513
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	55	0.000	
78)	Chrysene	0.00	3055	228	0	Not Found	ng/ul	5	0.000	
79)	Di-n-Octylphthalate	26.67	3201	149	174	0.00	ng/ul	0	1.615	
80)	Benzo(k)Fluoranthene	29.06	3487	252	5009	0.00	ng/ul	198	1.249	
81)	Benzo(a)Pyrene	30.35	3642	252	2877	0.00	ng/ul	585	1.069	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4453	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4464	278	0	Not Found	ng/ul	54	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4696	276	0	Not Found	ng/ul	0	0.000	
85)	N-Nitrosodimethylamine	0.00	563	73	0	Not Found	ng/ul	440	0.000	
86)	2,3,4,6-tetrachlorophenol	0.00	2251	232	0	Not Found	ng/ul	2	0.000	
87)	2,3-Dinitrotoluene	18.38	2206	165	108	0.00	ng/ul	4	0.540	
88)	2,4-Diaminotoluene	16.53	1984	121	4167	0.02	ng/ul	547	0.184	
89)	2-Chloroaniline	12.47	1496	127	1446	0.00	ng/ul	584	0.613	
90)	5-Nitro-o-toluidine	19.17	2301	152	6104	0.02	ng/ul	629	0.435	

* Compound is ISTD

Operator ID: JMK
Output File: 305325.1B2
Data File: 305325.MS
Name: 305325
Sample:

Quant Time: 05/23/02 03:58
Injected at: 05/22/02 21:48
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

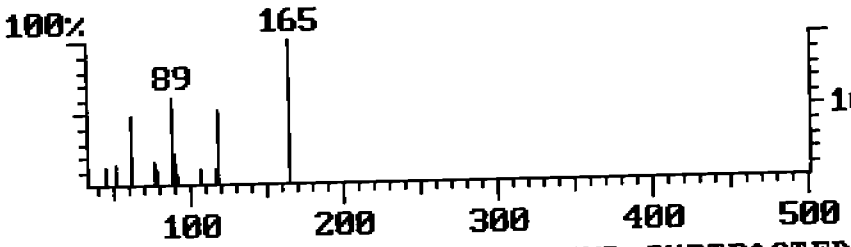
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.81	2258	143	855	0.00	ng/ul	703	0.867
92)	Benzaldehyde	9.40	1128	105	15084	0.02	ng/ul	814	2.401
93)	Acetophenone	11.37	1364	105	95308	0.11	ng/ul	971	0.909
94)	Caprolactam	14.46	1736	85	181	0.00	ng/ul	704	0.078
95)	Biphenyl	16.70	2004	154	15600	0.02	ng/ul	922	1.531
96)	Atrazine	0.00	2425	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

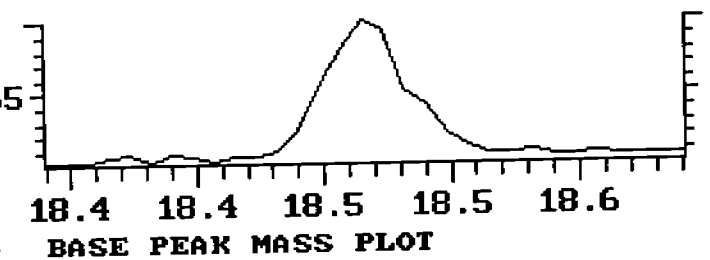
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 36 of 66
TRIMATRIX
Data File: 305325 Calibration File: CCC8270
Date: 05/22/02 9:48 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2216
AGC: 444

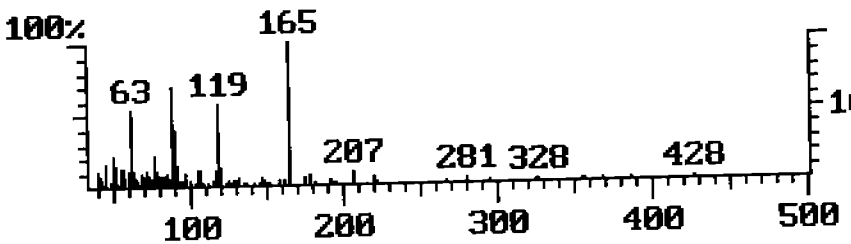
REFERENCE STANDARD SPECTRUM



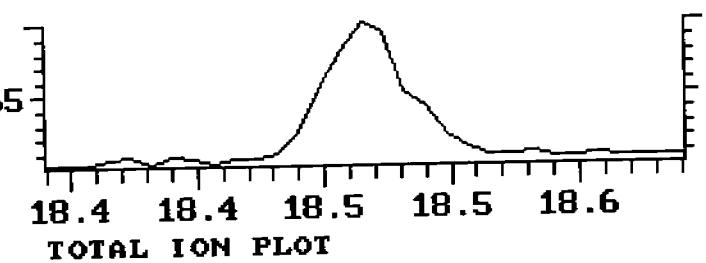
MASS 165 PLOT



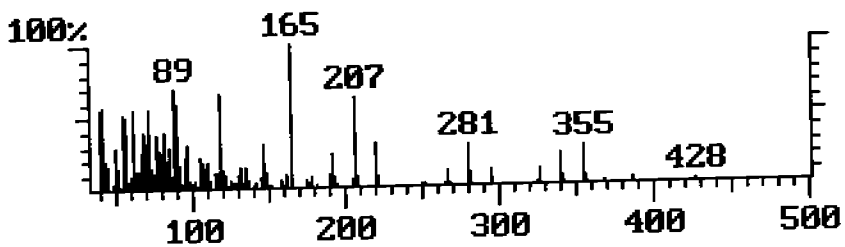
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



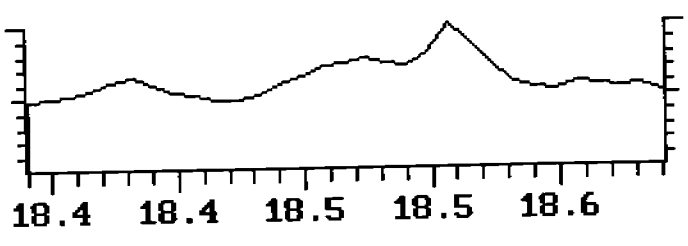
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

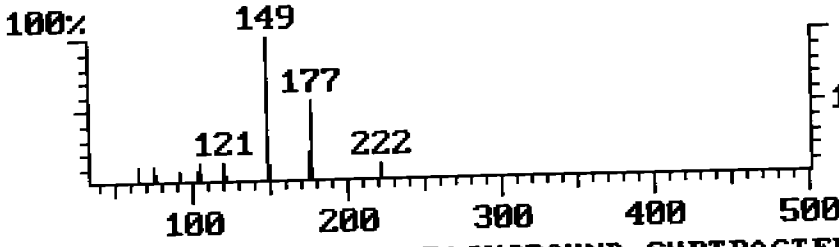


Approved_____ Date_____

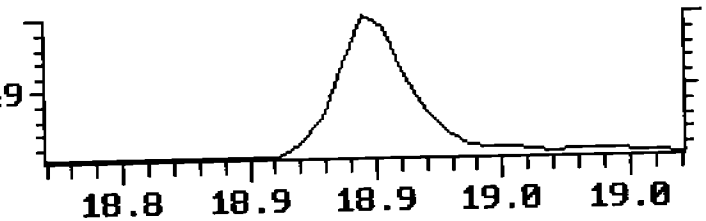
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 66
Data File: 305325 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 9:48 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2268
AGC: 112

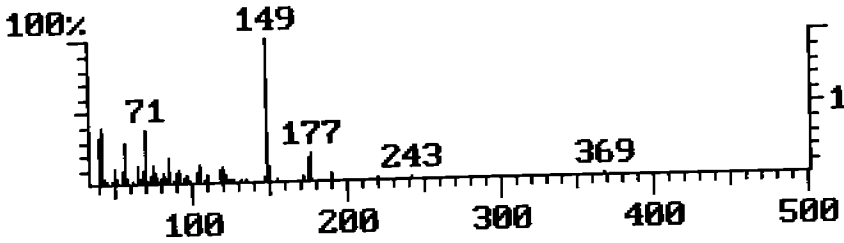
REFERENCE STANDARD SPECTRUM



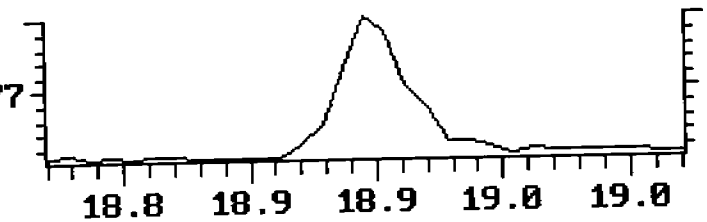
MASS 149 PLOT



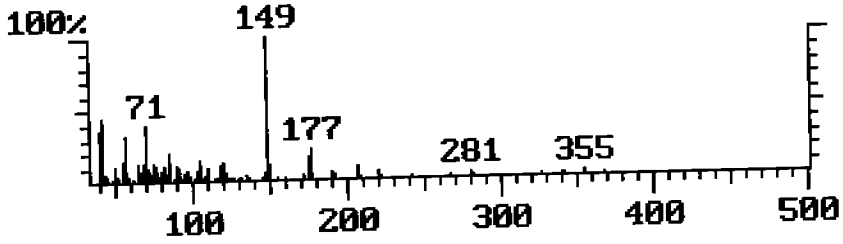
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



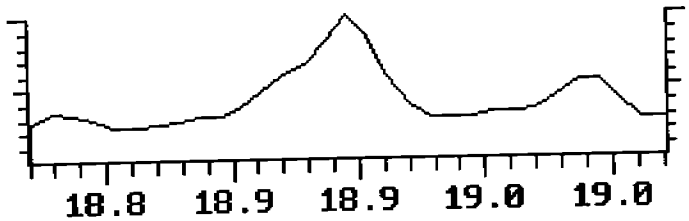
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TARGET COMPOUND CONFIRMATION REPORT 3

TRIMATRIX

Method: 8270C
Data File: 305325
Date: 05/22/02 9:48 pm
Sample:
Comments: INSTRUMENT 133

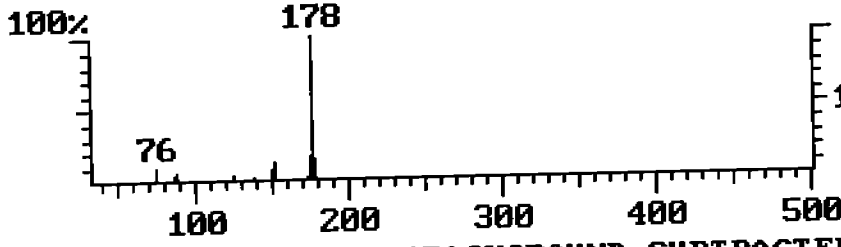
Calibration File: CCC8270
Calibration Date: 05/23/02
Operator: JMK1

Dilution Factor: 1.00

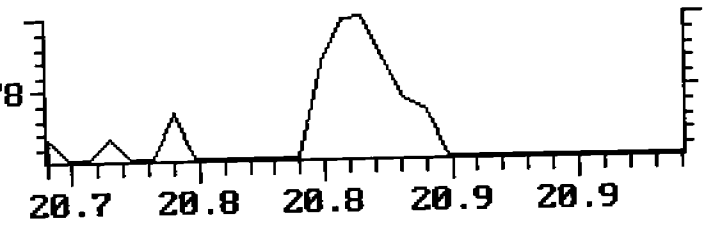
Phenanthrene

SCAN#: 2498
AGC: 169

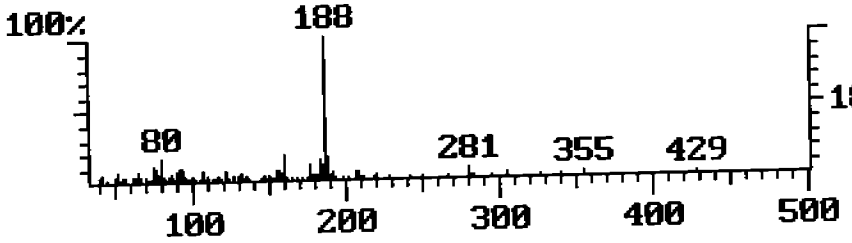
REFERENCE STANDARD SPECTRUM



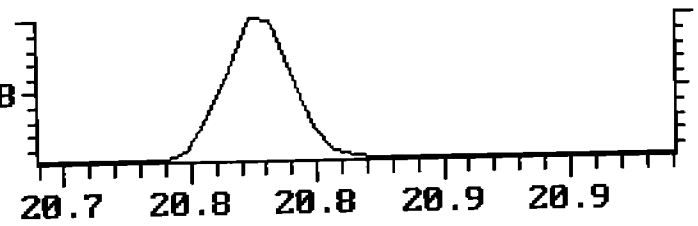
MASS 178 PLOT



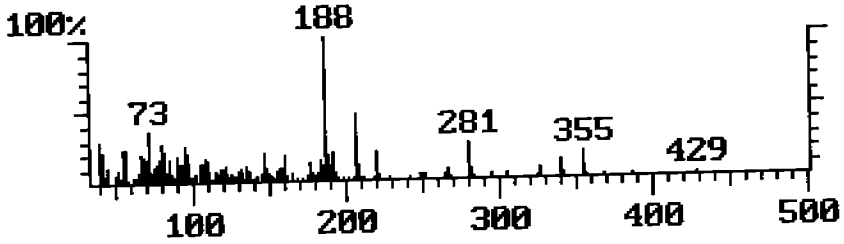
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



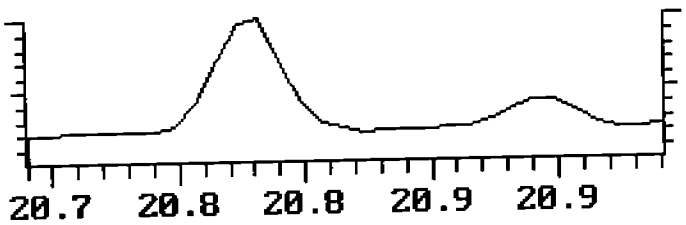
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



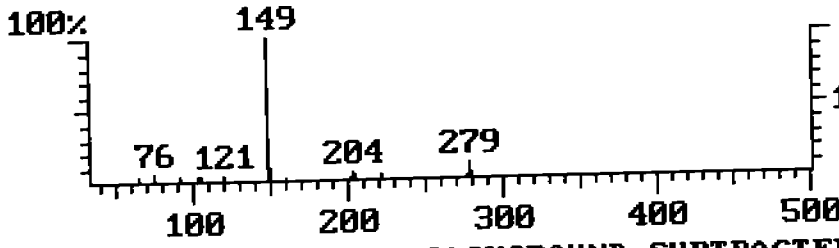
Approved_____ Date_____

000609

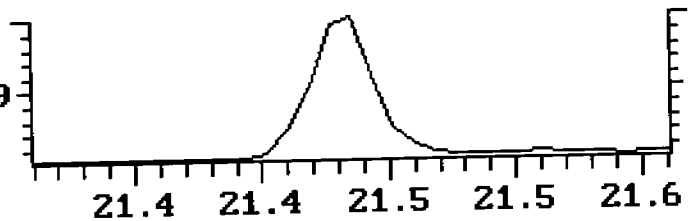
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 66
TRIMATRIX
Data File: 305325 Calibration File: CCC8270
Date: 05/22/02 9:48 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2573
AGC: 73

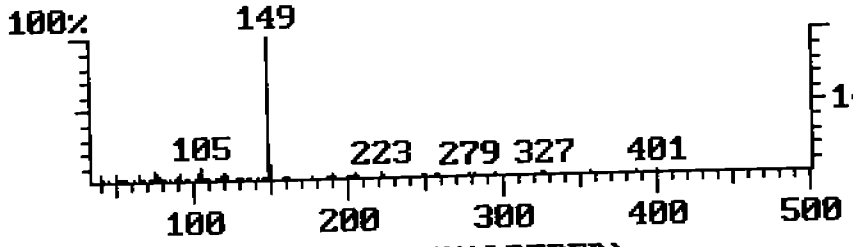
REFERENCE STANDARD SPECTRUM



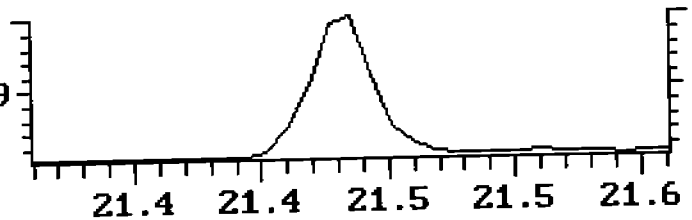
MASS 149 PLOT



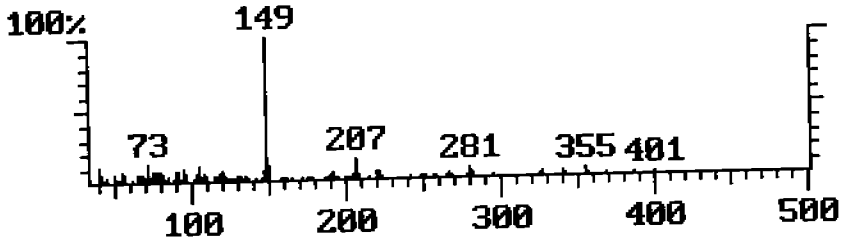
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



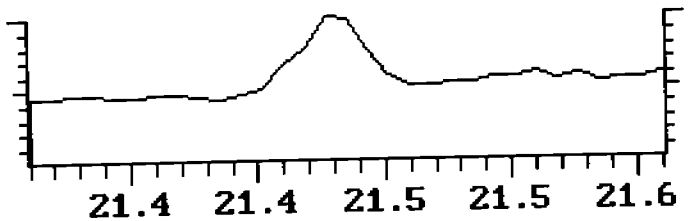
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

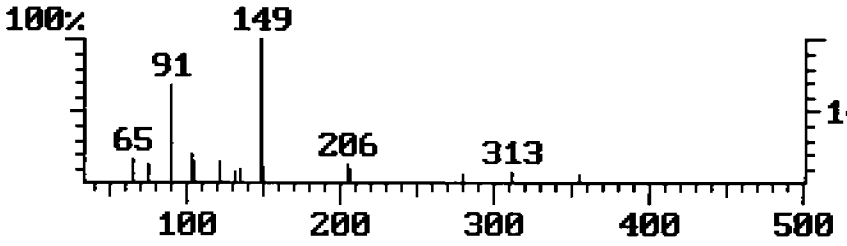


Approved_____ Date_____

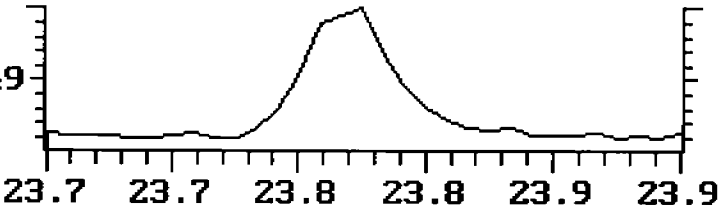
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 52 of 66
Data File: 305325 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 9:48 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2854
AGC: 43

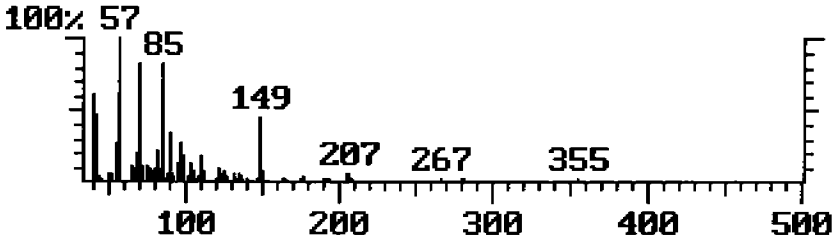
REFERENCE STANDARD SPECTRUM



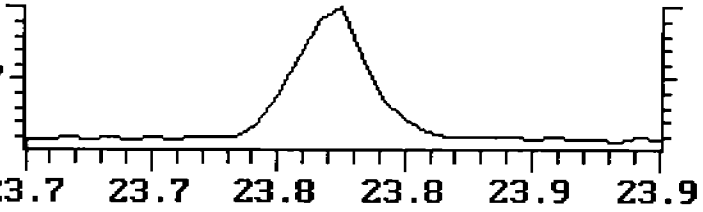
MASS 149 PLOT



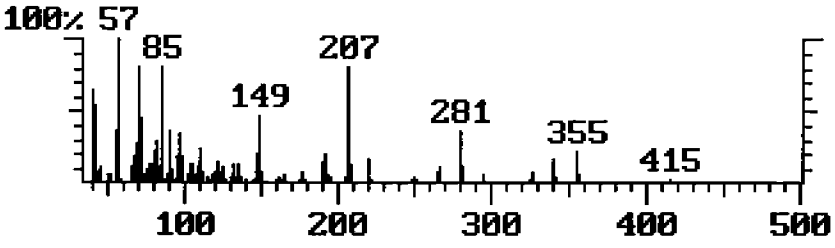
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



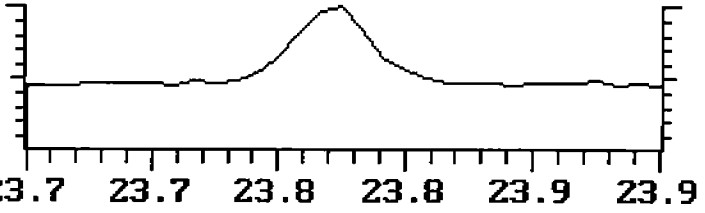
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

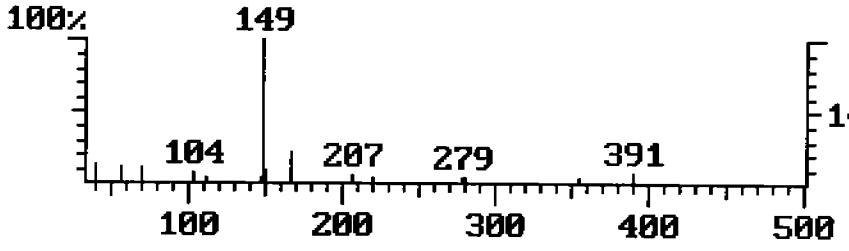


Approved_____ Date_____

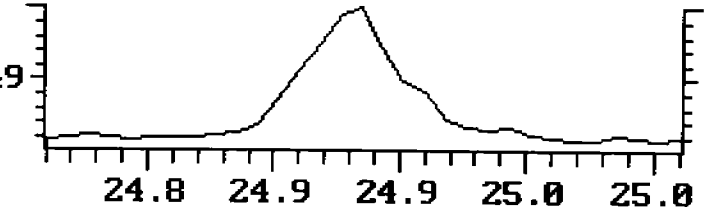
Method: 8270C TARGET COMPOUND CONFIRMATION REPORT 3 Page 54 of 66
Data File: 305325 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 9:48 pm Calibration Date: 05/23/02
Sample: Operator: JMK1
Comments: INSTRUMENT 133
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2987
AGC: 93

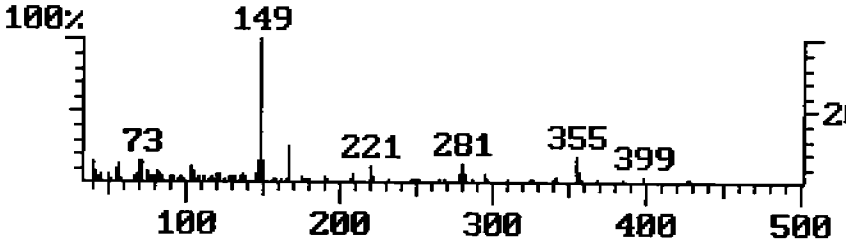
REFERENCE STANDARD SPECTRUM



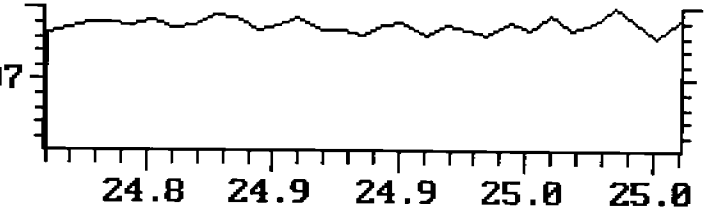
MASS 149 PLOT



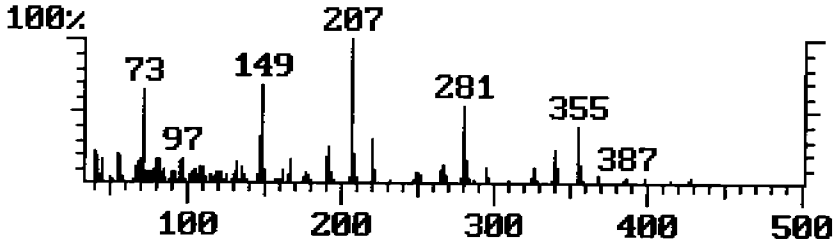
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



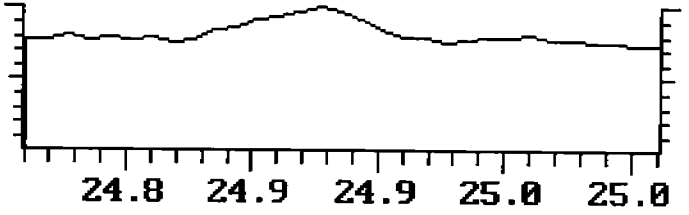
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
4BNP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:37
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/21/02
Lab Sample No: 305326
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.007**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
4BNP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:37
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/21/02
Lab Sample No: 305326
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.010**		0.002	0.005
84-66-2	Diethylphthalate	**0.034**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	**0.001**	J	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.050**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.021**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.017**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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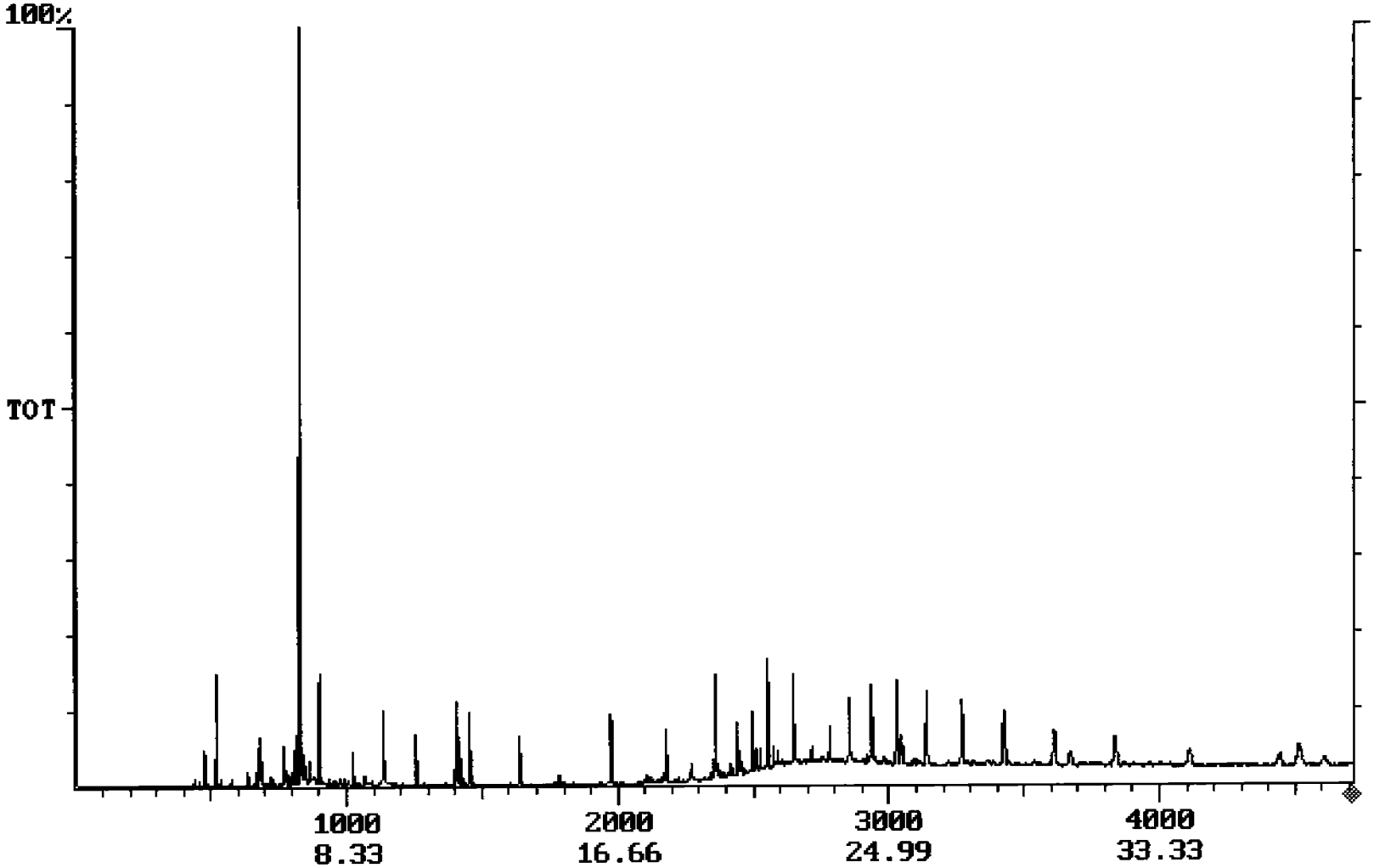
Chromatogram Plot C:\SATURN\DATA\305326 Date: 05/21/02 22:58:32
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 17893929



Operator ID: DMC
Output File: 305326.1B2
Data File: 305326.MS
Name: 305326
Sample:

Quant Time: 05/22/02 09:16
Injected at: 05/21/02 22:58
Dilution Factor: 1.00
Instrument ID: 138

30 → 10
99 %

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.47	1256	152	806136	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	2509239	5.00	ng/ul	998	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	1508510	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	2272954	5.00	ng/ul	996	1.000
5)	*IS:D12-Chrysene	25.38	3046	240	2053066	5.00	ng/ul	894	1.000
6)	*IS:D12-Perylene	30.60	3672	264	1910798	5.00	ng/ul	912	1.000
7)	ACSUR:2-Fluorophenol	7.51	901	112	3323152	13.10	ng/ul	996	1.574
8)	ACSUR:D6-Phenol	9.46	1135	99	3922306	12.78	ng/ul	996	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	1526036	15.16	ng/ul	993	0.334
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	693453	8.31	ng/ul	957	0.167
11)	BNSUR:Decafluorobiphenyl	11.71	1405	334	2718072	7.42	ng/ul	945	0.731
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	2846993	8.01	ng/ul	999	1.178
13)	BNSUR:O-Terphenyl	21.29	2555	230	2507144	8.52	ng/ul	991	0.717
14)	Pyridine	4.88	586	79	506	0.00	ng/ul	452	1.031
15)	Phenol	0.00	1141	94	0	Not Found ng/ul		247	0.000
16)	Aniline	9.85	1182	93	216	0.00	ng/ul	588	1.852
17)	Bis(2-Chloroethyl)Ether	9.93	1192	92	0	0.00	ng/ul	364	0.862
18)	2-Chlorophenol	0.00	1199	128	0	Not Found ng/ul		366	0.000
19)	1,3-Dichlorobenzene	10.34	1241	146	3828	0.02	ng/ul	866	1.538
20)	1,4-Dichlorobenzene	10.51	1261	146	898	0.00	ng/ul	183	1.533
21)	Benzyl Alcohol	10.72	1286	108	18609	0.18	ng/ul	951	0.647
22)	1,2-Dichlorobenzene	10.88	1306	146	3252	0.01	ng/ul	860	1.426
23)	2-Methylphenol	11.00	1320	108	0	0.00	ng/ul	138	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1331	45	0	Not Found ng/ul		249	0.000
25)	4-Methylphenol	11.29	1355	108	464	0.00	ng/ul	602	1.306
26)	N-Nitrosodi-N-Propylamine	11.37	1364	70	0	0.00	ng/ul	700	0.786
27)	Hexachloroethane	11.79	1415	119	0	0.00	ng/ul	2	0.645
28)	Nitrobenzene	12.12	1455	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1493	82	0	Not Found ng/ul		640	0.000
30)	2-Nitrophenol	12.76	1531	109	0	0.00	ng/ul	146	0.374

* Compound is ISTD

Operator ID: DMC
Output File: 305326.1B2
Data File: 305326.MS
Name: 305326
Sample:

Quant Time: 05/22/02 09:16
Injected at: 05/21/02 22:58
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	503	0.000	
32)	Benzoic Acid	0.00	1537	105	0	Not Found	ng/ul	773	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1551	92	0	Not Found	ng/ul	751	0.000	
34)	2,4-Dichlorophenol	0.00	1590	162	0	Not Found	ng/ul	162	0.000	
35)	1,2,4-Trichlorobenzene	13.47	1616	180	1604	0.01	ng/ul	827	0.385	
36)	Naphthalene	13.72	1646	128	8963	0.01	ng/ul	829	1.390	
37)	4-Chloroaniline	13.86	1663	127	0	0.00	ng/ul	0	0.570	
38)	2,6-Dichlorophenol	13.83	1660	162	0	0.00	ng/ul	323	0.325	
39)	Hexachlorobutadiene	14.02	1682	225	0	0.00	ng/ul	352	0.282	
40)	4-Chloro-3-Methylphenol	15.00	1800	107	60403	0.20	ng/ul	988	0.594	0.0068
41)	2-Methylnaphthalene	15.52	1863	142	3977	0.01	ng/ul	945	0.647	
42)	Hexachlorocyclopentadiene	15.93	1912	237	0	0.00	ng/ul	0	0.379	
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	114	0.000	
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	141	0.000	
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	676	0.000	
46)	2-Nitroaniline	17.03	2043	138	0	0.00	ng/ul	203	0.447	
47)	Dimethyl Phthalate	17.46	2095	163	8251	0.01	ng/ul	811	1.884	
48)	2,6-Dinitrotoluene	17.66	2119	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2146	152	0	Not Found	ng/ul	224	0.000	
50)	3-Nitroaniline	17.99	2159	138	0	0.00	ng/ul	0	0.367	
51)	Acenaphthene	0.00	2191	152	0	Not Found	ng/ul	519	0.000	
52)	2,4-Dinitrophenol	18.24	2189	184	0	0.00	ng/ul	502	0.236	
53)	4-Nitrophenol	18.17	2181	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	0.00	2233	168	0	Not Found	ng/ul	621	0.000	
55)	2,4-Dinitrotoluene	18.49	2219	165	53217	0.31	ng/ul	976	0.578	0.010
56)	Benzo(b)Fluoranthene	0.00	3463	252	0	Not Found	ng/ul	794	0.000	
57)	Diethyl Phthalate	18.94	2273	149	655152	1.02	ng/ul	898	2.124	0.034
58)	Fluorene	19.27	2312	166	0	0.00	ng/ul	0	1.020	
59)	4-Chlorophenyl Phenyl Ether	19.15	2298	204	0	0.00	ng/ul	330	0.773	
60)	4-Nitroaniline	19.28	2314	108	0	0.00	ng/ul	0	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305326.1B2
Data File: 305326.MS
Name: 305326
Sample:

Quant Time: 05/22/02 09:16
Injected at: 05/21/02 22:58
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2314	198	0	Not Found	ng/ul	288	0.000	
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	373	0.000	
63)	1,2-Diphenylhydrazine	19.52	2342	77	51170	0.10	ng/ul	850	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	302	0.000	
65)	Hexachlorobenzene	0.00	2422	284	0	Not Found	ng/ul	290	0.000	
66)	Pentachlorophenol	0.00	2458	266	0	Not Found	ng/ul	72	0.000	
67)	Phenanthrene	20.84	2501	178	17842	0.03	ng/ul	292	1.126	0.012
68)	Anthracene	20.90	2508	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	604	0.000	
70)	Di-n-Butyl Phthalate	21.46	2576	149	1285794	1.47	ng/ul	884	1.927	0.050
71)	Fluoranthene	22.57	2709	202	4789	0.01	ng/ul	582	1.074	
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	2	0.000	
73)	Pyrene	0.00	2757	202	0	Not Found	ng/ul	178	0.000	
74)	Butyl Benzyl Phthalate	23.78	2854	149	311929	0.64	ng/ul	731	1.194	0.021
75)	3,3'-Dichlorobenzidine	25.03	3004	252	0	0.00	ng/ul	0	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.87	2984	149	347955	0.50	ng/ul	765	1.695	0.017
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	35	0.000	
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	2	0.000	
79)	Di-n-Octylphthalate	26.78	3214	149	0	0.00	ng/ul	0	2.650	
80)	Benzo(k)Fluoranthene	28.88	3466	252	0	0.00	ng/ul	0	1.252	
81)	Benzo(a)Pyrene	30.42	3650	252	0	0.00	ng/ul	0	1.075	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	2	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4423	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	67	0.000	
85)	N-Nitrosodimethylamine	4.97	596	73	0	0.00	ng/ul	619	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	164	0.000	
87)	2-Chloroaniline	12.71	1525	127	0	0.00	ng/ul	254	0.535	
88)	2,4-Diaminotoluene	16.19	1943	121	0	0.00	ng/ul	0	0.453	
89)	2,3-Dinitrotoluene	18.42	2211	165	0	0.00	ng/ul	0	0.576	
90)	1-Naphthylamine	18.66	2239	143	932	0.00	ng/ul	706	0.724	

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 09:16
Output File: 305326.1B2 Injected at: 05/21/02 22:58
Data File: 305326.MS Dilution Factor: 1.00
Name: 305326 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

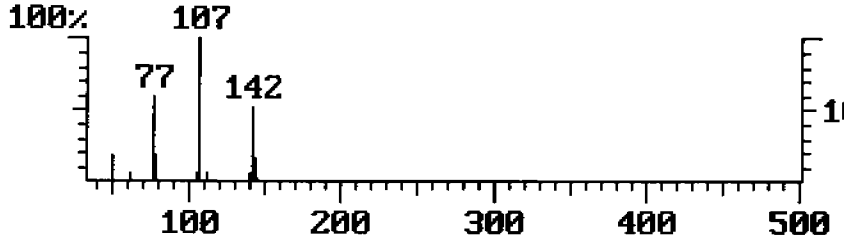
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2308	152	0	Not Found	ng/ul	297	0.000

* Compound is ISTD

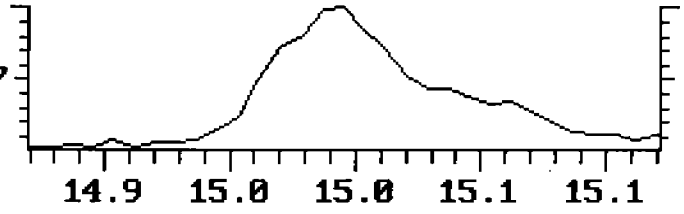
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 32 of 61
Data File: 305326 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:58 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1800
AGC: 1603

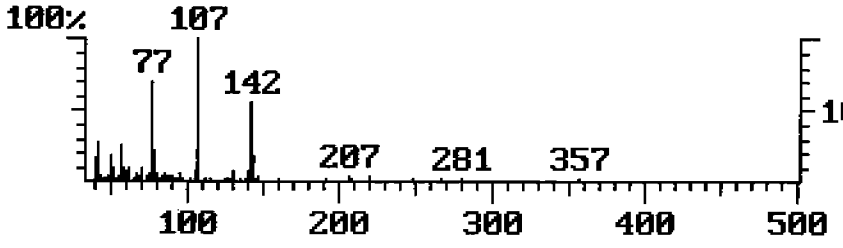
REFERENCE STANDARD SPECTRUM



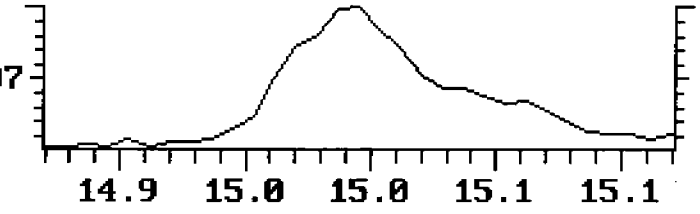
MASS 107 PLOT



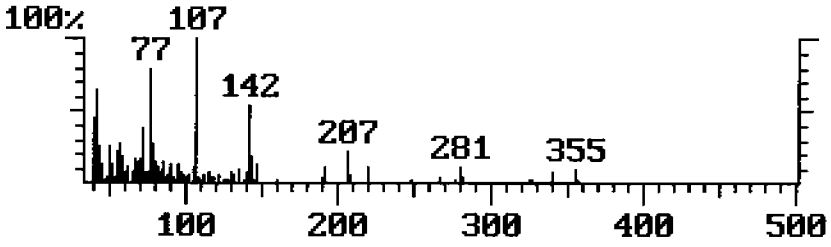
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



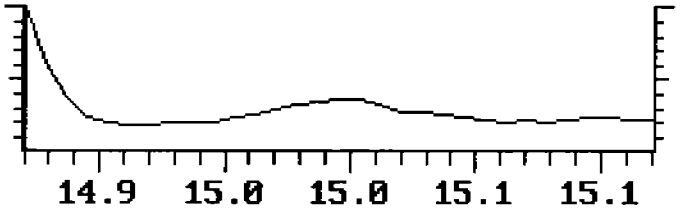
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

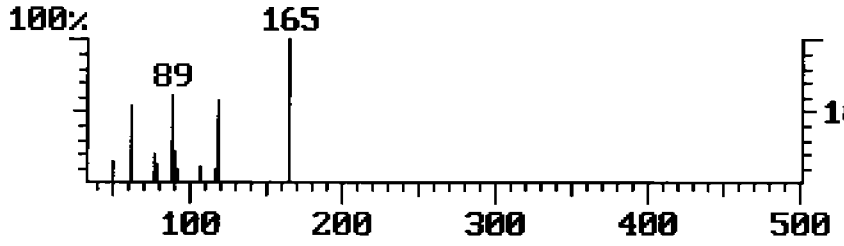


Approved_____ Date_____

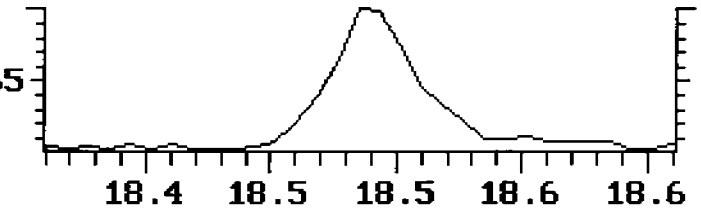
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 41 of 61
Data File: 305326 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:58 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2219
AGC: 847

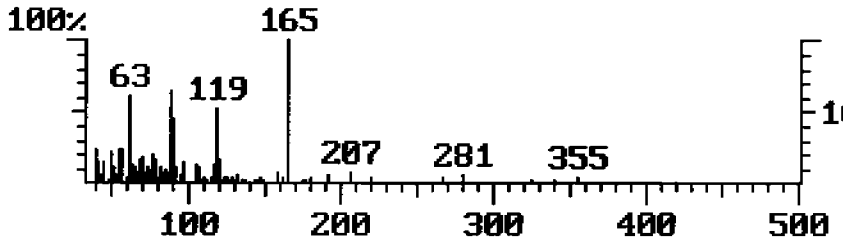
REFERENCE STANDARD SPECTRUM



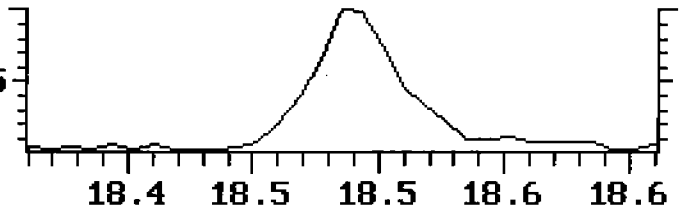
MASS 165 PLOT



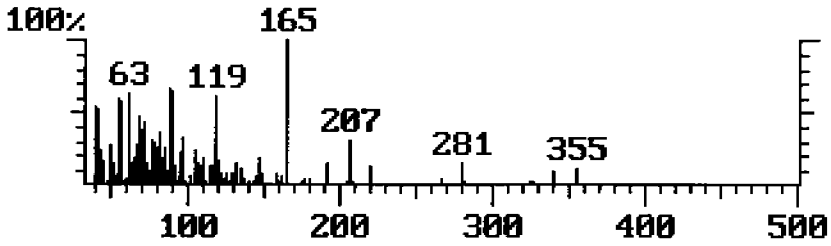
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



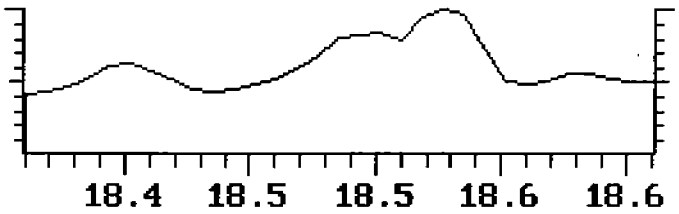
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

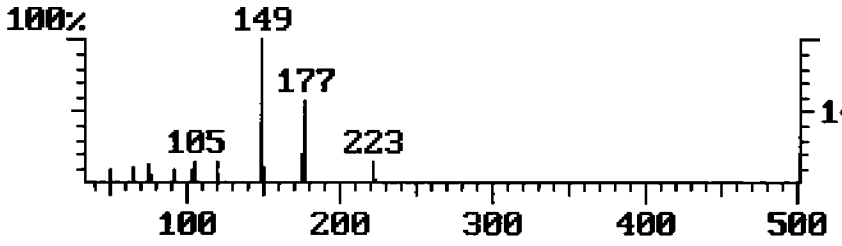


Approved_____ Date_____

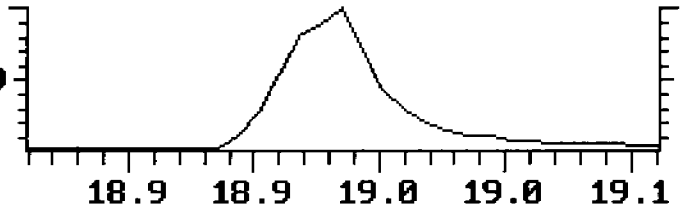
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 42 of 61
Data File: 305326 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:58 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2273
AGC: 307

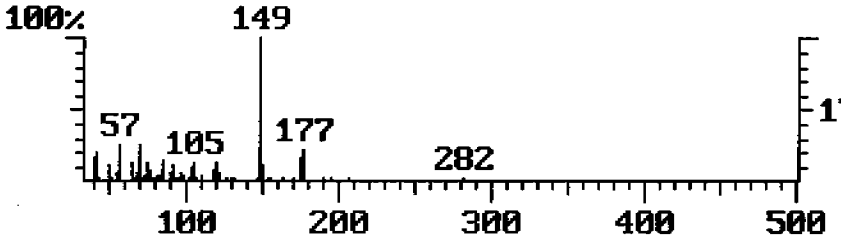
REFERENCE STANDARD SPECTRUM



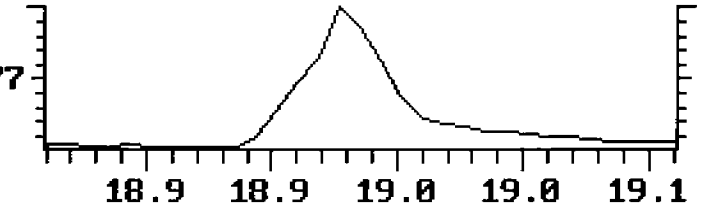
MASS 149 PLOT



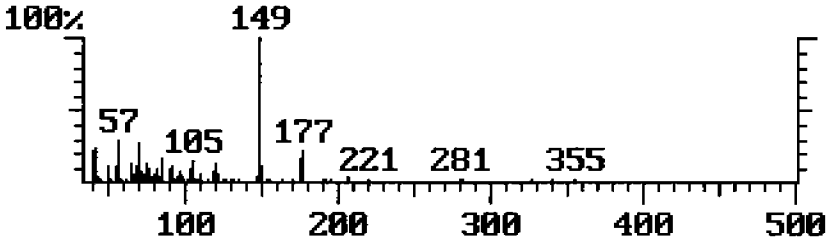
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



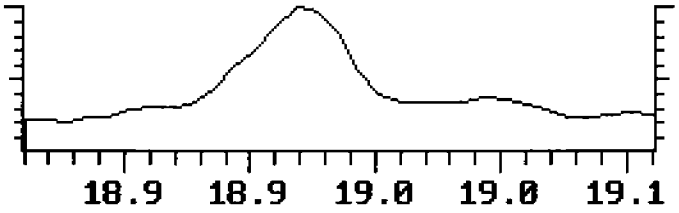
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

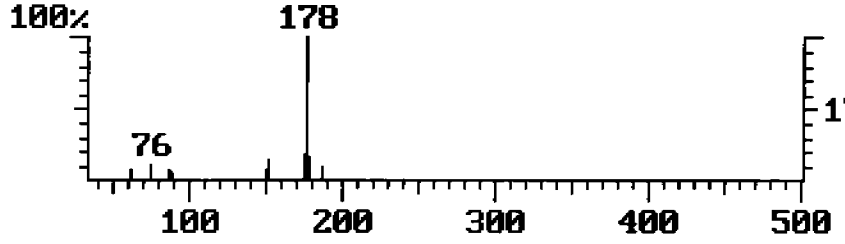


Approved_____ Date_____

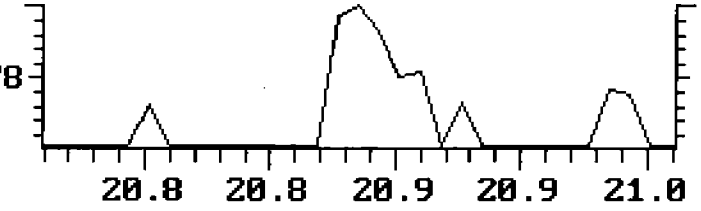
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 61
Data File: 305326 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:58 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Phenanthrene SCAN#: 2501
AGC: 272

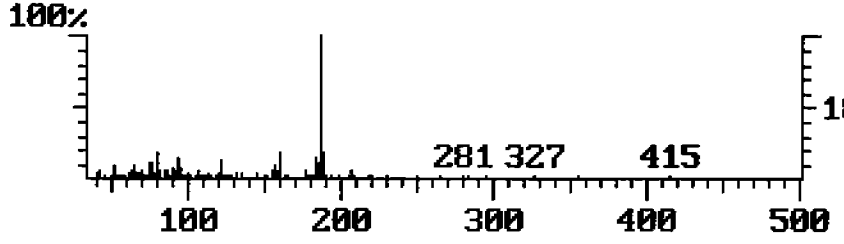
REFERENCE STANDARD SPECTRUM



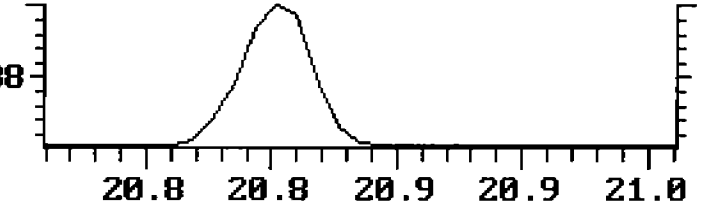
MASS 178 PLOT



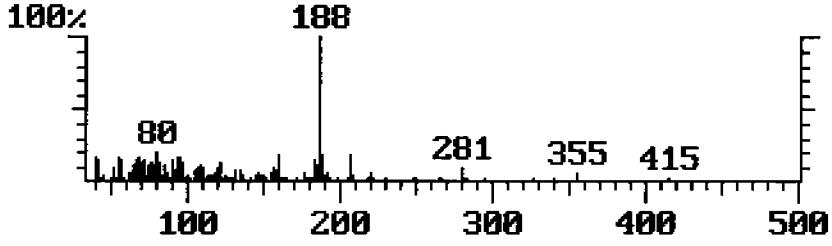
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



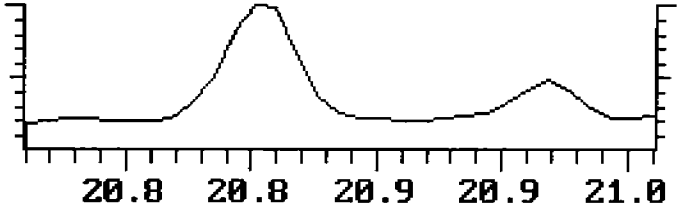
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

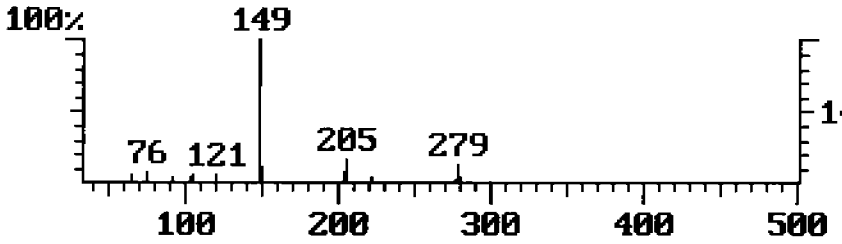


Approved_____ Date_____

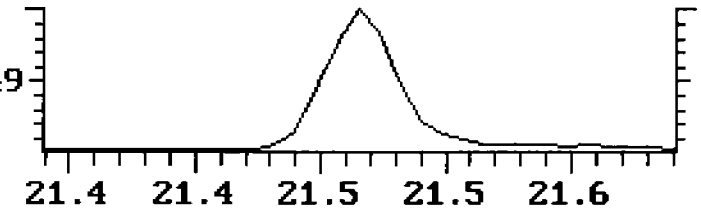
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 61
Data File: 305326 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:58 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2576
AGC: 129

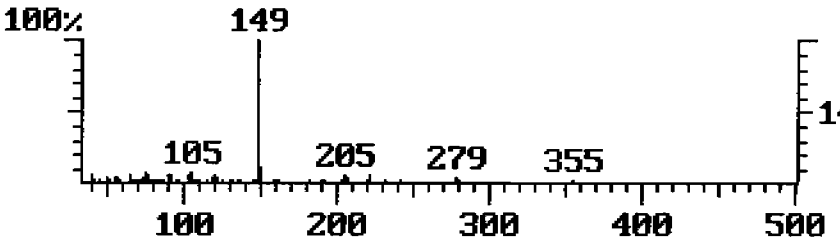
REFERENCE STANDARD SPECTRUM



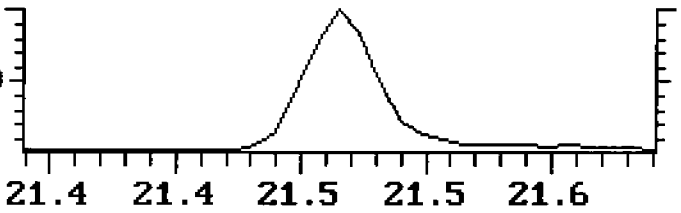
MASS 149 PLOT



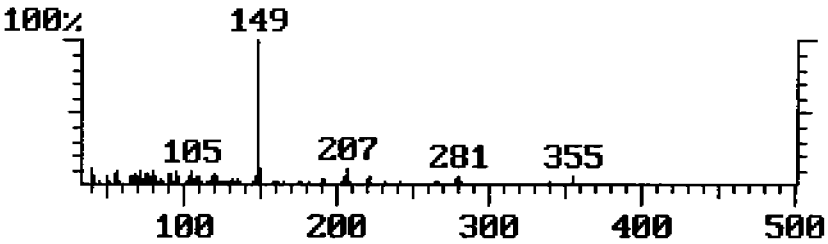
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



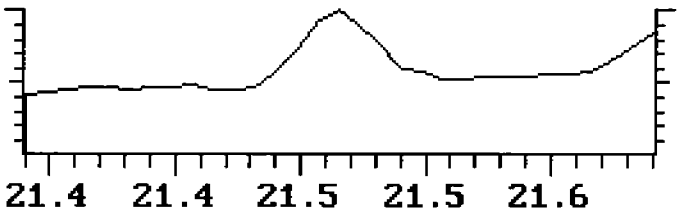
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

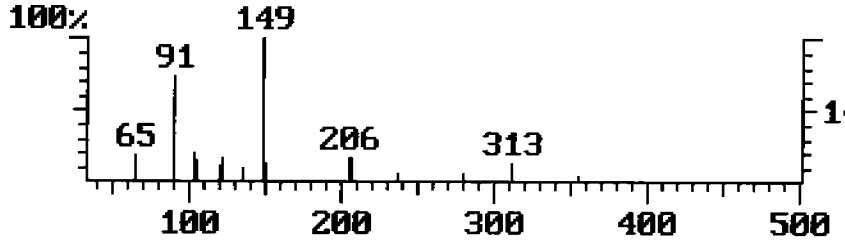


Approved_____ Date_____

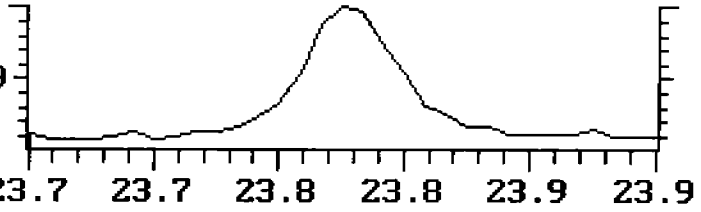
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 51 of 61
Data File: 305326 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:58 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2854
AGC: 56

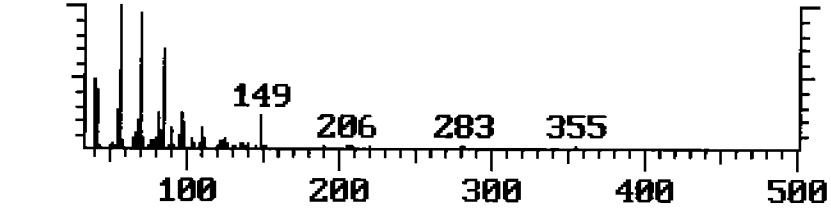
REFERENCE STANDARD SPECTRUM



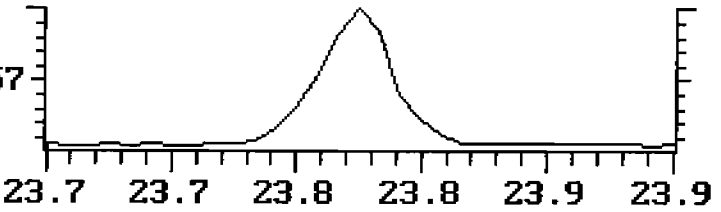
MASS 149 PLOT



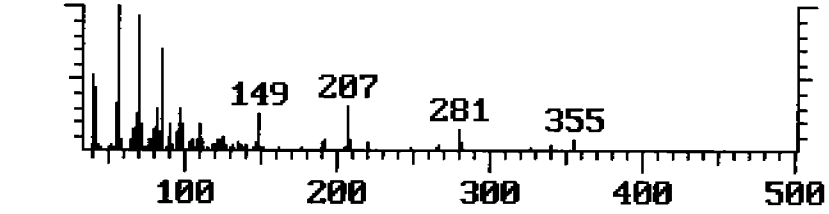
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



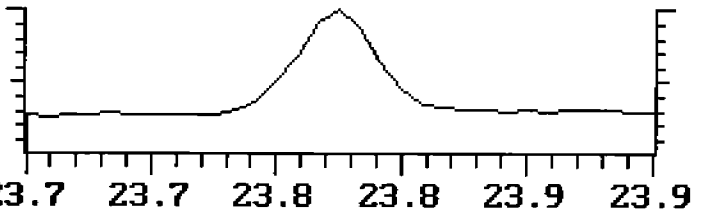
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

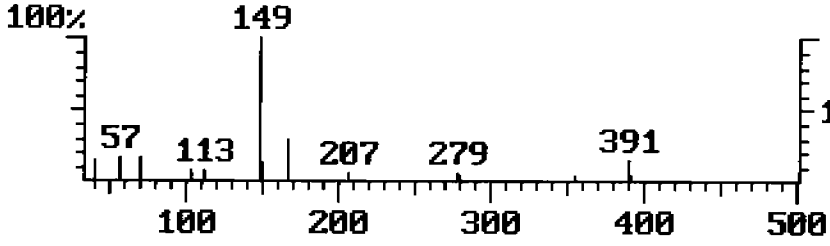


Approved_____ Date_____

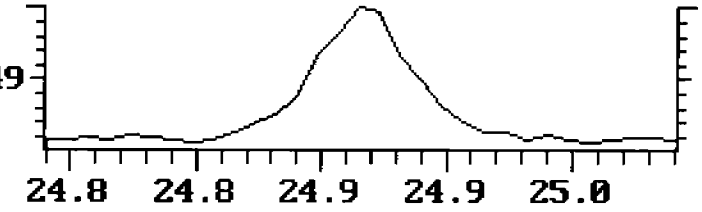
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 53 of 61
Data File: 305326 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 10:58 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2984
AGC: 182

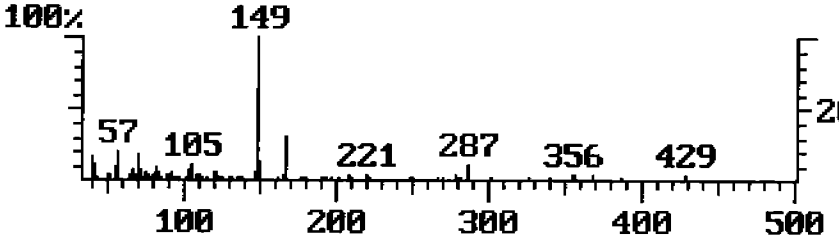
REFERENCE STANDARD SPECTRUM



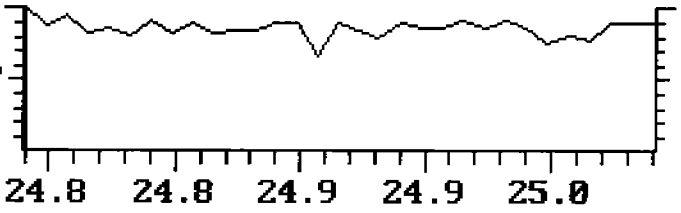
MASS 149 PLOT



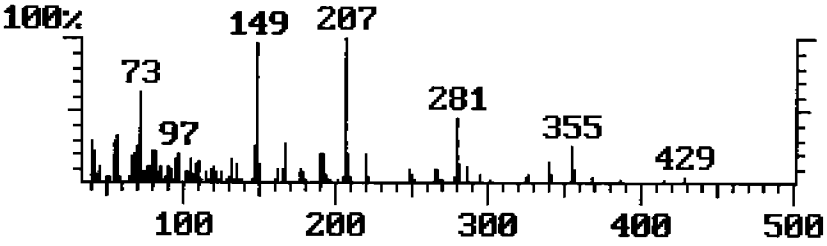
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



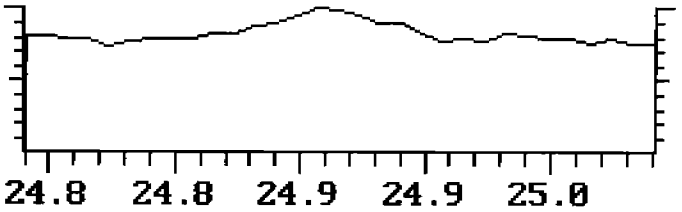
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
5CWP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:42
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/21/02
Lab Sample No: 305327
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.006**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
5CWP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:42
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/21/02
Lab Sample No: 305327
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	* ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.027**		0.002	0.005
84-66-2	Diethylphthalate	**0.014**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.036**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.008**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.016**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

* See attached Statement of Data Qualifications.

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Individual sample results relate only to the sample tested.
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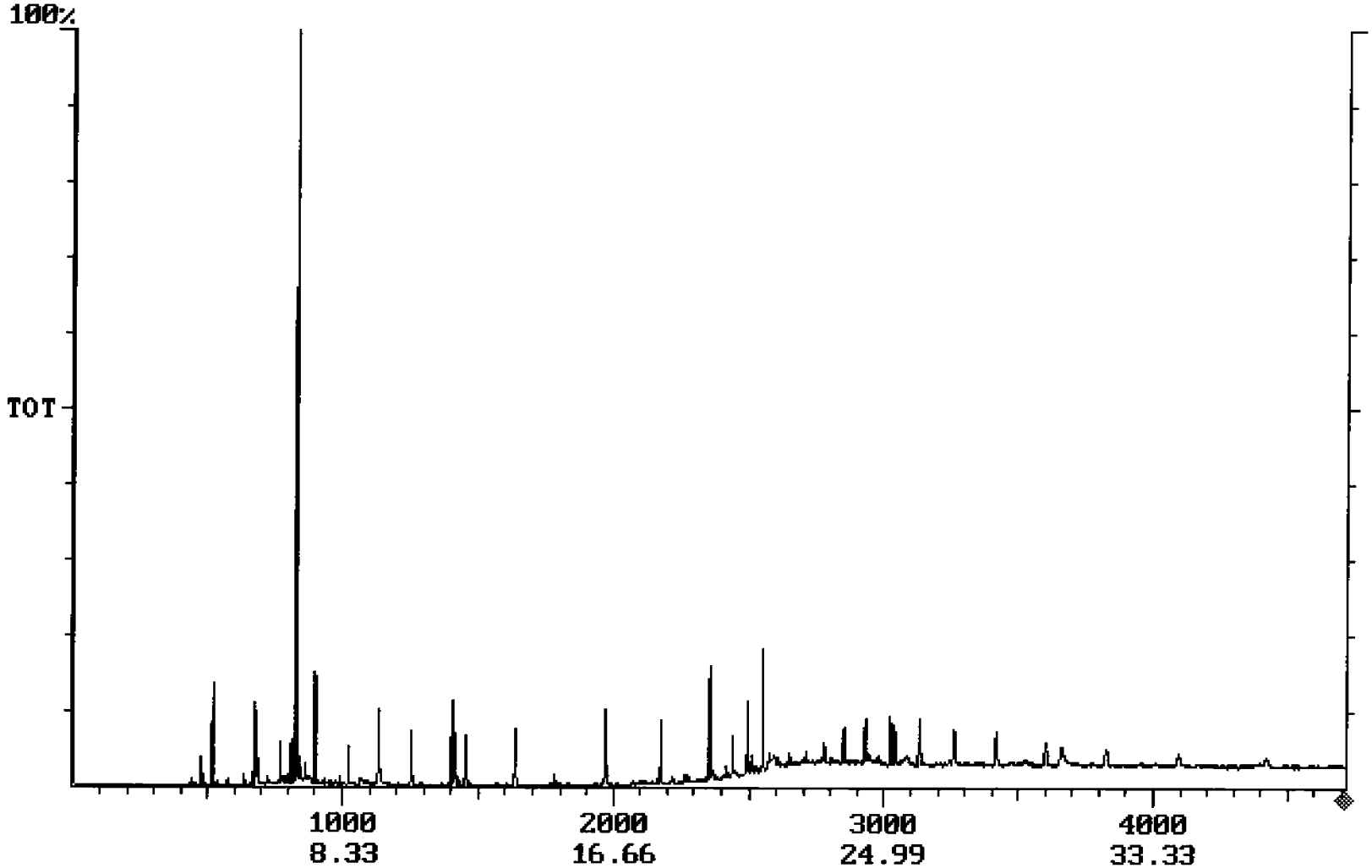
Chromatogram Plot C:\SATURN\DATA\305327 Date: 05/21/02 23:44:41
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 13824742



Operator ID: DMC
Output File: 305327.1B2
Data File: 305327.MS
Name: 305327
Sample:

Quant Time: 05/22/02 09:35
Injected at: 05/21/02 23:44
Dilution Factor: 1.00
Instrument ID: 138

30 → 10
100 %

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.46	1255	152	660326	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.63	1636	136	2177165	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.13	2176	162	1283956	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.78	2494	188	2023797	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.32	3039	240	1735515	5.00	ng/ul	912	1.000
6)	*IS:D12-Perylene	30.49	3659	264	1578463	5.00	ng/ul	886	1.000
7)	ACSUR:2-Fluorophenol	7.50	900	112	2582246	12.42	ng/ul	996	1.574
8)	ACSUR:D6-Phenol	9.45	1134	99	3041312	12.10	ng/ul	997	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.64	2357	330	1102919	12.93	ng/ul	994	0.333
10)	BNSUR:D5-Nitrobenzene	11.78	1414	127	511442	7.06	ng/ul	936	0.167
11)	BNSUR:Decafluorobiphenyl	11.69	1403	334	2119667	6.67	ng/ul	941	0.731
12)	BNSUR:2-Fluorobiphenyl	16.42	1971	172	2272031	7.51	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.27	2552	230	1916326	7.76	ng/ul	984	0.712
14)	Pyridine	4.86	583	79	544	0.00	ng/ul	576	1.031
15)	Phenol	0.00	1141	94	0	Not Found	ng/ul	215	0.000
16)	Aniline	9.68	1162	93	2152	0.01	ng/ul	568	1.852
17)	Bis(2-Chloroethyl)Ether	9.65	1158	92	0	0.00	ng/ul	175	0.862
18)	2-Chlorophenol	0.00	1199	128	0	Not Found	ng/ul	624	0.000
19)	1,3-Dichlorobenzene	10.32	1239	146	2405	0.01	ng/ul	832	1.538
20)	1,4-Dichlorobenzene	10.50	1260	146	396	0.00	ng/ul	98	1.533
21)	Benzyl Alcohol	10.71	1285	108	4094	0.05	ng/ul	902	0.647
22)	1,2-Dichlorobenzene	10.87	1304	146	2164	0.01	ng/ul	812	1.426
23)	2-Methylphenol	10.87	1304	108	0	0.00	ng/ul	85	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1330	45	0	Not Found	ng/ul	197	0.000
25)	4-Methylphenol	11.25	1350	108	0	0.00	ng/ul	386	1.306
26)	N-Nitrosodi-N-Propylamine	11.44	1373	70	0	0.00	ng/ul	669	0.786
27)	Hexachloroethane	11.78	1413	119	0	0.00	ng/ul	2	0.645
28)	Nitrobenzene	12.12	1454	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	534	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	205	0.000

* Compound is ISTD

Operator ID: DMC
Output File: 305327.1B2
Data File: 305327.MS
Name: 305327
Sample:

Quant Time: 05/22/02 09:35
Injected at: 05/21/02 23:44
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	249	0.000	
32)	Benzoic Acid	0.00	1537	105	0	Not Found	ng/ul	785	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1551	92	0	Not Found	ng/ul	624	0.000	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	208	0.000	
35)	1,2,4-Trichlorobenzene	13.45	1614	180	880	0.01	ng/ul	742	0.385	
36)	Naphthalene	0.00	1648	128	0	Not Found	ng/ul	590	0.000	
37)	4-Chloroaniline	0.00	1657	127	0	Not Found	ng/ul	679	0.000	
38)	2,6-Dichlorophenol	0.00	1670	162	0	Not Found	ng/ul	815	0.000	
39)	Hexachlorobutadiene	13.97	1676	225	0	0.00	ng/ul	352	0.282	
40)	4-Chloro-3-Methylphenol	14.98	1798	107	47966	0.19	ng/ul	953	0.594	0.0062
41)	2-Methylnaphthalene	15.48	1857	142	1812	0.01	ng/ul	803	0.647	
42)	Hexachlorocyclopentadiene	0.00	1909	237	0	Not Found	ng/ul	0	0.000	
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	202	0.000	
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	200	0.000	
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	681	0.000	
46)	2-Nitroaniline	17.09	2051	138	0	0.00	ng/ul	0	0.447	
47)	Dimethyl Phthalate	17.42	2090	163	0	0.00	ng/ul	0	1.884	
48)	2,6-Dinitrotoluene	17.63	2116	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2146	152	0	Not Found	ng/ul	550	0.000	
50)	3-Nitroaniline	17.88	2146	138	0	0.00	ng/ul	426	0.367	
51)	Acenaphthene	18.22	2186	152	0	0.00	ng/ul	0	1.538	
52)	2,4-Dinitrophenol	18.23	2188	184	0	0.00	ng/ul	623	0.236	
53)	4-Nitrophenol	18.33	2200	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	513	0.000	
55)	2,4-Dinitrotoluene	18.48	2218	165	122038	0.82	ng/ul	994	0.578	0.027
56)	Benzo(b)Fluoranthene	28.75	3450	252	0	0.00	ng/ul	173	1.127	
57)	Diethyl Phthalate	18.93	2271	149	233933	0.43	ng/ul	874	2.124	0.014
58)	Fluorene	19.27	2313	166	0	0.00	ng/ul	0	1.020	
59)	4-Chlorophenyl Phenyl Ether	19.27	2313	204	0	0.00	ng/ul	338	0.773	
60)	4-Nitroaniline	19.25	2310	108	0	0.00	ng/ul	435	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305327.1B2
Data File: 305327.MS
Name: 305327
Sample:

Quant Time: 05/22/02 09:35
Injected at: 05/21/02 23:44
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2314	198	0	Not Found	ng/ul	208	0.000	
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	389	0.000	
63)	1,2-Diphenylhydrazine	19.49	2339	77	26852	0.06	ng/ul	860	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	299	0.000	
65)	Hexachlorobenzene	20.04	2405	284	0	0.00	ng/ul	0	0.276	
66)	Pentachlorophenol	0.00	2458	266	0	Not Found	ng/ul	244	0.000	
67)	Phenanthrene	21.02	2522	178	0	0.00	ng/ul	60	1.126	
68)	Anthracene	20.84	2501	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	447	0.000	
70)	Di-n-Butyl Phthalate	21.45	2574	149	866573	1.09	ng/ul	782	1.967	0.03C
71)	Fluoranthene	0.00	2710	202	0	Not Found	ng/ul	68	0.000	
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	2	0.000	
73)	Pyrene	0.00	2756	202	0	Not Found	ng/ul	101	0.000	
74)	Butyl Benzyl Phthalate	23.78	2854	149	99485	0.24	ng/ul	842	1.194	0.0080
75)	3,3'-Dichlorobenzidine	25.06	3007	252	0	0.00	ng/ul	0	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.85	2982	149	291630	0.50	ng/ul	836	1.695	0.01C
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	16	0.000	
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	12	0.000	
79)	Di-n-Octylphthalate	26.66	3199	149	10397	0.01	ng/ul	415	2.650	
80)	Benzo(k)Fluoranthene	0.00	3475	252	0	Not Found	ng/ul	226	0.000	
81)	Benzo(a)Pyrene	30.18	3622	252	0	0.00	ng/ul	0	1.075	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4422	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	158	0.000	
85)	N-Nitrosodimethylamine	0.00	582	73	0	Not Found	ng/ul	623	0.000	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	58	0.000	
87)	2-Chloroaniline	12.74	1529	127	0	0.00	ng/ul	0	0.535	
88)	2,4-Diaminotoluene	0.00	1992	121	0	Not Found	ng/ul	725	0.000	
89)	2,3-Dinitrotoluene	18.41	2209	165	0	0.00	ng/ul	0	0.576	
90)	1-Naphthylamine	18.82	2258	143	447	0.00	ng/ul	919	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305327.1B2
Data File: 305327.MS
Name: 305327
Sample:

Quant Time: 05/22/02 09:35
Injected at: 05/21/02 23:44
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

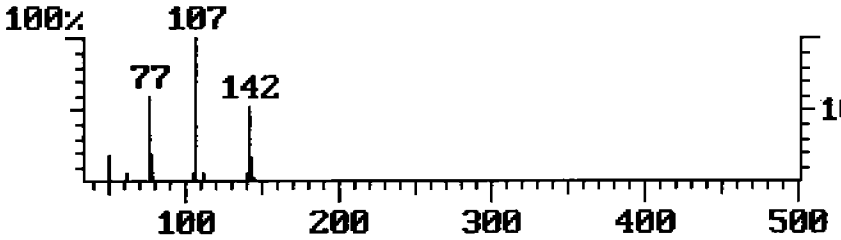
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.27	2312	152	439	0.00	ng/ul	391	0.425

* Compound is ISTD

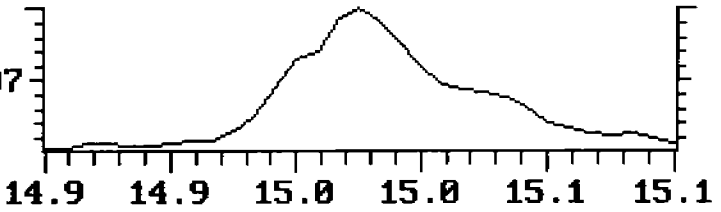
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 28 of 56
Data File: 305327 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:44 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1798
AGC: 1993

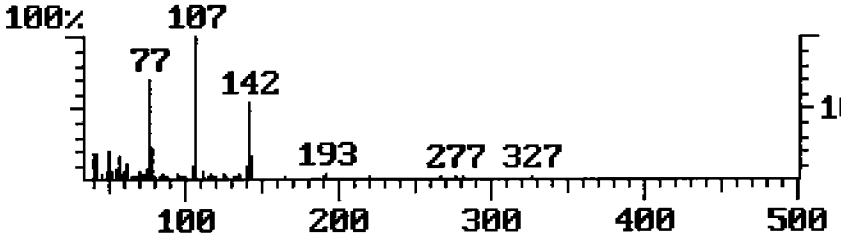
REFERENCE STANDARD SPECTRUM



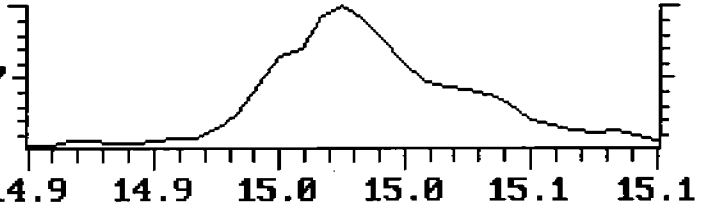
MASS 107 PLOT



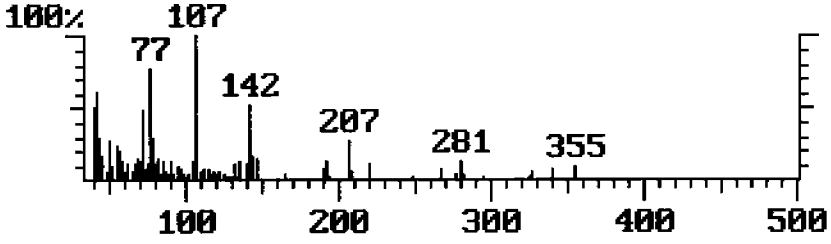
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



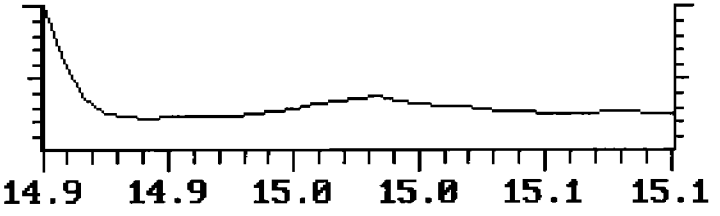
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

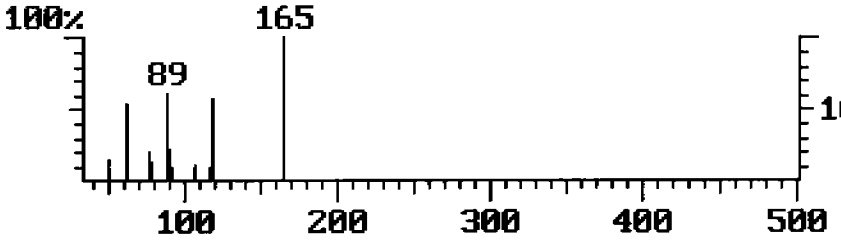


Approved_____ Date_____

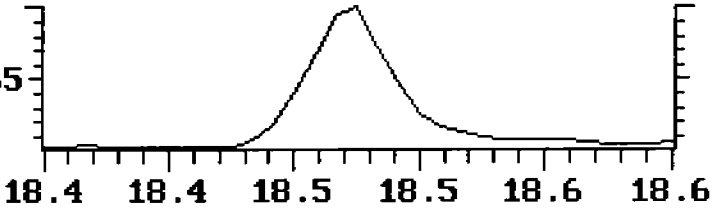
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 37 of 56
Data File: 305327 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:44 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2218
AGC: 634

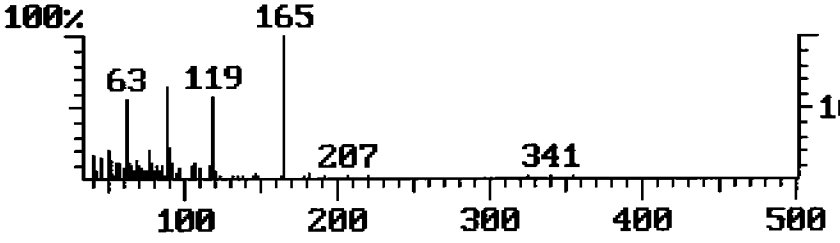
REFERENCE STANDARD SPECTRUM



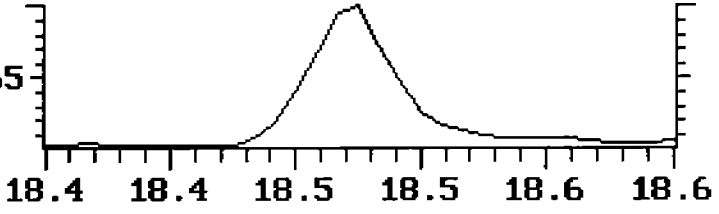
MASS 165 PLOT



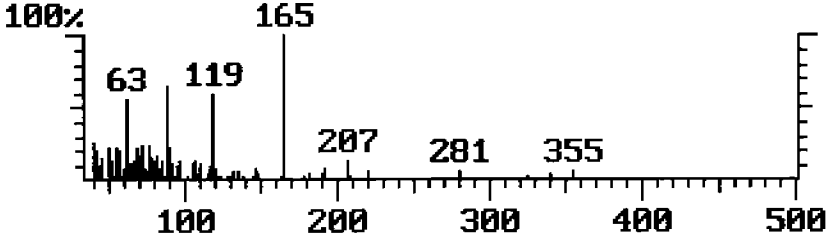
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



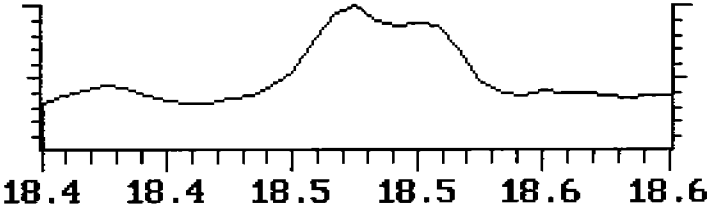
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

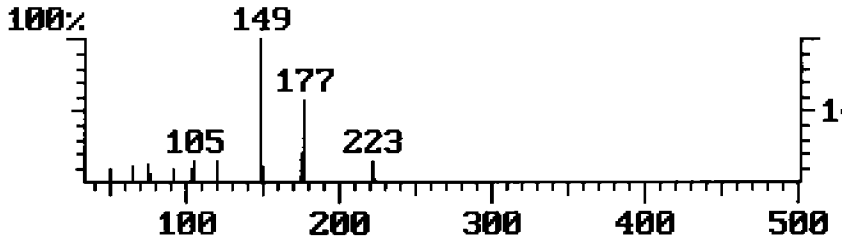


Approved_____ Date_____

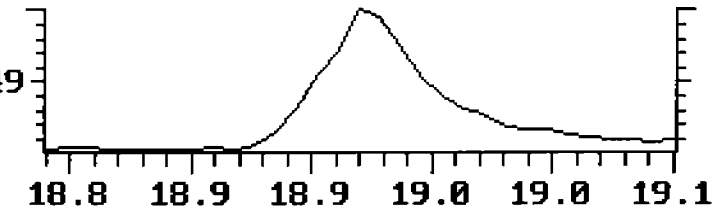
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 56
Data File: 305327 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:44 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2271
AGC: 761

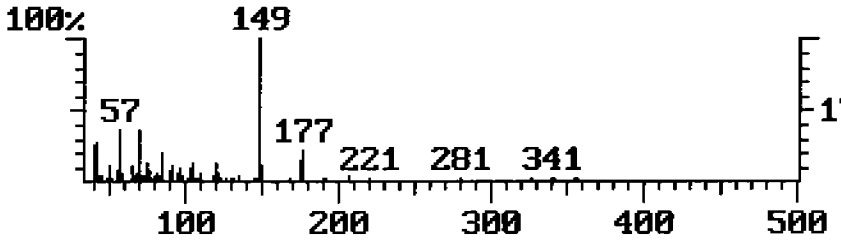
REFERENCE STANDARD SPECTRUM



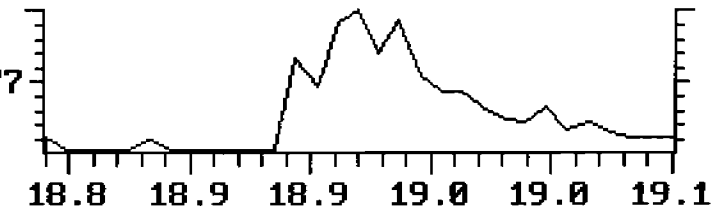
MASS 149 PLOT



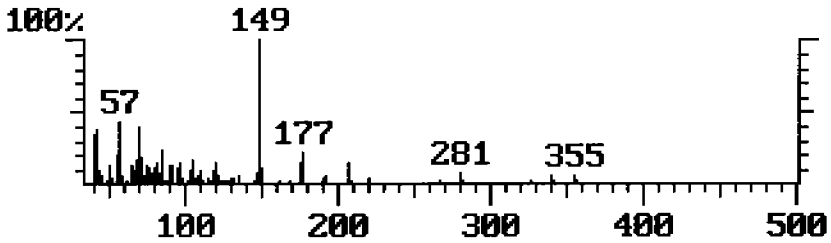
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



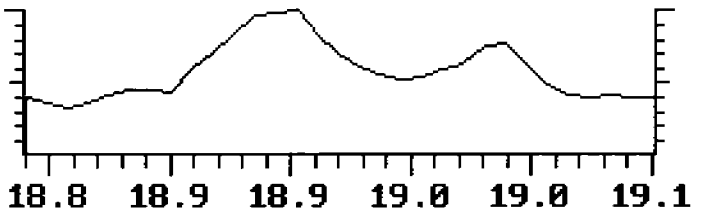
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

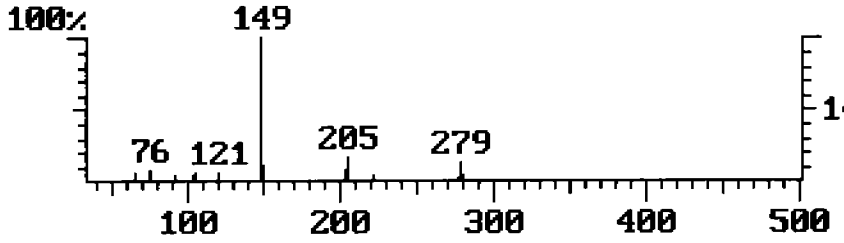


Approved_____ Date_____

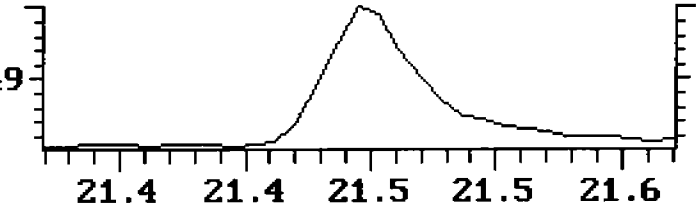
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 56
Data File: 305327 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:44 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2574
AGC: 199

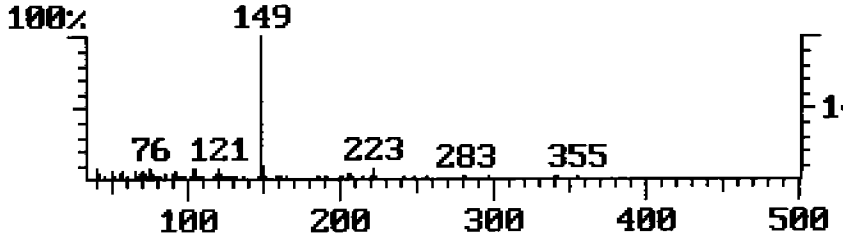
REFERENCE STANDARD SPECTRUM



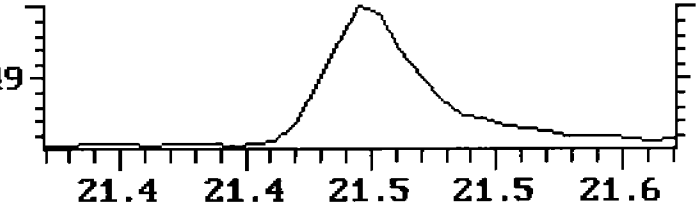
MASS 149 PLOT



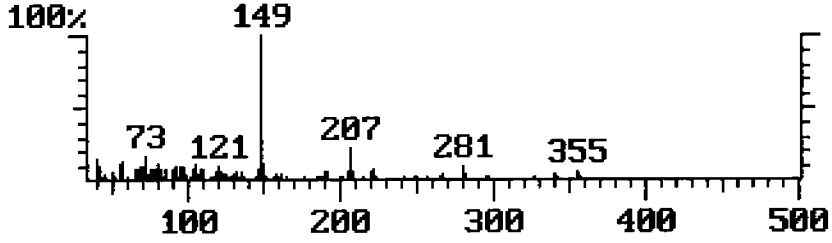
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



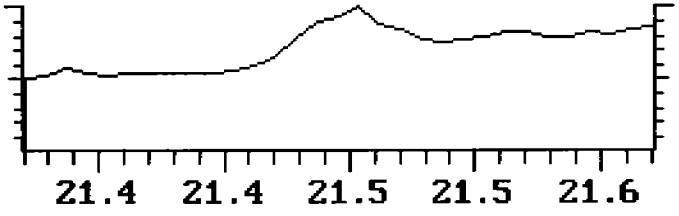
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

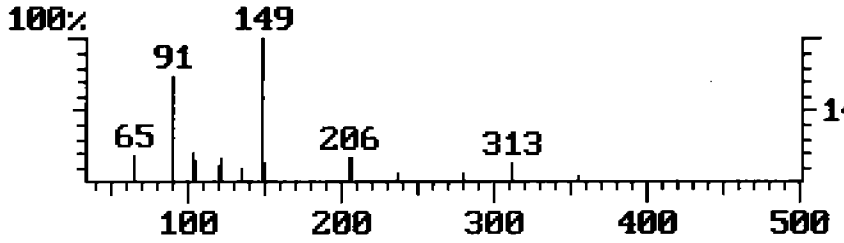


Approved_____ Date_____

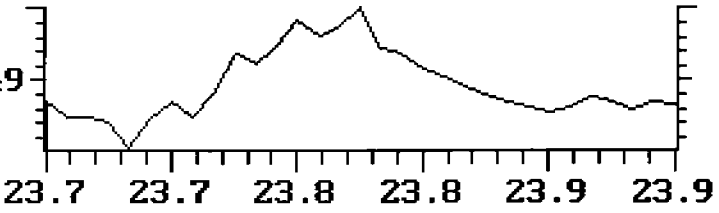
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 48 of 56
Data File: 305327 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:44 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2854
AGC: 247

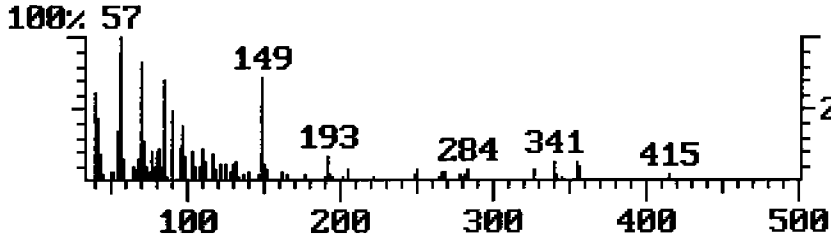
REFERENCE STANDARD SPECTRUM



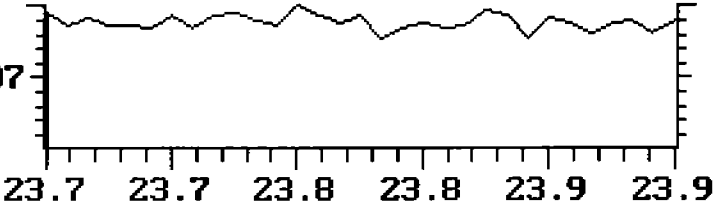
MASS 149 PLOT



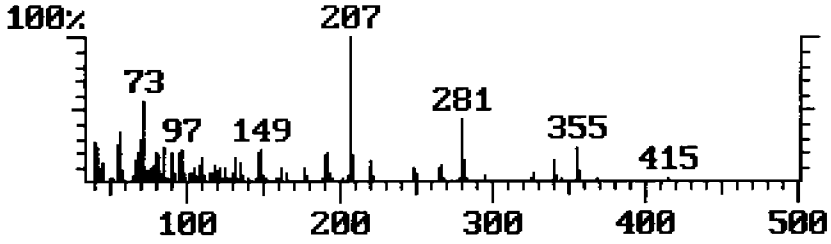
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



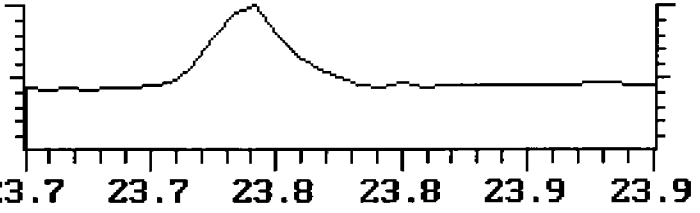
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

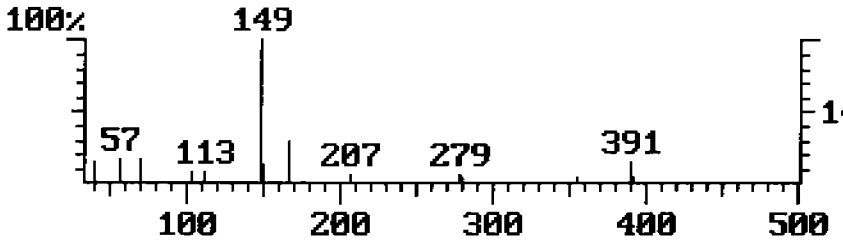


Approved_____ Date_____

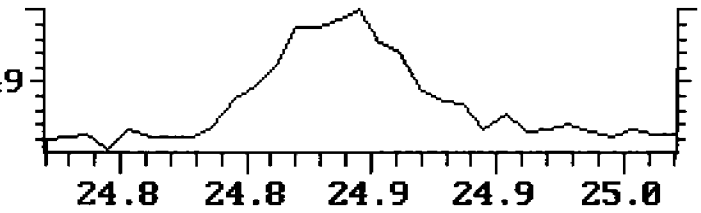
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 56
Data File: 305327 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 11:44 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2982
AGC: 234

REFERENCE STANDARD SPECTRUM



MASS 149 PLOT



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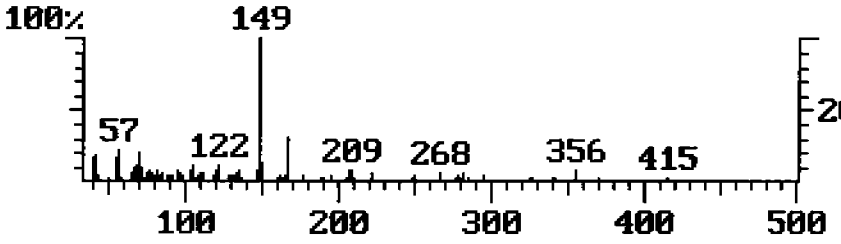
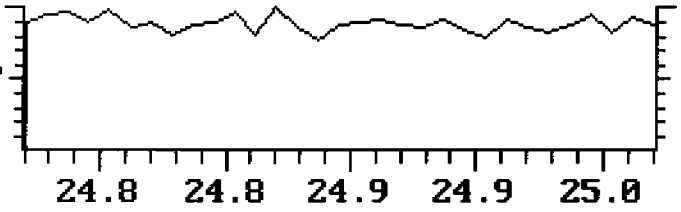
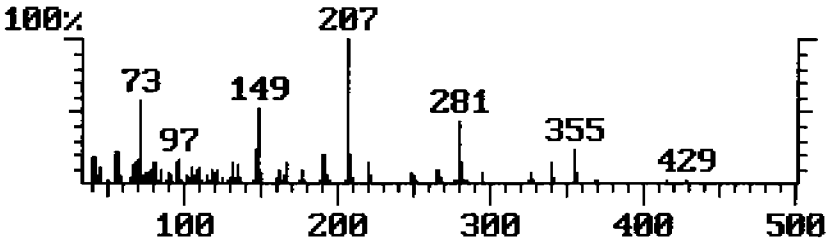


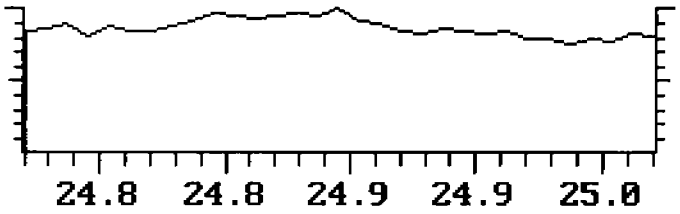
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
5CAWP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:45
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305328
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.007**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
5CAWP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:45
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305328
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.005**		0.002	0.005
84-66-2	Diethylphthalate	**0.020**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.040**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.015**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.016**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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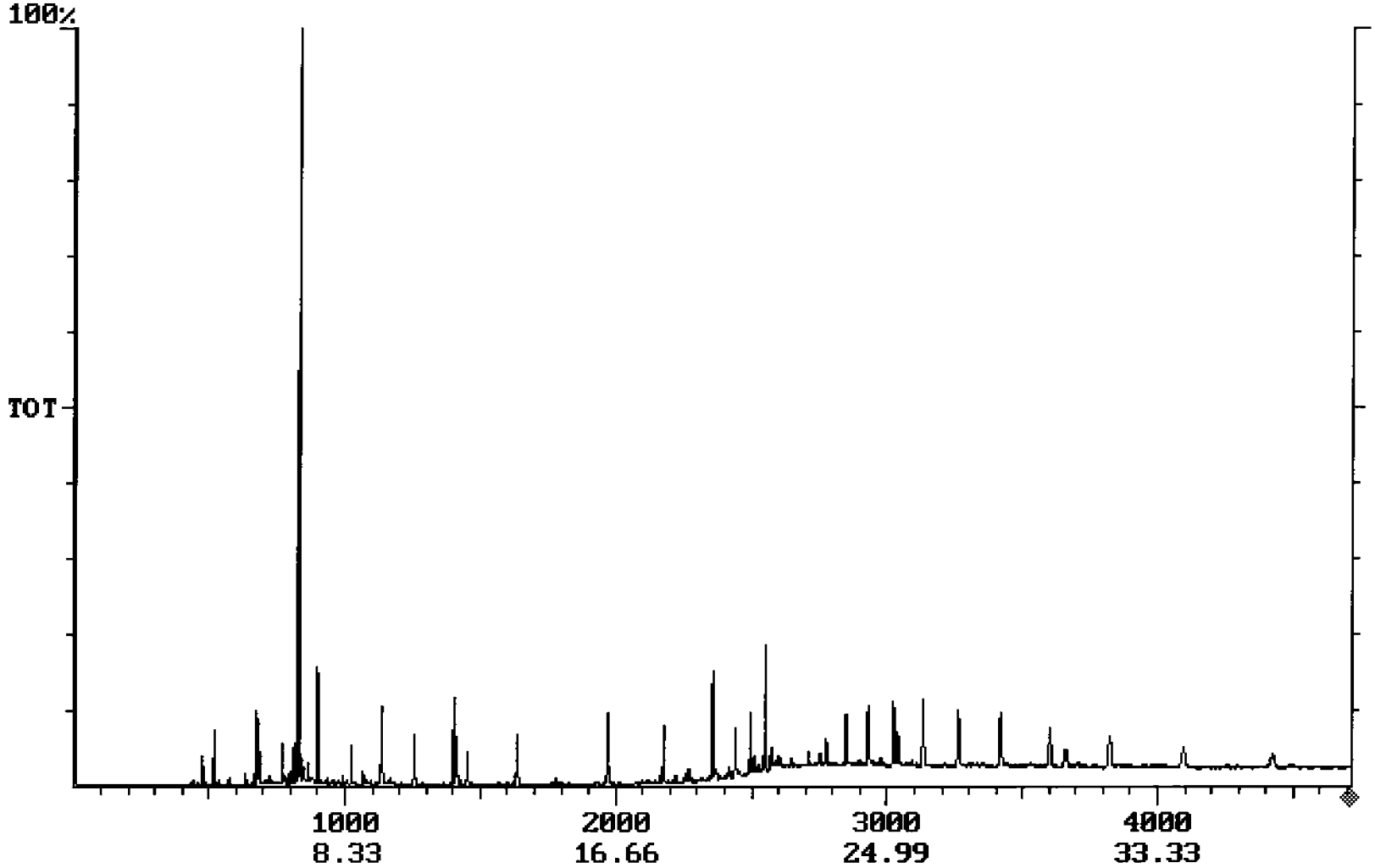
Chromatogram Plot C:\SATURN\DATA\305328 Date: 05/22/02 02:03:16
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 16433077



QUANT REPORT Page 1

Operator ID: DMC Quant Time: 05/22/02 10:01
Output File: 305328.1B2 Injected at: 05/22/02 02:03
Data File: 305328.MS Dilution Factor: 1.00
Name: 305328 Instrument ID: 138
Sample:

30 g -> 1 ml
100 L

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.46	1255	152	744028	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.63	1636	136	2390845	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.13	2176	162	1486992	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.78	2494	188	2145299	5.00	ng/ul	995	1.000
5)	*IS:D12-Chrysene	25.32	3039	240	1961730	5.00	ng/ul	924	1.000
6)	*IS:D12-Perylene	30.51	3661	264	2037827	5.00	ng/ul	869	1.000
7)	ACSUR:2-Fluorophenol	7.50	900	112	3198164	13.66	ng/ul	998	1.574
8)	ACSUR:D6-Phenol	9.45	1134	99	3803608	13.43	ng/ul	998	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.64	2357	330	1401960	14.15	ng/ul	994	0.334
10)	BNSUR:D5-Nitrobenzene	11.77	1413	127	613078	7.71	ng/ul	956	0.167
11)	BNSUR:Decafluorobiphenyl	11.69	1403	334	2604801	7.46	ng/ul	939	0.731
12)	BNSUR:2-Fluorobiphenyl	16.42	1971	172	2764265	7.89	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.27	2552	230	2451108	8.70	ng/ul	991	0.719
14)	Pyridine	0.00	602	79	0	Not Found	ng/ul	219	0.000
15)	Phenol	0.00	1141	94	0	Not Found	ng/ul	259	0.000
16)	Aniline	0.00	1163	93	0	Not Found	ng/ul	251	0.000
17)	Bis(2-Chloroethyl)Ether	0.00	1175	92	0	Not Found	ng/ul	283	0.000
18)	2-Chlorophenol	0.00	1199	128	0	Not Found	ng/ul	544	0.000
19)	1,3-Dichlorobenzene	10.33	1240	146	3390	0.01	ng/ul	886	1.538
20)	1,4-Dichlorobenzene	10.51	1261	146	357	0.00	ng/ul	32	1.533
21)	Benzyl Alcohol	10.72	1286	108	8220	0.09	ng/ul	881	0.647
22)	1,2-Dichlorobenzene	10.87	1304	146	3128	0.01	ng/ul	795	1.426
23)	2-Methylphenol	10.89	1307	108	0	0.00	ng/ul	140	1.185
24)	Bis(2-Chloroisopropyl)Ether	11.18	1342	45	2	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.30	1356	108	0	0.00	ng/ul	0	1.306
26)	N-Nitrosodi-N-Propylamine	11.33	1360	70	0	0.00	ng/ul	273	0.786
27)	Hexachloroethane	11.75	1410	119	0	0.00	ng/ul	911	0.645
28)	Nitrobenzene	12.11	1453	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	525	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	374	0.000

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 10:01
Output File: 305328.1B2 Injected at: 05/22/02 02:03
Data File: 305328.MS Dilution Factor: 1.00
Name: 305328 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	578	0.000	
32)	Benzoic Acid	0.00	1537	105	0	Not Found	ng/ul	793	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1551	92	0	Not Found	ng/ul	597	0.000	
34)	2,4-Dichlorophenol	0.00	1590	162	0	Not Found	ng/ul	208	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1619	180	0	Not Found	ng/ul	641	0.000	
36)	Naphthalene	0.00	1648	128	0	Not Found	ng/ul	652	0.000	
37)	4-Chloroaniline	13.89	1667	127	0	0.00	ng/ul	0	0.570	
38)	2,6-Dichlorophenol	0.00	1655	162	0	Not Found	ng/ul	638	0.000	
39)	Hexachlorobutadiene	14.02	1682	225	0	0.00	ng/ul	352	0.282	
40)	4-Chloro-3-Methylphenol	14.97	1797	107	57636	0.20	ng/ul	961	0.594	0.0068
41)	2-Methylnaphthalene	15.48	1858	142	2052	0.01	ng/ul	875	0.647	
42)	Hexachlorocyclopentadiene	0.00	1909	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	16.22	1946	196	0	0.00	ng/ul	85	0.453	
44)	2,4,5-Trichlorophenol	16.22	1946	196	0	0.00	ng/ul	133	0.489	
45)	2-Chloronapthalene	16.93	2032	162	0	0.00	ng/ul	0	1.258	
46)	2-Nitroaniline	17.08	2050	138	0	0.00	ng/ul	0	0.447	
47)	Dimethyl Phthalate	0.00	2085	163	0	Not Found	ng/ul	865	0.000	
48)	2,6-Dinitrotoluene	17.64	2117	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2146	152	0	Not Found	ng/ul	684	0.000	
50)	3-Nitroaniline	0.00	2163	138	0	Not Found	ng/ul	195	0.000	
51)	Acenaphthene	18.23	2188	152	0	0.00	ng/ul	0	1.538	
52)	2,4-Dinitrophenol	18.23	2188	184	0	0.00	ng/ul	727	0.236	
53)	4-Nitrophenol	18.21	2185	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	0.00	2233	168	0	Not Found	ng/ul	542	0.000	
55)	2,4-Dinitrotoluene	18.48	2217	165	26768	0.16	ng/ul	927	0.578	0.0052
56)	Benzo(b)Fluoranthene	28.96	3475	252	0	0.00	ng/ul	60	1.127	
57)	Diethyl Phthalate	18.91	2269	149	373025	0.59	ng/ul	835	2.124	0.020
58)	Fluorene	19.27	2313	166	0	0.00	ng/ul	0	1.020	
59)	4-Chlorophenyl Phenyl Ether	19.08	2290	204	0	0.00	ng/ul	328	0.773	
60)	4-Nitroaniline	19.23	2308	108	0	0.00	ng/ul	891	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305328.1B2
Data File: 305328.MS
Name: 305328
Sample:

Quant Time: 05/22/02 10:01
Injected at: 05/22/02 02:03
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.21	2305	198	0	0.00	ng/ul	315	0.215	
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	647	0.000	
63)	1,2-Diphenylhydrazine	19.48	2338	77	26025	0.05	ng/ul	837	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	171	0.000	
65)	Hexachlorobenzene	0.00	2422	284	0	Not Found	ng/ul	115	0.000	
66)	Pentachlorophenol	20.54	2465	266	0	0.00	ng/ul	0	0.224	
67)	Phenanthrene	20.78	2494	178	0	0.00	ng/ul	0	1.126	
68)	Anthracene	20.87	2505	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	262	0.000	
70)	Di-n-Butyl Phthalate	21.44	2573	149	1007551	1.20	ng/ul	820	1.955	0.640
71)	Fluoranthene	22.52	2702	202	0	0.00	ng/ul	0	1.074	
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	84	0.000	
73)	Pyrene	22.93	2752	202	0	0.00	ng/ul	0	1.089	
74)	Butyl Benzyl Phthalate	23.74	2849	149	204779	0.44	ng/ul	705	1.194	0.615
75)	3,3'-Dichlorobenzidine	25.17	3020	252	0	0.00	ng/ul	0	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.83	2979	149	317739	0.48	ng/ul	855	1.695	0.676
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	48	0.000	
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	12	0.000	
79)	Di-n-Octylphthalate	26.63	3196	149	11723	0.01	ng/ul	297	2.650	
80)	Benzo(k)Fluoranthene	28.95	3474	252	1742	0.00	ng/ul	500	1.252	
81)	Benzo(a)Pyrene	0.00	3637	252	0	Not Found	ng/ul	193	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4423	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	220	0.000	
85)	N-Nitrosodimethylamine	4.87	584	73	2469	0.05	ng/ul	631	0.366	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	58	0.000	
87)	2-Chloroaniline	12.48	1498	127	179	0.00	ng/ul	716	0.535	
88)	2,4-Diaminotoluene	0.00	2045	121	0	Not Found	ng/ul	886	0.000	
89)	2,3-Dinitrotoluene	18.41	2210	165	0	0.00	ng/ul	0	0.576	
90)	1-Naphthylamine	0.00	2244	143	0	Not Found	ng/ul	862	0.000	

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 10:01
Output File: 305328.1B2 Injected at: 05/22/02 02:03
Data File: 305328.MS Dilution Factor: 1.00
Name: 305328 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

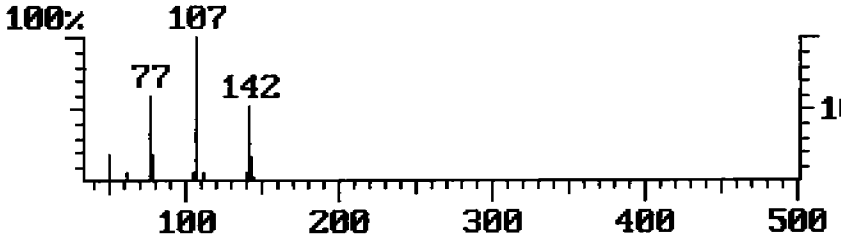
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.16	2299	152	614	0.00	ng/ul	350	0.425

* Compound is ISTD

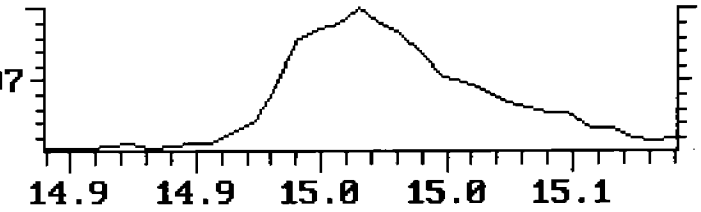
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 26 of 58
Data File: 305328 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:03 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1797
AGC: 1938

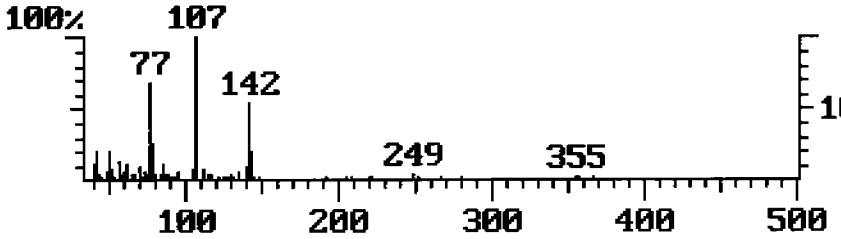
REFERENCE STANDARD SPECTRUM



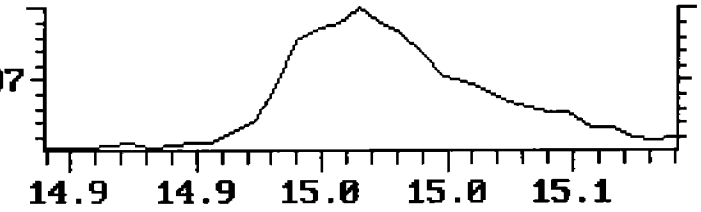
MASS 107 PLOT



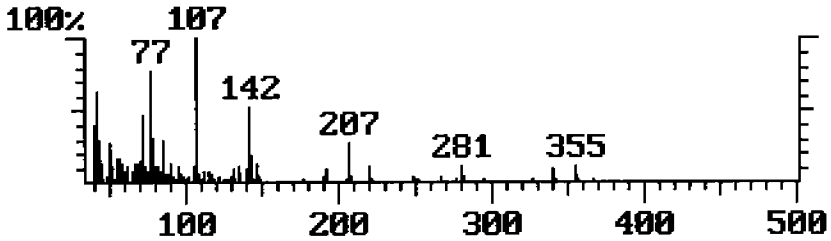
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



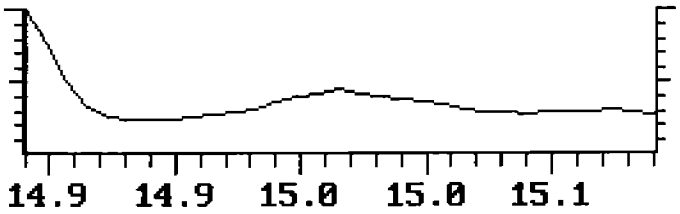
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

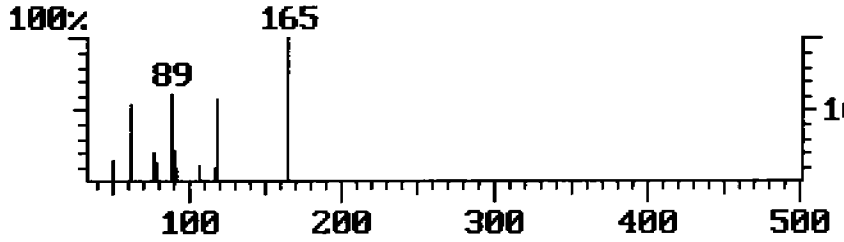


Approved_____ Date_____

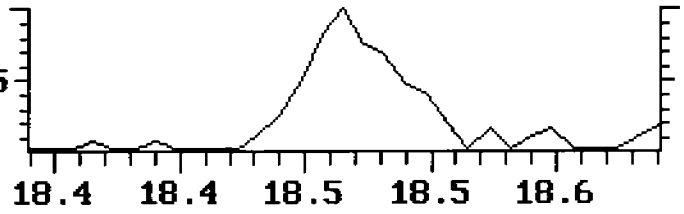
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 36 of 58
Data File: 305328 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:03 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2217
AGC: 1060

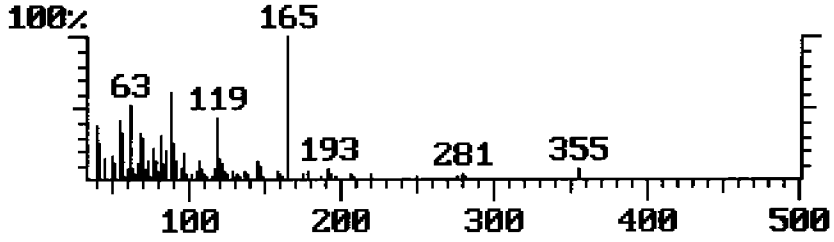
REFERENCE STANDARD SPECTRUM



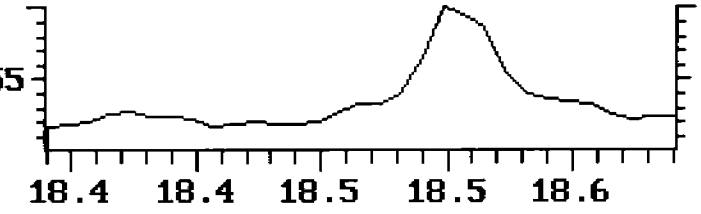
MASS 165 PLOT



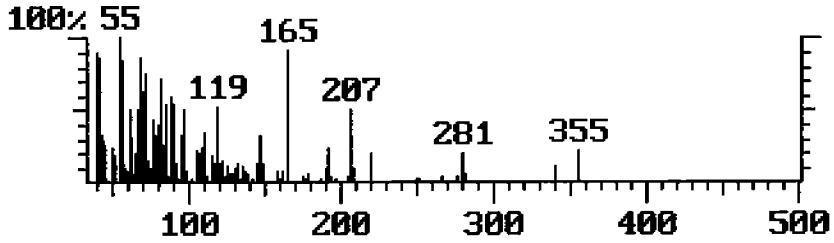
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



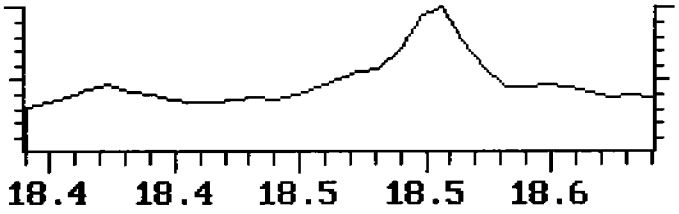
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

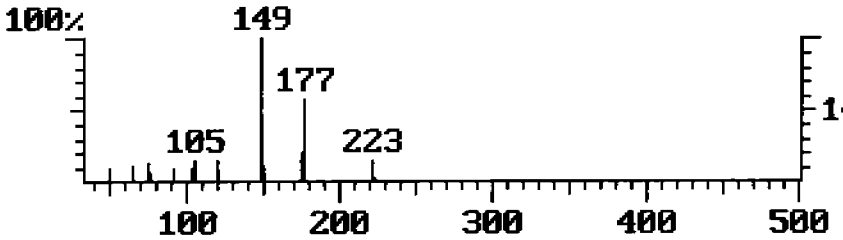


Approved_____ Date_____

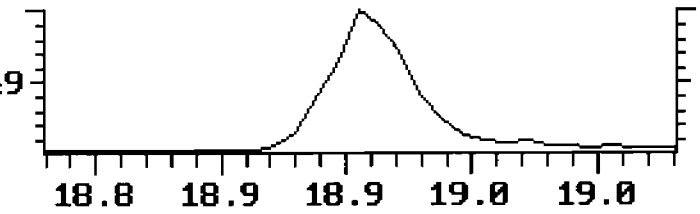
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 58
Data File: 305328 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:03 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2269
AGC: 331

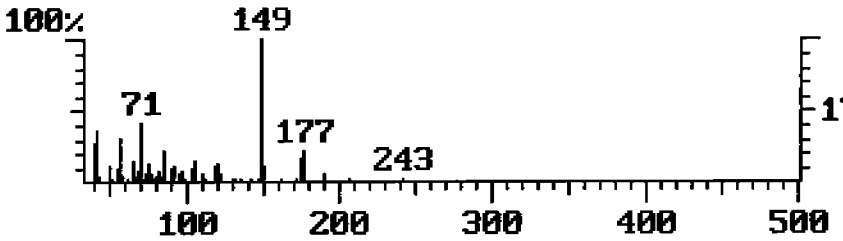
REFERENCE STANDARD SPECTRUM



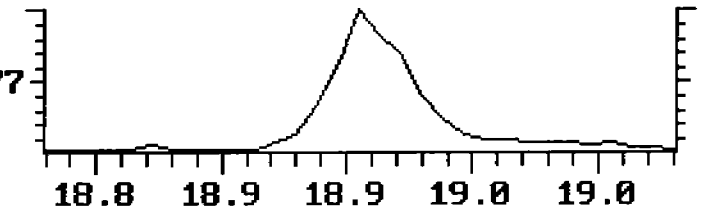
MASS 149 PLOT



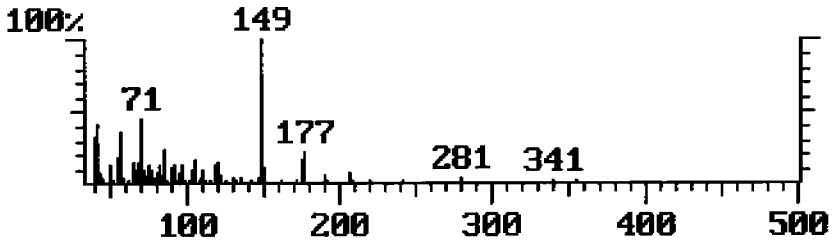
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



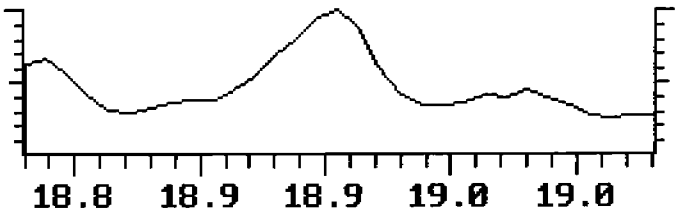
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

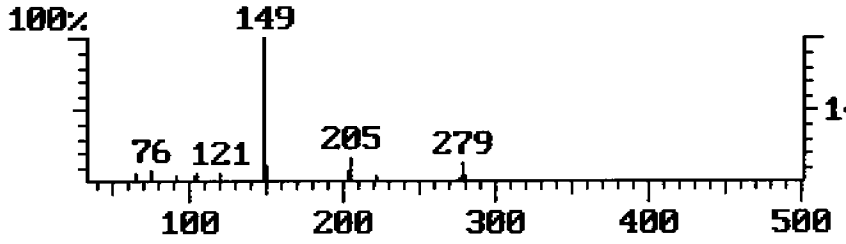


Approved_____ Date_____

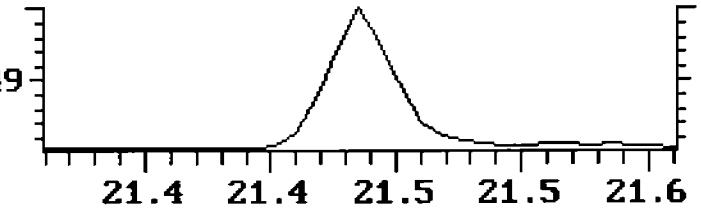
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 58
Data File: 305328 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:03 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2573
AGC: 148

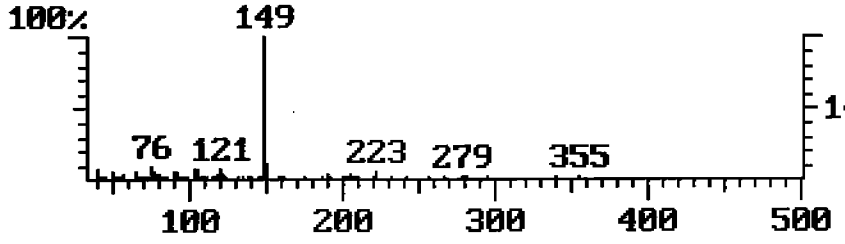
REFERENCE STANDARD SPECTRUM



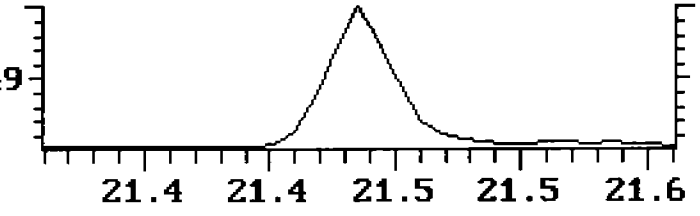
MASS 149 PLOT



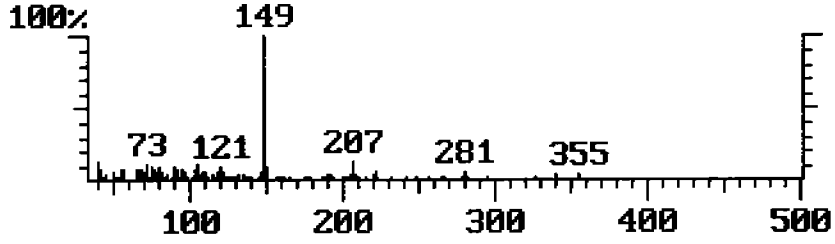
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



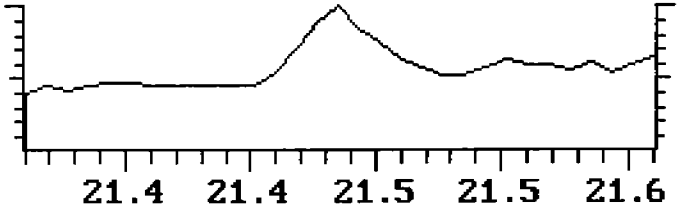
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

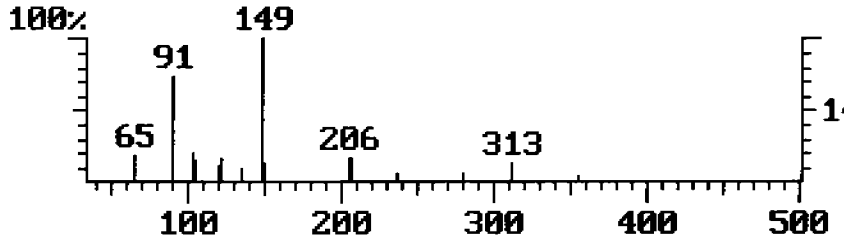


Approved_____ Date_____

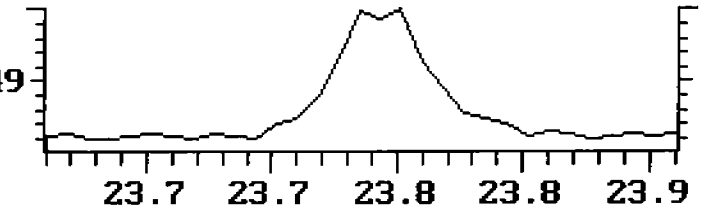
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 58
Data File: 305328 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:03 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2849
AGC: 73

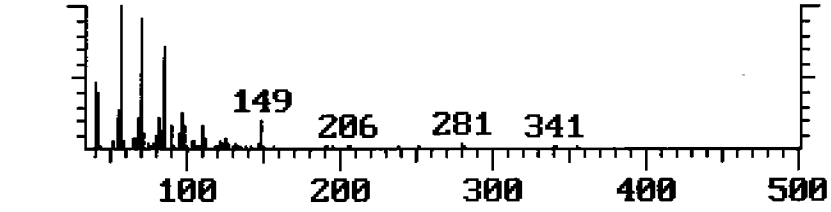
REFERENCE STANDARD SPECTRUM



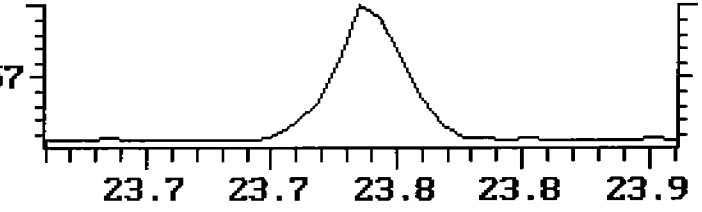
MASS 149 PLOT



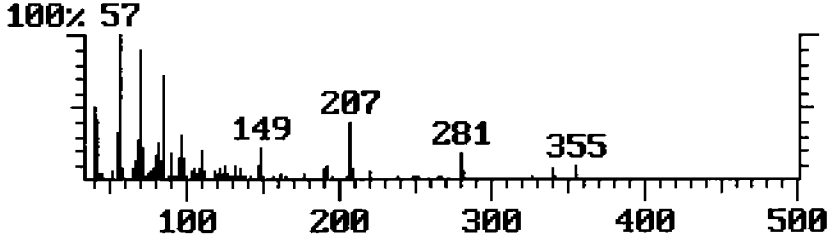
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



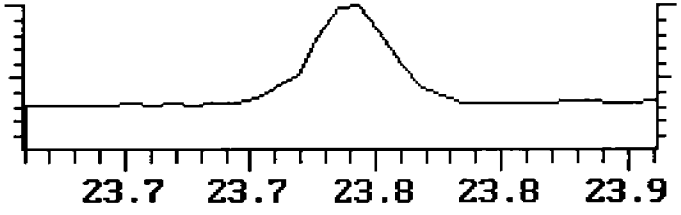
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

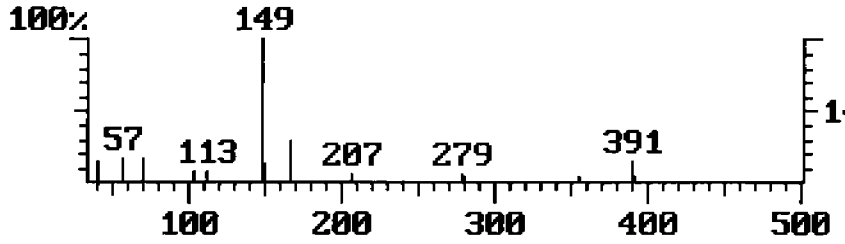


Approved_____ Date_____

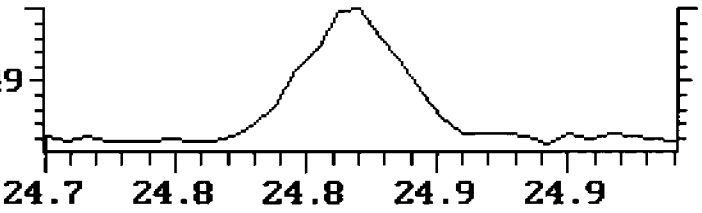
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 52 of 58
Data File: 305328 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:03 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2979
AGC: 212

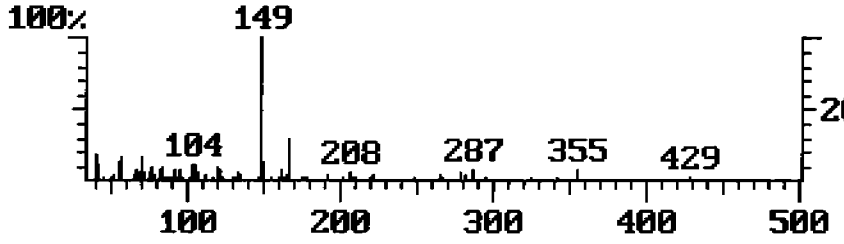
REFERENCE STANDARD SPECTRUM



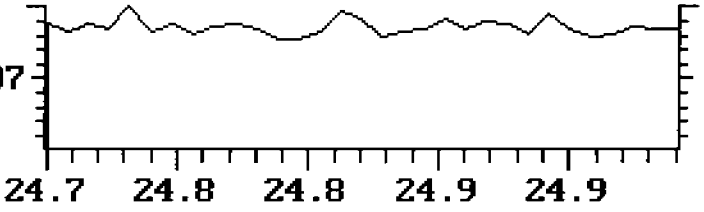
MASS 149 PLOT



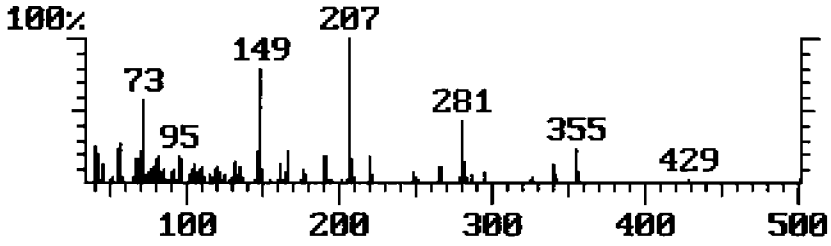
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



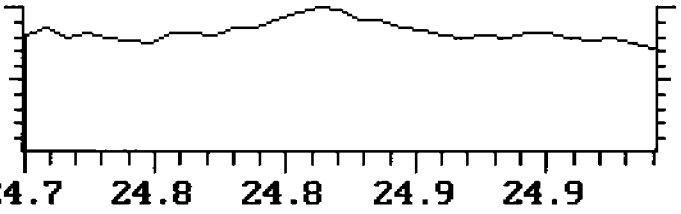
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
6AWP01005

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:47
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305329
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.007**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
6AWP01005

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:47
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305329
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.010**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.040**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	ND	U	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.012**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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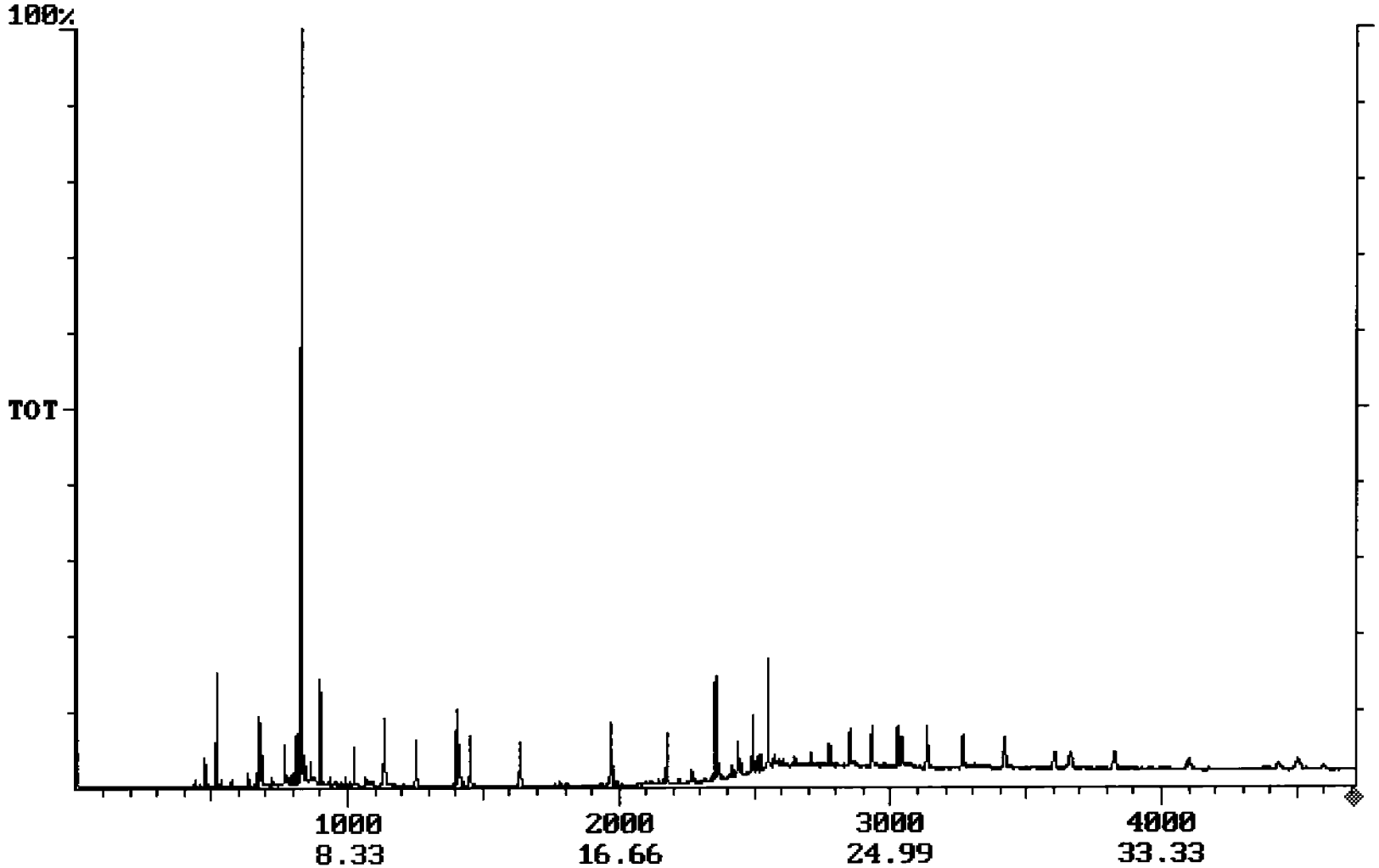
Chromatogram Plot C:\SATURN\DATA\305329 Date: 05/22/02 02:49:38
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 18461315



Operator ID: DMC
Output File: 305329.1B2
Data File: 305329.MS
Name: 305329
Sample:

Quant Time: 05/22/02 10:07
Injected at: 05/22/02 02:49
Dilution Factor: 1.00
Instrument ID: 138

30 µ → 10 ml
100 %

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.45	1254	152	791574	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.63	1636	136	2479793	5.00	ng/ul	998	1.000
3)	*IS:D10-Acenaphthene	18.14	2177	162	1536485	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.78	2494	188	2336982	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.33	3040	240	2044307	5.00	ng/ul	895	1.000
6)	*IS:D12-Perylene	30.53	3664	264	2041213	5.00	ng/ul	908	1.000
7)	ACSUR:2-Fluorophenol	7.50	900	112	3269196	13.12	ng/ul	997	1.574
8)	ACSUR:D6-Phenol	9.44	1133	99	4011396	13.31	ng/ul	997	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.65	2358	330	1357918	13.29	ng/ul	996	0.333
10)	BNSUR:D5-Nitrobenzene	11.77	1413	127	675205	8.19	ng/ul	939	0.167
11)	BNSUR:Decafluorobiphenyl	11.69	1403	334	2667098	7.36	ng/ul	942	0.731
12)	BNSUR:2-Fluorobiphenyl	16.42	1971	172	2922164	8.08	ng/ul	997	1.178
13)	BNSUR:O-Terphenyl	21.26	2551	230	2582608	8.79	ng/ul	995	0.719
14)	Pyridine	5.02	602	79	1072	0.01	ng/ul	503	1.031
15)	Phenol	0.00	1141	94	0	Not Found	ng/ul	183	0.000
16)	Aniline	9.68	1162	93	2249	0.01	ng/ul	427	1.852
17)	Bis(2-Chloroethyl)Ether	9.91	1189	92	0	0.00	ng/ul	0	0.862
18)	2-Chlorophenol	9.98	1198	128	0	0.00	ng/ul	0	1.685
19)	1,3-Dichlorobenzene	10.32	1238	146	4018	0.02	ng/ul	877	1.538
20)	1,4-Dichlorobenzene	10.50	1260	146	1555	0.01	ng/ul	347	1.533
21)	Benzyl Alcohol	10.70	1284	108	9331	0.09	ng/ul	930	0.647
22)	1,2-Dichlorobenzene	10.86	1303	146	3501	0.02	ng/ul	806	1.426
23)	2-Methylphenol	10.97	1316	108	0	0.00	ng/ul	178	1.185
24)	Bis(2-Chloroisopropyl)Ether	11.13	1335	45	0	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.21	1345	108	0	0.00	ng/ul	389	1.306
26)	N-Nitrosodi-N-Propylamine	11.42	1371	70	0	0.00	ng/ul	612	0.786
27)	Hexachloroethane	11.76	1411	119	0	0.00	ng/ul	911	0.645
28)	Nitrobenzene	12.13	1456	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	551	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	360	0.000

* Compound is ISTD

Operator ID: DMC
Output File: 305329.1B2
Data File: 305329.MS
Name: 305329
Sample:

Quant Time: 05/22/02 10:07
Injected at: 05/22/02 02:49
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	264	0.000	
32)	Benzoic Acid	0.00	1537	105	0	Not Found	ng/ul	510	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1551	92	0	Not Found	ng/ul	780	0.000	
34)	2,4-Dichlorophenol	0.00	1590	162	0	Not Found	ng/ul	492	0.000	
35)	1,2,4-Trichlorobenzene	13.46	1616	180	1291	0.01	ng/ul	705	0.385	
36)	Naphthalene	13.68	1642	128	7592	0.01	ng/ul	746	1.390	
37)	4-Chloroaniline	0.00	1657	127	0	Not Found	ng/ul	642	0.000	
38)	2,6-Dichlorophenol	0.00	1652	162	0	Not Found	ng/ul	575	0.000	
39)	Hexachlorobutadiene	13.91	1670	225	0	0.00	ng/ul	193	0.282	
40)	4-Chloro-3-Methylphenol	14.99	1799	107	60444	0.21	ng/ul	952	0.594	0.006 9
41)	2-Methylnaphthalene	15.49	1859	142	2756	0.01	ng/ul	788	0.647	
42)	Hexachlorocyclopentadiene	0.00	1909	237	0	Not Found	ng/ul	189	0.000	
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	202	0.000	
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	158	0.000	
45)	2-Chloronapthalene	16.72	2007	162	0	0.00	ng/ul	123	1.258	
46)	2-Nitroaniline	17.11	2053	138	0	0.00	ng/ul	0	0.447	
47)	Dimethyl Phthalate	17.59	2111	163	0	0.00	ng/ul	0	1.884	
48)	2,6-Dinitrotoluene	17.63	2116	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2146	152	0	Not Found	ng/ul	563	0.000	
50)	3-Nitroaniline	0.00	2163	138	0	Not Found	ng/ul	221	0.000	
51)	Acenaphthene	0.00	2191	152	0	Not Found	ng/ul	548	0.000	
52)	2,4-Dinitrophenol	18.23	2188	184	0	0.00	ng/ul	442	0.236	
53)	4-Nitrophenol	18.44	2213	65	0	0.00	ng/ul	27	0.222	
54)	Dibenzofuran	0.00	2233	168	0	Not Found	ng/ul	318	0.000	
55)	2,4-Dinitrotoluene	0.00	2220	165	0	Not Found	ng/ul	831	0.000	
56)	Benzo(b)Fluoranthene	0.00	3463	252	0	Not Found	ng/ul	122	0.000	
57)	Diethyl Phthalate	18.94	2273	149	190336	0.29	ng/ul	860	2.124	0.007 9
58)	Fluorene	19.24	2309	166	0	0.00	ng/ul	0	1.020	
59)	4-Chlorophenyl Phenyl Ether	0.00	2306	204	0	Not Found	ng/ul	265	0.000	
60)	4-Nitroaniline	19.23	2308	108	0	0.00	ng/ul	115	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305329.1B2
Data File: 305329.MS
Name: 305329
Sample:

Quant Time: 05/22/02 10:07
Injected at: 05/22/02 02:49
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2314	198	0	Not Found	ng/ul	226	0.000	
62)	N-Nitrosodiphenylamine	19.35	2322	169	0	0.00	ng/ul	395	0.495	
63)	1,2-Diphenylhydrazine	19.50	2340	77	55882	0.11	ng/ul	796	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	393	0.000	
65)	Hexachlorobenzene	0.00	2422	284	0	Not Found	ng/ul	180	0.000	
66)	Pentachlorophenol	0.00	2458	266	0	Not Found	ng/ul	41	0.000	
67)	Phenanthrene	20.97	2517	178	0	0.00	ng/ul	0	1.126	
68)	Anthracene	20.83	2500	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	550	0.000	
70)	Di-n-Butyl Phthalate	21.45	2574	149	1106301	1.21	ng/ul	870	1.954	
71)	Fluoranthene	22.55	2706	202	3372	0.01	ng/ul	727	1.074	0.070
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	2	0.000	
73)	Pyrene	0.00	2757	202	0	Not Found	ng/ul	158	0.000	
74)	Butyl Benzyl Phthalate	0.00	2853	149	0	Not Found	ng/ul	641	0.000	
75)	3,3'-Dichlorobenzidine	25.28	3034	252	0	0.00	ng/ul	0	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.84	2981	149	260039	0.38	ng/ul	835	1.695	0.01 L
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	50	0.000	
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	2	0.000	
79)	Di-n-Octylphthalate	26.64	3197	149	6194	0.01	ng/ul	655	2.650	
80)	Benzo(k)Fluoranthene	29.12	3495	252	0	0.00	ng/ul	0	1.252	
81)	Benzo(a)Pyrene	30.22	3626	252	0	0.00	ng/ul	0	1.075	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4423	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	119	0.000	
85)	N-Nitrosodimethylamine	4.97	596	73	0	0.00	ng/ul	485	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	98	0.000	
87)	2-Chloroaniline	12.45	1494	127	0	0.00	ng/ul	0	0.535	
88)	2,4-Diaminotoluene	0.00	2033	121	0	Not Found	ng/ul	681	0.000	
89)	2,3-Dinitrotoluene	18.42	2211	165	0	0.00	ng/ul	0	0.576	
90)	1-Naphthylamine	18.76	2251	143	0	0.00	ng/ul	0	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305329.1B2
Data File: 305329.MS
Name: 305329
Sample:

Quant Time: 05/22/02 10:07
Injected at: 05/22/02 02:49
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

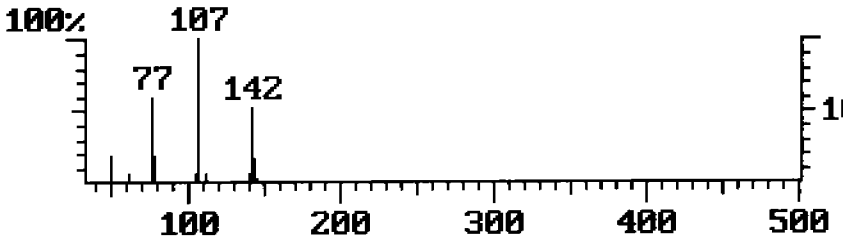
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.37	2325	152	0	0.00	ng/ul	0	0.425

* Compound is ISTD

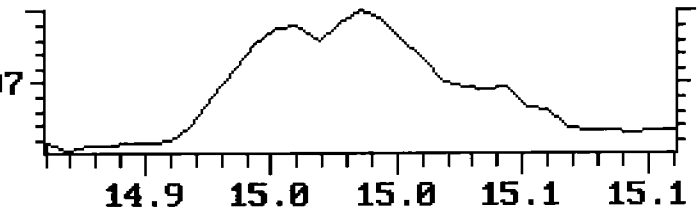
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 31 of 57
Data File: 305329 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:49 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1799
AGC: 1906

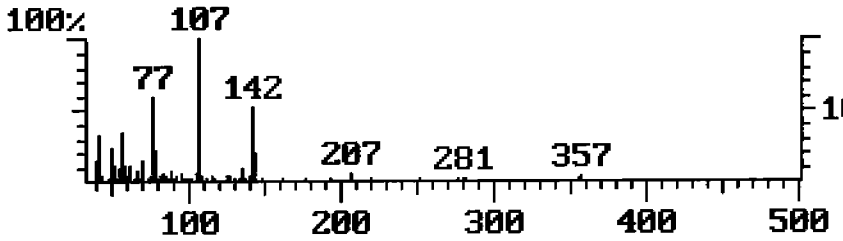
REFERENCE STANDARD SPECTRUM



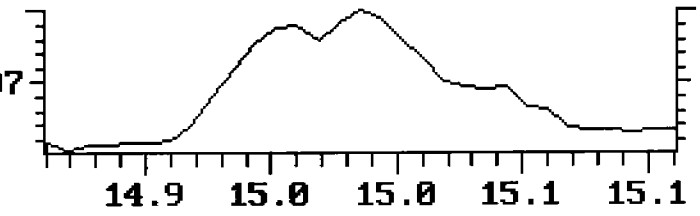
MASS 107 PLOT



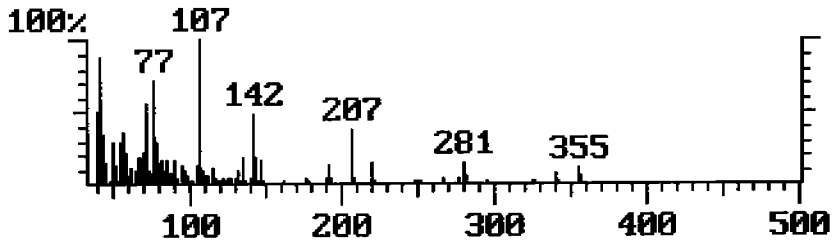
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



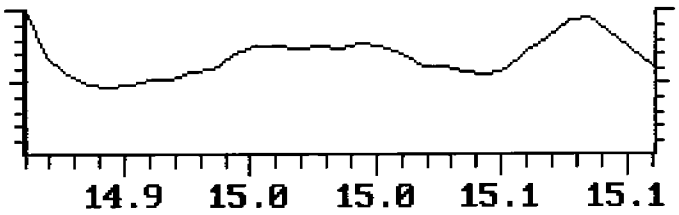
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

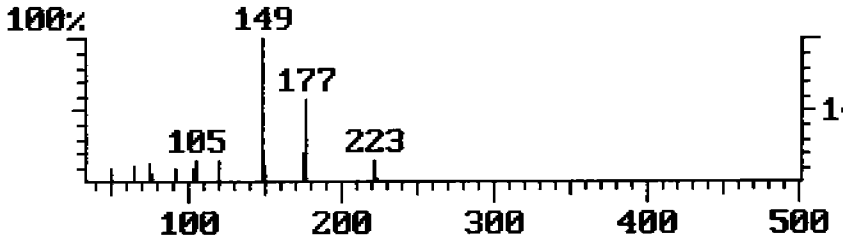


Approved_____ Date_____

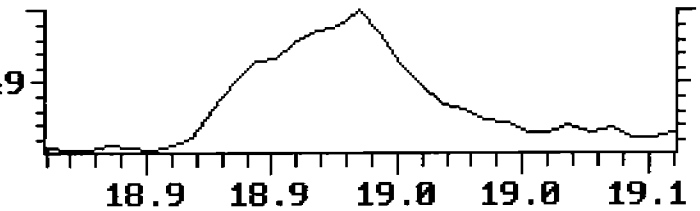
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 57
Data File: 305329 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:49 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2273
AGC: 788

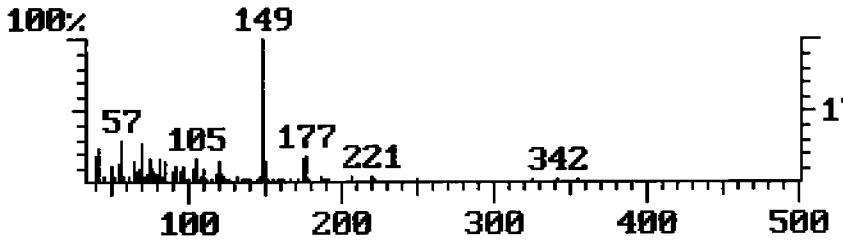
REFERENCE STANDARD SPECTRUM



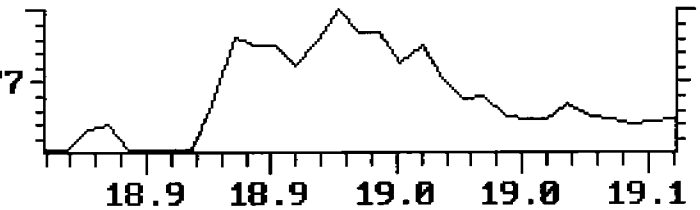
MASS 149 PLOT



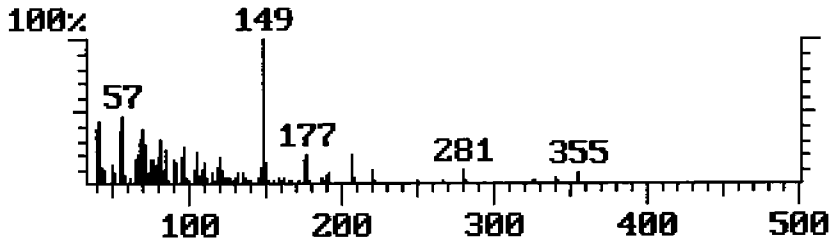
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



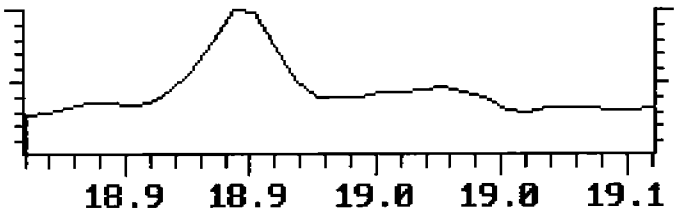
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

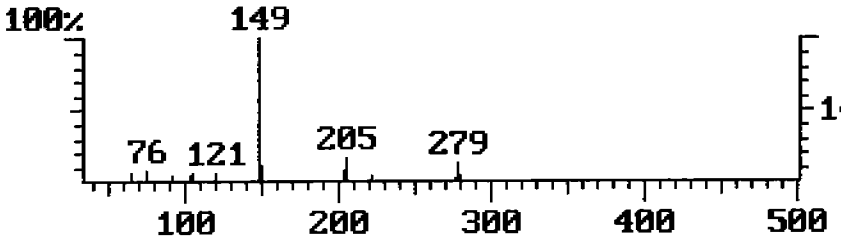


Approved_____ Date_____

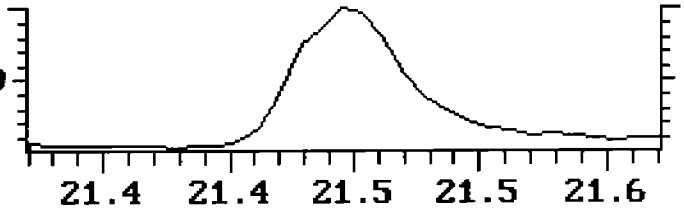
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 57
Data File: 305329 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:49 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2574
AGC: 151

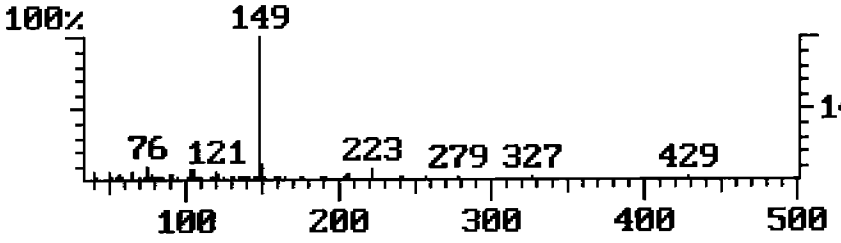
REFERENCE STANDARD SPECTRUM



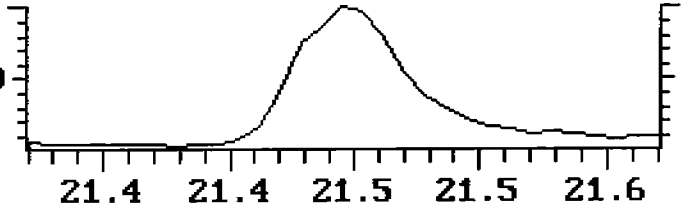
MASS 149 PLOT



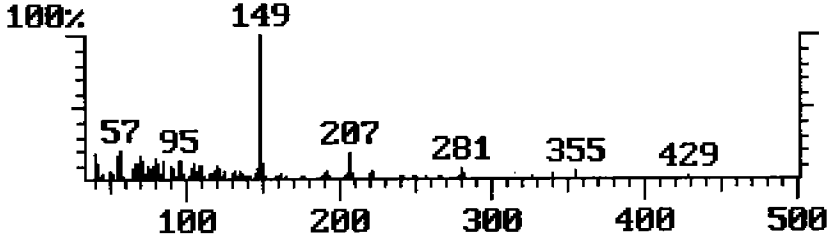
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



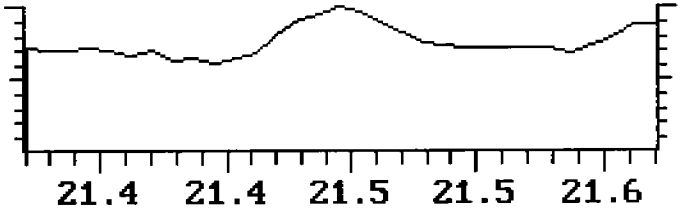
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

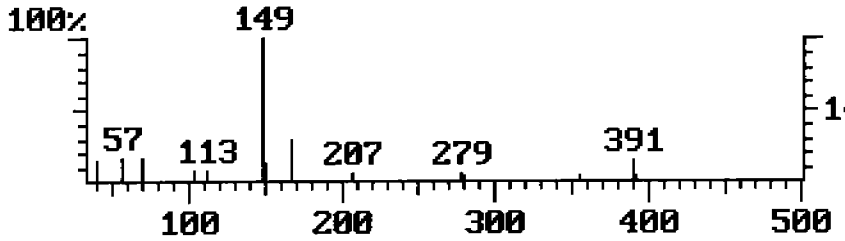


Approved_____ Date_____

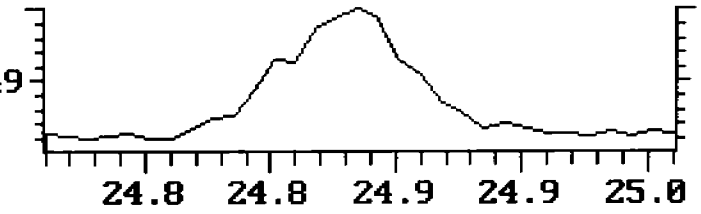
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 57
Data File: 305329 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:49 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2981
AGC: 215

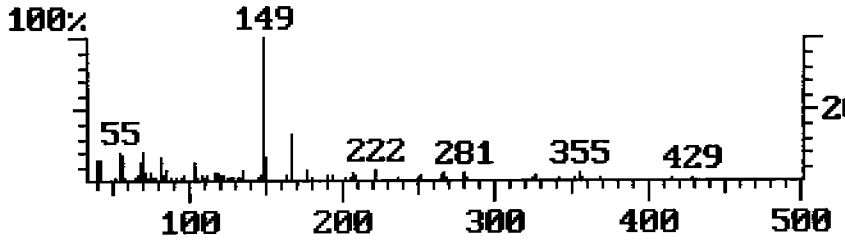
REFERENCE STANDARD SPECTRUM



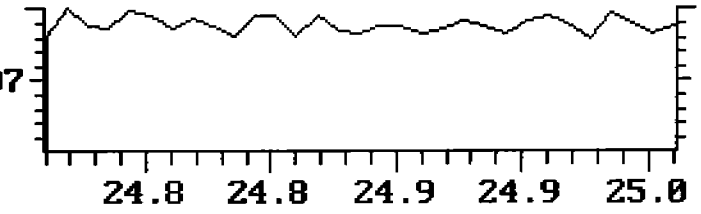
MASS 149 PLOT



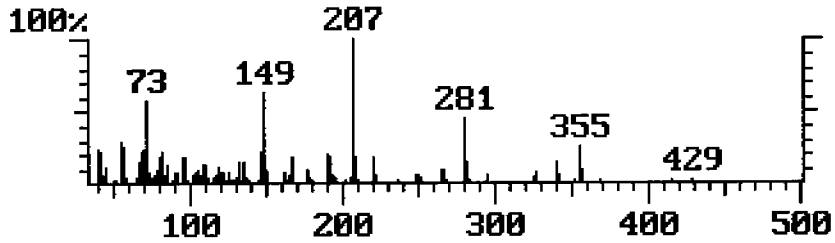
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



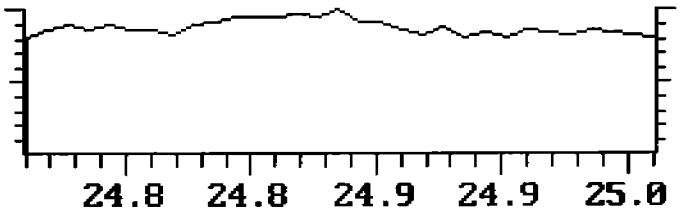
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
6BWP01006

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:52
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305330
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.007**		0.001	0.002
91-57-6	2-Methylnaphthalene	**0.001**	J	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
6BWP01006

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:52
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305330
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.001**	J	0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	**0.002**	J	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.004**	JB	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	ND	U	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	ND	U	0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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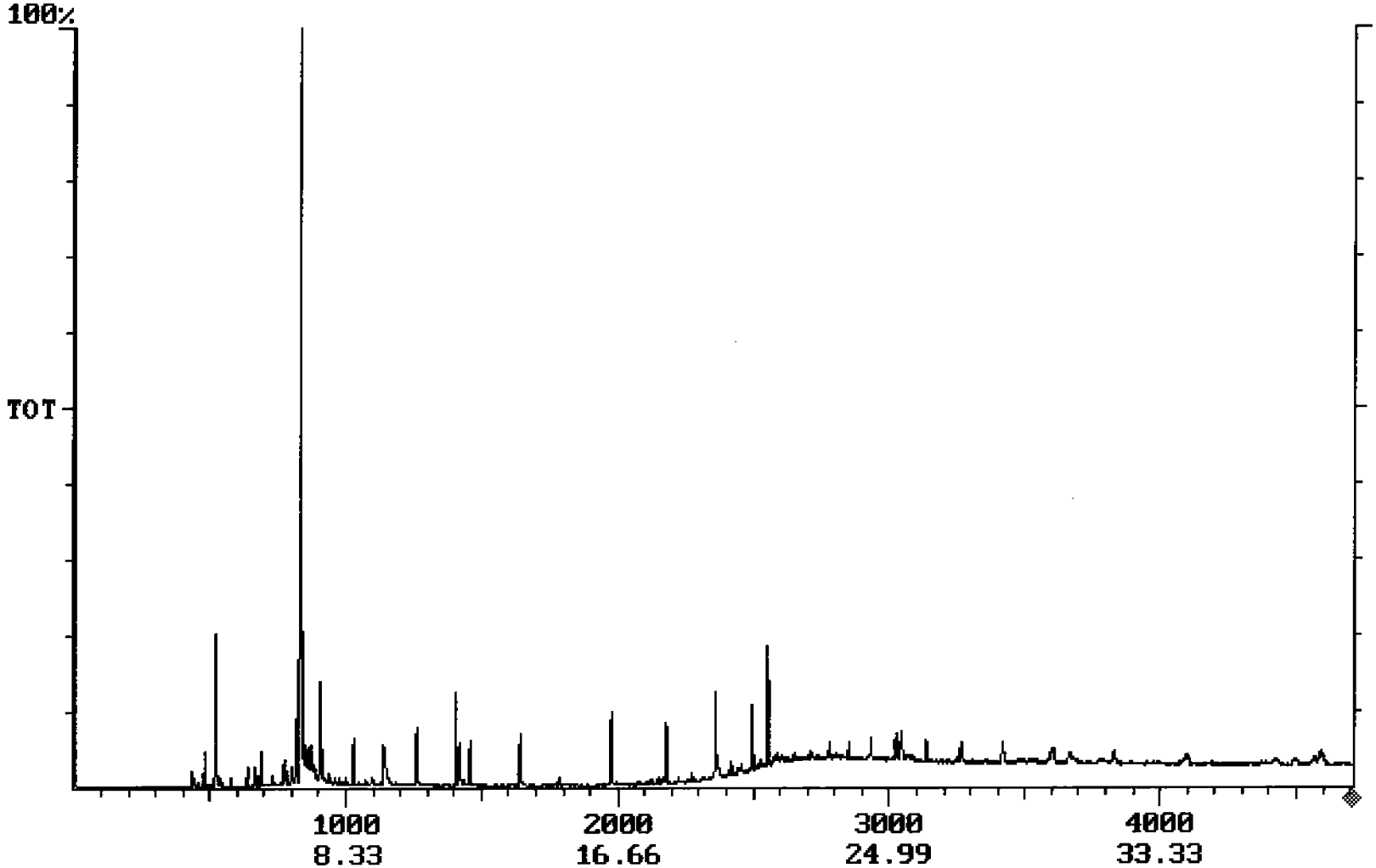
Chromatogram Plot C:\SATURN\DATA\305330 Date: 05/22/02 03:35:59
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4703 Range: 1 to 4703 100% = 13615460



Operator ID: DMC
Output File: 305330.1B2
Data File: 305330.MS
Name: 305330
Sample:

Quant Time: 05/22/02 11:20
Injected at: 05/22/02 03:35
Dilution Factor: 1.00
Instrument ID: 138

30 → 1 ml
99 %

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.49	1259	152	680257	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.67	1641	136	2256136	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.17	2180	162	1327273	5.00	ng/ul	996	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	2003350	5.00	ng/ul	995	1.000
5)	*IS:D12-Chrysene	25.37	3044	240	1599738	5.00	ng/ul	904	1.000
6)	*IS:D12-Perylene	30.56	3667	264	1296002	5.00	ng/ul	845	1.000
7)	ACSUR:2-Fluorophenol	7.54	905	112	2549439	11.91	ng/ul	993	1.574
8)	ACSUR:D6-Phenol	9.48	1138	99	3013189	11.63	ng/ul	997	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	1111364	12.61	ng/ul	992	0.333
10)	BNSUR:D5-Nitrobenzene	11.82	1419	127	558889	7.45	ng/ul	936	0.167
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	2279381	6.92	ng/ul	953	0.731
12)	BNSUR:2-Fluorobiphenyl	16.46	1976	172	2393964	7.66	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.27	2553	230	1868991	8.18	ng/ul	994	0.715
14)	Pyridine	4.96	595	79	0	0.00	ng/ul	0	1.031
15)	Phenol	0.00	1141	94	0	Not Found	ng/ul	237	0.000
16)	Aniline	9.73	1168	93	2299	0.01	ng/ul	0	1.852
17)	Bis(2-Chloroethyl)Ether	9.67	1161	92	0	0.00	ng/ul	204	0.862
18)	2-Chlorophenol	0.00	1199	128	0	Not Found	ng/ul	330	0.000
19)	1,3-Dichlorobenzene	10.37	1244	146	2976	0.01	ng/ul	846	1.538
20)	1,4-Dichlorobenzene	10.47	1256	146	0	0.00	ng/ul	0	1.533
21)	Benzyl Alcohol	10.82	1299	108	10994	0.13	ng/ul	826	0.647
22)	1,2-Dichlorobenzene	10.89	1307	146	2572	0.01	ng/ul	637	1.426
23)	2-Methylphenol	10.92	1311	108	0	0.00	ng/ul	192	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1330	45	0	Not Found	ng/ul	13	0.000
25)	4-Methylphenol	11.37	1364	108	0	0.00	ng/ul	38	1.306
26)	N-Nitrosodi-N-Propylamine	11.38	1366	70	0	0.00	ng/ul	0	0.786
27)	Hexachloroethane	11.70	1404	119	0	0.00	ng/ul	944	0.645
28)	Nitrobenzene	0.00	1423	77	0	Not Found	ng/ul	137	0.000
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	404	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	290	0.000

* Compound is ISTD

Operator ID: DMC
Output File: 305330.1B2
Data File: 305330.MS
Name: 305330
Sample:

Quant Time: 05/22/02 11:20
Injected at: 05/22/02 03:35
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	294	0.000	
32)	Benzoic Acid	13.12	1574	105	0	0.00	ng/ul	190	0.318	
33)	Bis(2-Chloroethoxy)Methane	12.97	1556	92	0	0.00	ng/ul	68	0.473	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	134	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1619	180	0	Not Found	ng/ul	385	0.000	
36)	Naphthalene	13.72	1647	128	7986	0.01	ng/ul	734	1.390	
37)	4-Chloroaniline	13.84	1661	127	0	0.00	ng/ul	0	0.570	
38)	2,6-Dichlorophenol	0.00	1663	162	0	Not Found	ng/ul	699	0.000	
39)	Hexachlorobutadiene	13.96	1676	225	0	0.00	ng/ul	352	0.282	
40)	4-Chloro-3-Methylphenol	15.07	1808	107	54346	0.20	ng/ul	929	0.594	0.0068
41)	2-Methylnaphthalene	15.53	1864	142	4064	0.01	ng/ul	950	0.647	0.00047
42)	Hexachlorocyclopentadiene	15.88	1906	237	0	0.00	ng/ul	369	0.379	
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	202	0.000	
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	200	0.000	
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	664	0.000	
46)	2-Nitroaniline	16.95	2034	138	0	0.00	ng/ul	415	0.447	
47)	Dimethyl Phthalate	0.00	2095	163	0	Not Found	ng/ul	595	0.000	
48)	2,6-Dinitrotoluene	17.69	2123	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2146	152	0	Not Found	ng/ul	558	0.000	
50)	3-Nitroaniline	18.01	2161	138	0	0.00	ng/ul	0	0.367	
51)	Acenaphthene	18.22	2187	152	2007	0.00	ng/ul	868	1.538	
52)	2,4-Dinitrophenol	18.25	2190	184	0	0.00	ng/ul	821	0.236	
53)	4-Nitrophenol	18.17	2181	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	574	0.000	
55)	2,4-Dinitrotoluene	18.59	2231	165	4961	0.03	ng/ul	630	0.578	
56)	Benzo(b)Fluoranthene	28.88	3465	252	0	0.00	ng/ul	0	1.127	
57)	Diethyl Phthalate	18.96	2275	149	20706	0.04	ng/ul	762	2.124	0.0012
58)	Fluorene	19.24	2309	166	2895	0.01	ng/ul	645	1.020	
59)	4-Chlorophenyl Phenyl Ether	19.06	2288	204	0	0.00	ng/ul	0	0.773	
60)	4-Nitroaniline	19.26	2311	108	0	0.00	ng/ul	97	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305330.1B2
Data File: 305330.MS
Name: 305330
Sample:

Quant Time: 05/22/02 11:20
Injected at: 05/22/02 03:35
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.25	2310	198	0	0.00	ng/ul	300	0.215	
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	229	0.000	
63)	1,2-Diphenylhydrazine	19.56	2347	77	33009	0.07	ng/ul	743	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	491	0.000	
65)	Hexachlorobenzene	0.00	2402	284	0	Not Found	ng/ul	312	0.000	
66)	Pentachlorophenol	20.47	2456	266	0	0.00	ng/ul	0	0.224	
67)	Phenanthrene	20.81	2498	178	25803	0.06	ng/ul	20	1.126	0.0020
68)	Anthracene	20.92	2510	178	1859	0.00	ng/ul	333	1.171	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	101	0.000	
70)	Di-n-Butyl Phthalate	21.47	2577	149	92620	0.11	ng/ul	609	2.085	0.0037
71)	Fluoranthene	0.00	2710	202	0	Not Found	ng/ul	16	0.000	
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	130	0.000	
73)	Pyrene	0.00	2756	202	0	Not Found	ng/ul	70	0.000	
74)	Butyl Benzyl Phthalate	0.00	2851	149	0	Not Found	ng/ul	189	0.000	
75)	3,3'-Dichlorobenzidine	25.17	3020	252	0	0.00	ng/ul	230	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.89	2987	149	11794	0.02	ng/ul	267	1.694	
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	48	0.000	
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	110	0.000	
79)	Di-n-Octylphthalate	26.54	3185	149	3835	0.00	ng/ul	563	2.650	
80)	Benzo(k)Fluoranthene	0.00	3475	252	0	Not Found	ng/ul	99	0.000	
81)	Benzo(a)Pyrene	0.00	3637	252	0	Not Found	ng/ul	296	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4422	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	100	0.000	
85)	N-Nitrosodimethylamine	4.87	584	73	881	0.02	ng/ul	563	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	58	0.000	
87)	2-Chloroaniline	12.52	1503	127	219	0.00	ng/ul	860	0.535	
88)	2,4-Diaminotoluene	16.65	1998	121	282	0.00	ng/ul	695	0.453	
89)	2,3-Dinitrotoluene	0.00	2214	165	0	Not Found	ng/ul	908	0.000	
90)	1-Naphthylamine	18.82	2259	143	596	0.00	ng/ul	763	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305330.1B2
Data File: 305330.M$
Name: 305330
Sample:

Quant Time: 05/22/02 11:20
Injected at: 05/22/02 03:35
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

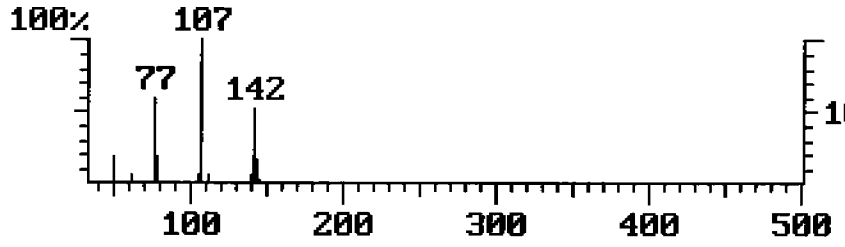
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2308	152	0	Not Found	ng/ul	242	0.000

* Compound is ISTD

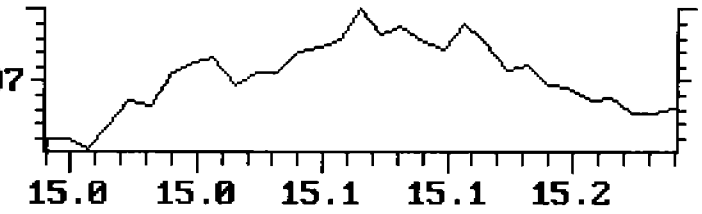
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 30 of 57
Data File: 305330 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:35 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1808
AGC: 1853

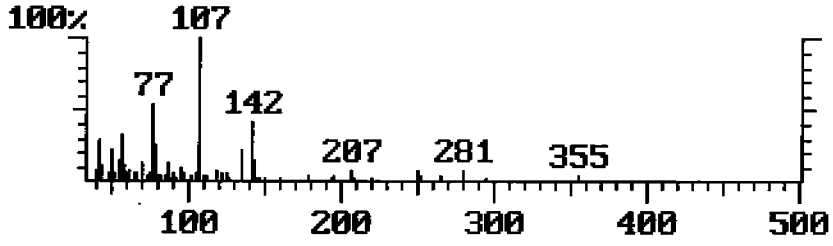
REFERENCE STANDARD SPECTRUM



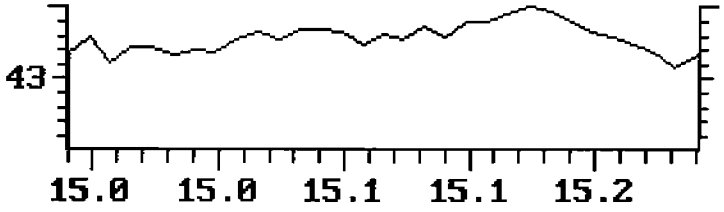
MASS 107 PLOT



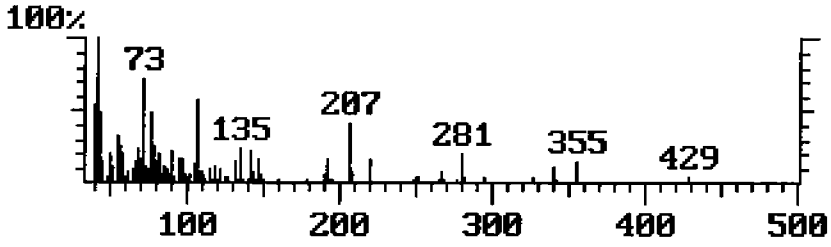
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



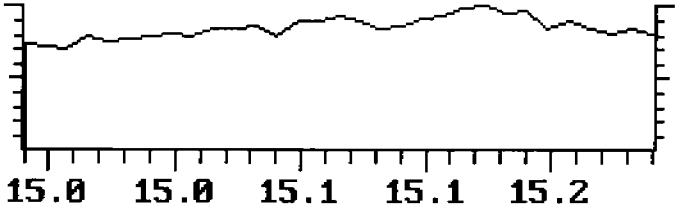
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

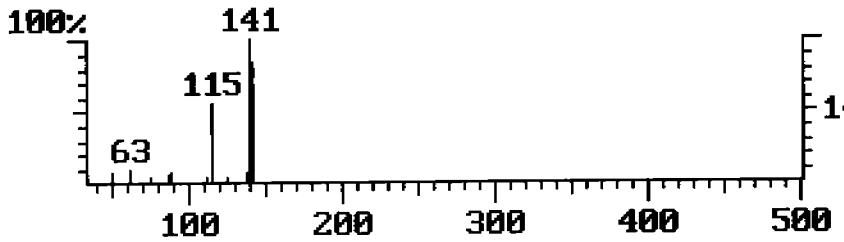


Approved_____ Date_____

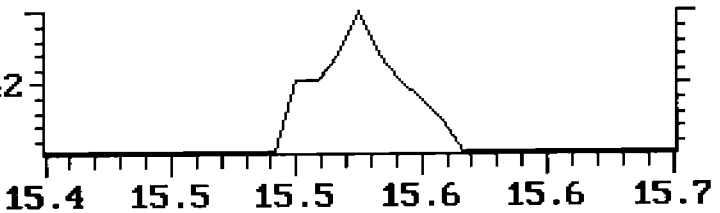
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 31 of 57
Data File: 305330 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:35 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2-Methylnaphthalene SCAN#: 1864
AGC: 2361

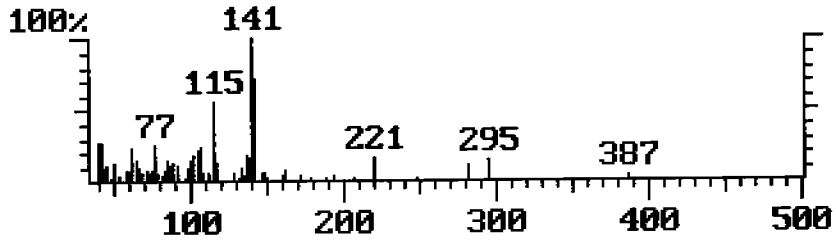
REFERENCE STANDARD SPECTRUM



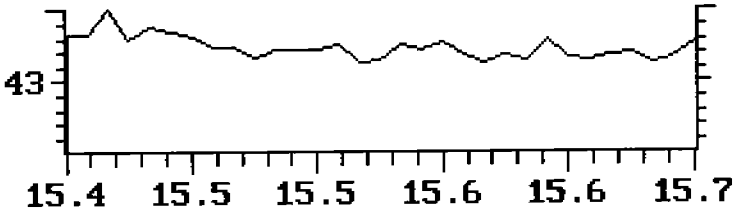
MASS 142 PLOT



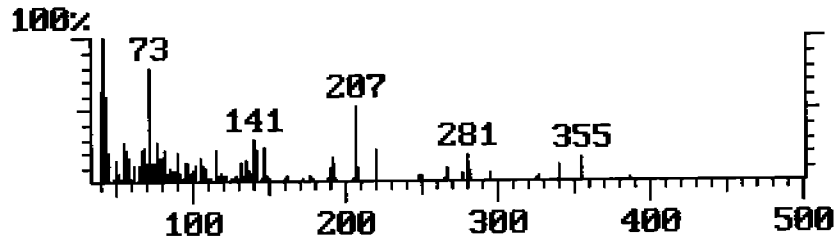
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



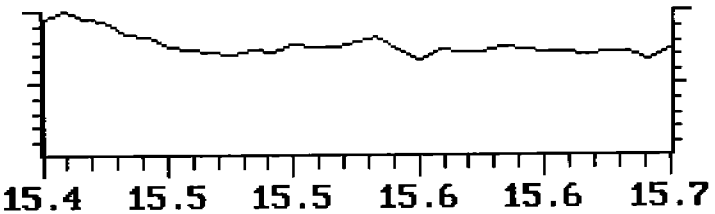
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

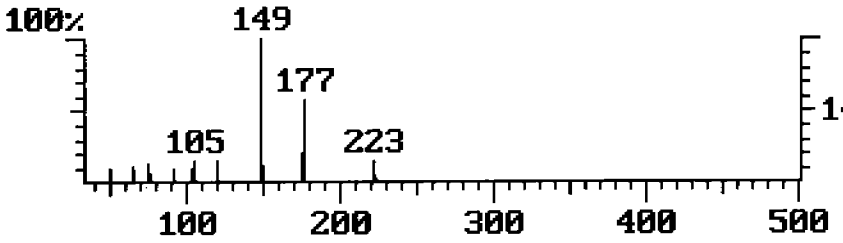


Approved_____ Date_____

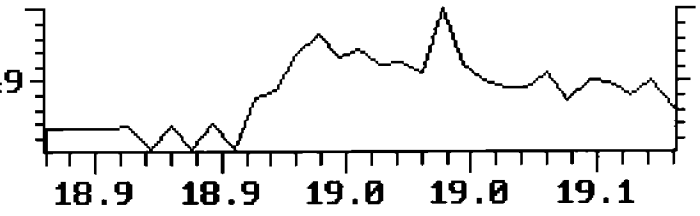
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 41 of 57
Data File: 305330 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:35 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2275
AGC: 1037

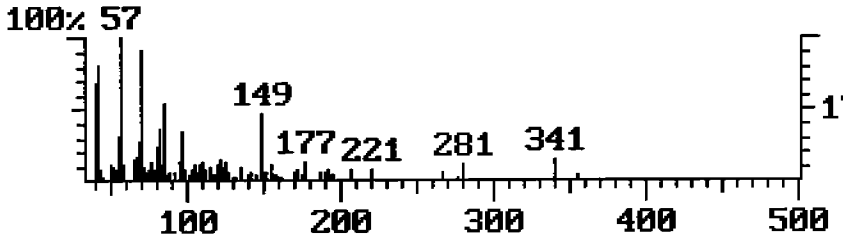
REFERENCE STANDARD SPECTRUM



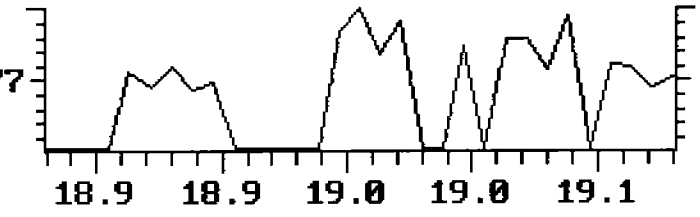
MASS 149 PLOT



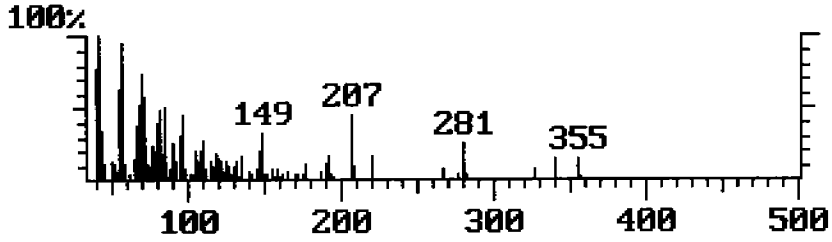
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



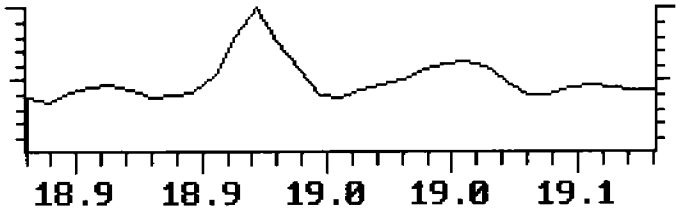
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

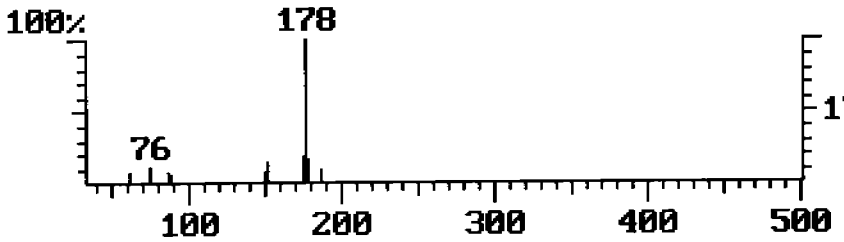


Approved_____ Date_____

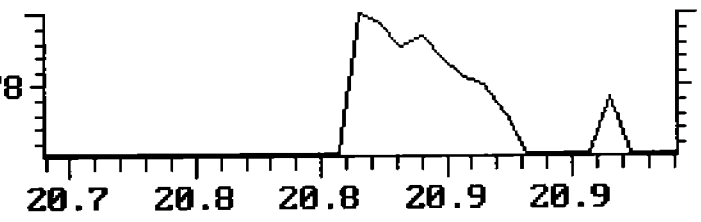
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 48 of 57
Data File: 305330 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:35 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Phenanthrene SCAN#: 2498
AGC: 97

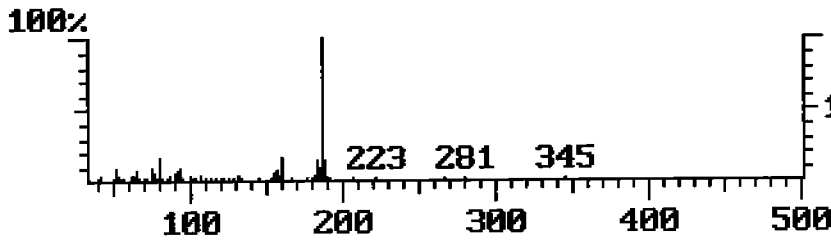
REFERENCE STANDARD SPECTRUM



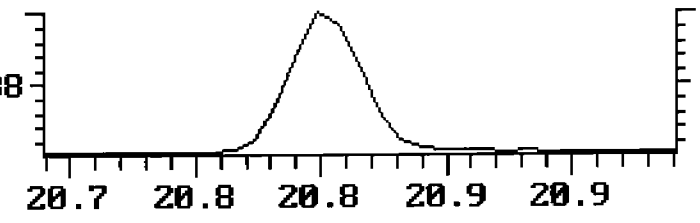
MASS 178 PLOT



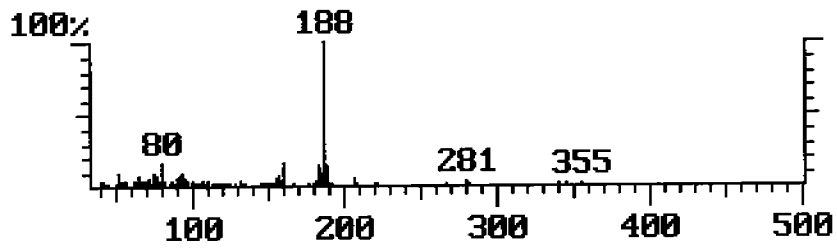
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



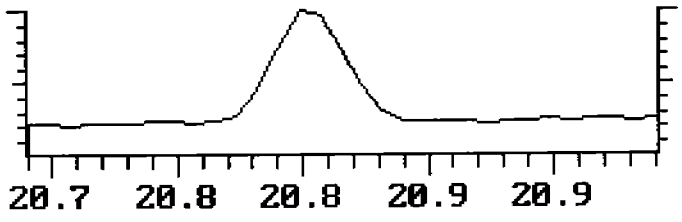
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

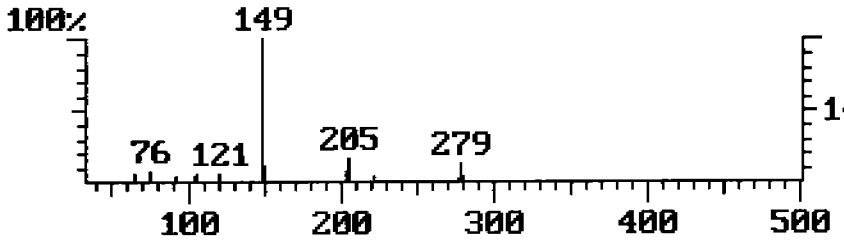


Approved_____ Date_____

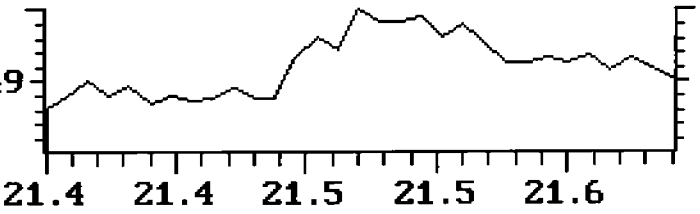
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 57
Data File: 305330 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:35 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2577
AGC: 233

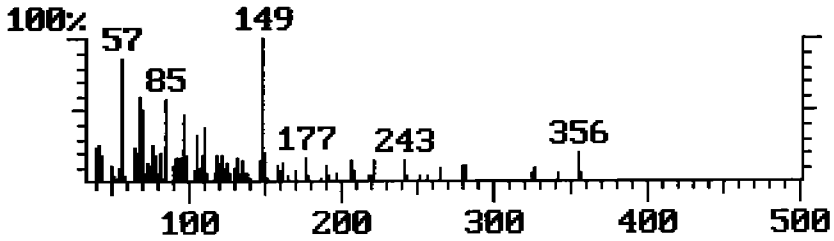
REFERENCE STANDARD SPECTRUM



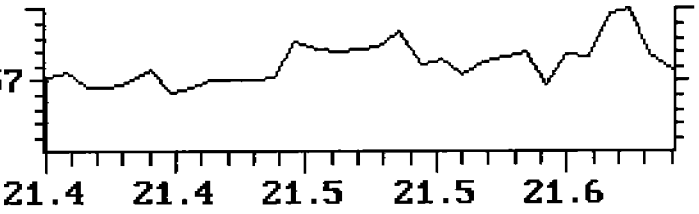
MASS 149 PLOT



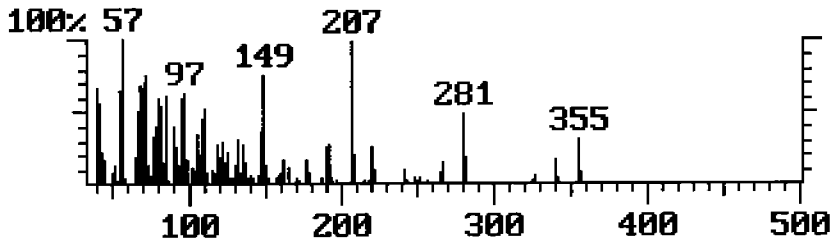
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



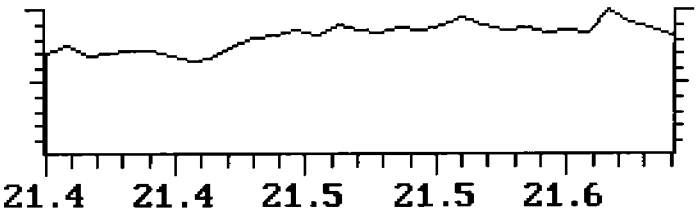
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
8AWP01007

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:55
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305331
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.006**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	J	0.001	0.002

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
8AWP01007

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:55
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305331
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.002**	J	0.002	0.005
84-66-2	Diethylphthalate	**0.009**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.043**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.004**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	J	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.011**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	J	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.

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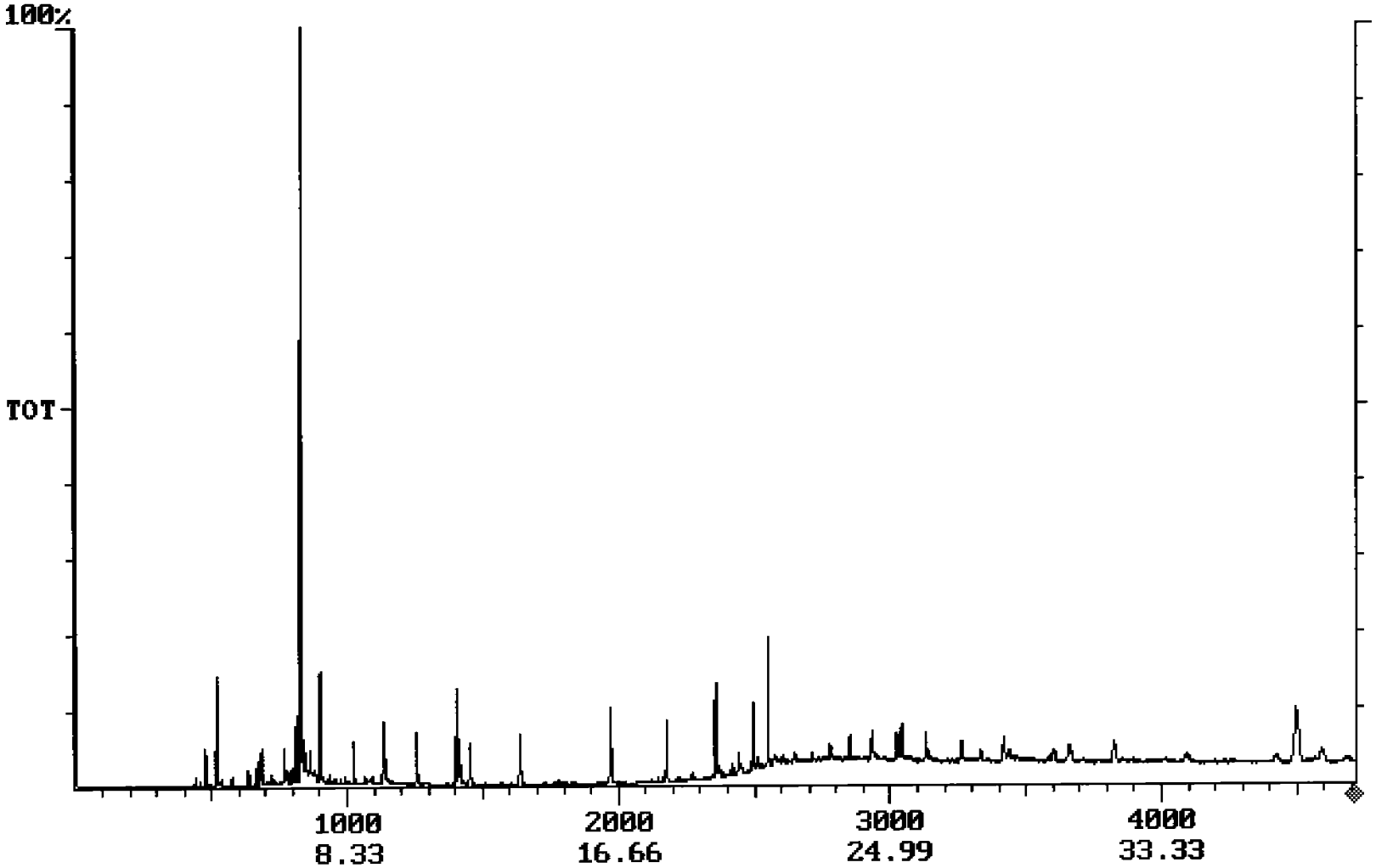
Chromatogram Plot C:\SATURN\DATA\305331 Date: 05/22/02 04:22:22
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 14772052



Operator ID: DMC
Output File: 305331.1B2
Data File: 305331.MS
Name: 305331
Sample:

Quant Time: 05/22/02 11:25
Injected at: 05/22/02 04:22
Dilution Factor: 1.00
Instrument ID: 138

30µ → 1 ml
99 %

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.46	1255	152	701853	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.64	1637	136	2279668	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.14	2177	162	1439751	5.00	ng/ul	996	1.000
4)	*IS:D10-Phenanthrene	20.79	2495	188	2088649	5.00	ng/ul	994	1.000
5)	*IS:D12-Chrysene	25.34	3041	240	1805586	5.00	ng/ul	948	1.000
6)	*IS:D12-Perylene	30.51	3661	264	1727742	5.00	ng/ul	909	1.000
7)	ACSUR:2-Fluorophenol	7.51	901	112	2915487	13.20	ng/ul	995	1.574
8)	ACSUR:D6-Phenol	9.45	1134	99	3506067	13.12	ng/ul	996	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.65	2358	330	1245413	13.01	ng/ul	997	0.333
10)	BNSUR:D5-Nitrobenzene	11.78	1414	127	654889	8.64	ng/ul	934	0.167
11)	BNSUR:Decafluorobiphenyl	11.70	1404	334	2649913	7.96	ng/ul	948	0.731
12)	BNSUR:2-Fluorobiphenyl	16.42	1971	172	2820132	8.32	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.27	2552	230	2210821	8.54	ng/ul	990	0.718
14)	Pyridine	0.00	602	79	0	Not Found	ng/ul	292	0.000
15)	Phenol	0.00	1141	94	0	Not Found	ng/ul	162	0.000
16)	Aniline	9.70	1164	93	2462	0.01	ng/ul	473	1.852
17)	Bis(2-Chloroethyl)Ether	0.00	1175	92	0	Not Found	ng/ul	237	0.000
18)	2-Chlorophenol	0.00	1199	128	0	Not Found	ng/ul	104	0.000
19)	1,3-Dichlorobenzene	10.33	1240	146	3611	0.02	ng/ul	875	1.538
20)	1,4-Dichlorobenzene	10.50	1260	146	1623	0.01	ng/ul	2	1.533
21)	Benzyl Alcohol	10.70	1284	108	2754	0.03	ng/ul	852	0.647
22)	1,2-Dichlorobenzene	10.88	1305	146	2314	0.01	ng/ul	730	1.426
23)	2-Methylphenol	10.97	1317	108	0	0.00	ng/ul	97	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1331	45	0	Not Found	ng/ul	290	0.000
25)	4-Methylphenol	11.24	1349	108	0	0.00	ng/ul	485	1.306
26)	N-Nitrosodi-N-Propylamine	11.40	1368	70	4353	0.04	ng/ul	754	0.786
27)	Hexachloroethane	11.78	1414	119	0	0.00	ng/ul	923	0.645
28)	Nitrobenzene	12.12	1454	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	413	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	247	0.000

* Compound is ISTD

Operator ID: DMC
Output File: 305331.1B2
Data File: 305331.MS
Name: 305331
Sample:

Quant Time: 05/22/02 11:25
Injected at: 05/22/02 04:22
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	224	0.000	
32)	Benzoic Acid	0.00	1537	105	0	Not Found	ng/ul	771	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1551	92	0	Not Found	ng/ul	866	0.000	
34)	2,4-Dichlorophenol	0.00	1590	162	0	Not Found	ng/ul	78	0.000	
35)	1,2,4-Trichlorobenzene	13.50	1620	180	0	0.00	ng/ul	0	0.385	
36)	Naphthalene	0.00	1648	128	0	Not Found	ng/ul	696	0.000	
37)	4-Chloroaniline	13.90	1668	127	0	0.00	ng/ul	108	0.570	
38)	2,6-Dichlorophenol	0.00	1655	162	0	Not Found	ng/ul	524	0.000	
39)	Hexachlorobutadiene	13.95	1674	225	0	0.00	ng/ul	352	0.282	
40)	4-Chloro-3-Methylphenol	15.00	1800	107	47339	0.17	ng/ul	935	0.594	0.0059
41)	2-Methylnaphthalene	15.50	1860	142	3135	0.01	ng/ul	852	0.647	
42)	Hexachlorocyclopentadiene	0.00	1909	237	0	Not Found	ng/ul	0	0.000	
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	80	0.000	
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	179	0.000	
45)	2-Chloronapthalene	16.93	2032	162	0	0.00	ng/ul	0	1.258	
46)	2-Nitroaniline	17.07	2048	138	0	0.00	ng/ul	0	0.447	
47)	Dimethyl Phthalate	0.00	2095	163	0	Not Found	ng/ul	627	0.000	
48)	2,6-Dinitrotoluene	17.63	2116	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2146	152	0	Not Found	ng/ul	497	0.000	
50)	3-Nitroaniline	0.00	2163	138	0	Not Found	ng/ul	277	0.000	
51)	Acenaphthene	0.00	2191	152	0	Not Found	ng/ul	636	0.000	
52)	2,4-Dinitrophenol	18.22	2187	184	0	0.00	ng/ul	623	0.236	
53)	4-Nitrophenol	18.40	2208	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	0.00	2233	168	0	Not Found	ng/ul	377	0.000	
55)	2,4-Dinitrotoluene	18.51	2221	165	7231	0.04	ng/ul	760	0.578	0.0015
56)	Benzo(b)Fluoranthene	0.00	3463	252	0	Not Found	ng/ul	76	0.000	
57)	Diethyl Phthalate	18.97	2276	149	155761	0.25	ng/ul	897	2.124	0.0086
58)	Fluorene	19.23	2308	166	0	0.00	ng/ul	258	1.020	
59)	4-Chlorophenyl Phenyl Ether	19.15	2298	204	0	0.00	ng/ul	342	0.773	
60)	4-Nitroaniline	19.24	2309	108	0	0.00	ng/ul	268	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305331.1B2
Data File: 305331.MS
Name: 305331
Sample:

Quant Time: 05/22/02 11:25
Injected at: 05/22/02 04:22
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2314	198	0	Not Found	ng/ul	292	0.000	
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	627	0.000	
63)	1,2-Diphenylhydrazine	19.51	2341	77	35698	0.08	ng/ul	791	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	400	0.000	
65)	Hexachlorobenzene	0.00	2422	284	0	Not Found	ng/ul	142	0.000	
66)	Pentachlorophenol	0.00	2458	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.75	2490	178	0	0.00	ng/ul	0	1.126	
68)	Anthracene	20.88	2506	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	609	0.000	
70)	Di-n-Butyl Phthalate	21.46	2576	149	1036230	1.27	ng/ul	796	1.947	0.043
71)	Fluoranthene	0.00	2710	202	0	Not Found	ng/ul	0	0.000	
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	14	0.000	
73)	Pyrene	0.00	2756	202	0	Not Found	ng/ul	127	0.000	
74)	Butyl Benzyl Phthalate	23.76	2851	149	53131	0.12	ng/ul	811	1.194	0.0042
75)	3,3'-Dichlorobenzidine	25.15	3018	252	0	0.00	ng/ul	33	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.85	2982	149	195568	0.32	ng/ul	838	1.695	0.011
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	48	0.000	
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	0	0.000	
79)	Di-n-Octylphthalate	26.70	3204	149	6202	0.01	ng/ul	242	2.650	
80)	Benzo(k)Fluoranthene	0.00	3475	252	0	Not Found	ng/ul	13	0.000	
81)	Benzo(a)Pyrene	0.00	3637	252	0	Not Found	ng/ul	145	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4423	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	155	0.000	
85)	N-Nitrosodimethylamine	4.79	575	73	88221	1.82	ng/ul	809	0.347	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	58	0.000	
87)	2-Chloroaniline	12.46	1495	127	161	0.00	ng/ul	835	0.535	
88)	2,4-Diaminotoluene	16.11	1933	121	6683	0.05	ng/ul	712	0.453	
89)	2,3-Dinitrotoluene	0.00	2190	165	0	Not Found	ng/ul	932	0.000	
90)	1-Naphthylamine	18.75	2250	143	324	0.00	ng/ul	820	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305331.1B2
Data File: 305331.MS
Name: 305331
Sample:

Quant Time: 05/22/02 11:25
Injected at: 05/22/02 04:22
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

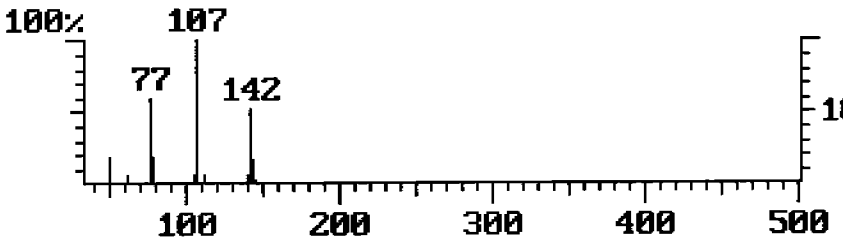
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.22	2307	152	502	0.00	ng/ul	412	0.425

* Compound is ISTD

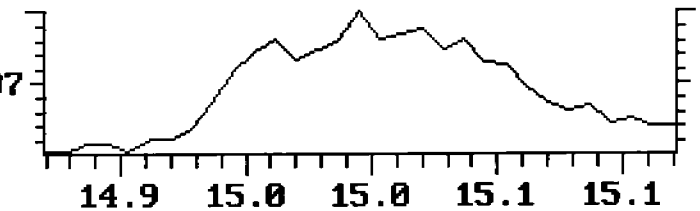
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 27 of 51
Data File: 305331 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:22 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1800
AGC: 2129

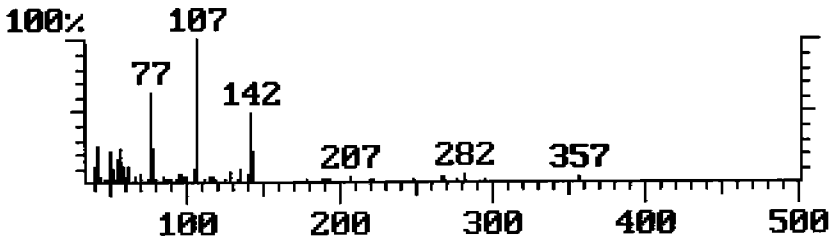
REFERENCE STANDARD SPECTRUM



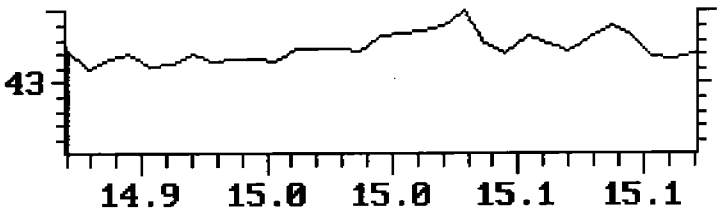
MASS 107 PLOT



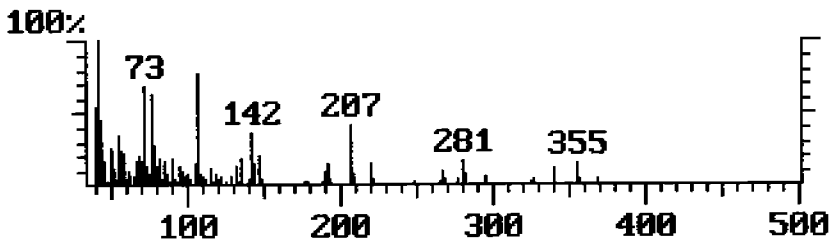
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



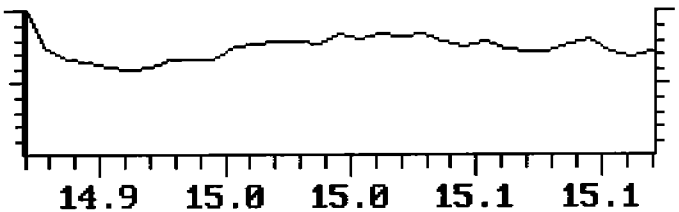
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

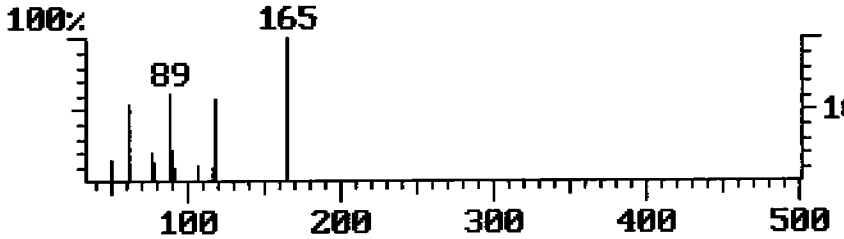


Approved_____ Date_____

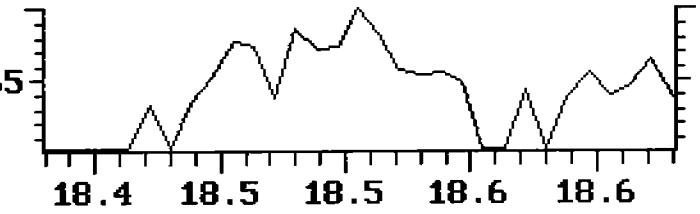
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 34 of 51
Data File: 305331 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:22 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2221
AGC: 737

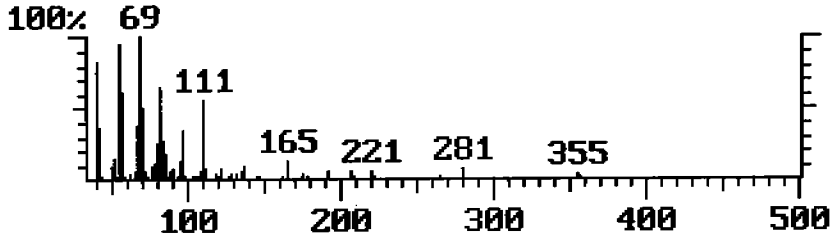
REFERENCE STANDARD SPECTRUM



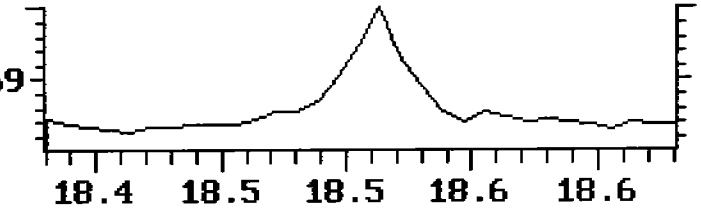
MASS 165 PLOT



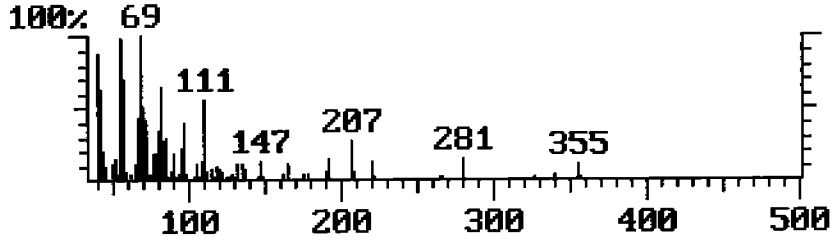
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



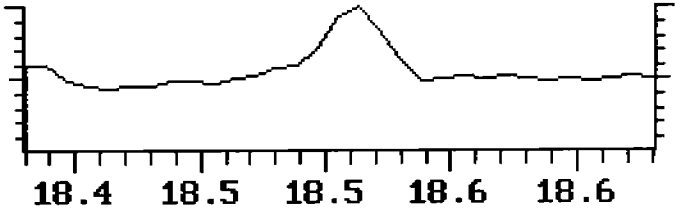
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

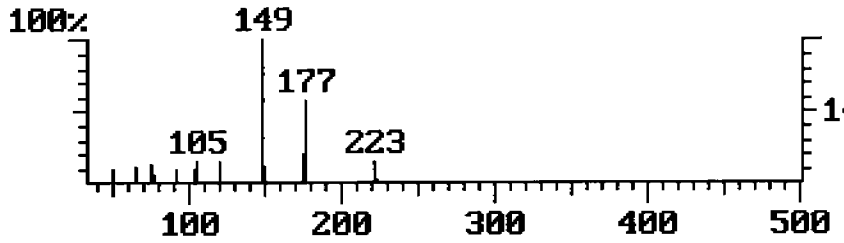


Approved_____ Date_____

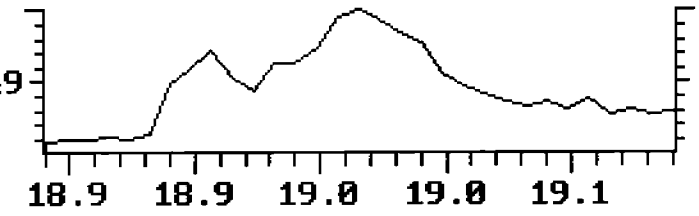
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 35 of 51
Data File: 305331 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:22 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2276
AGC: 834

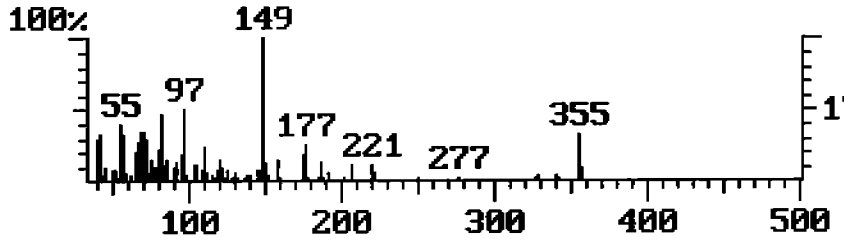
REFERENCE STANDARD SPECTRUM



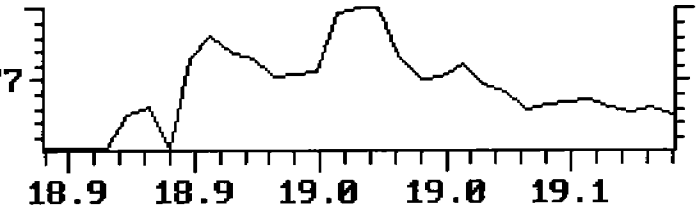
MASS 149 PLOT



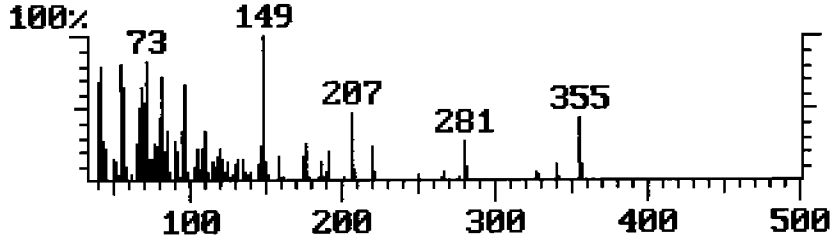
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



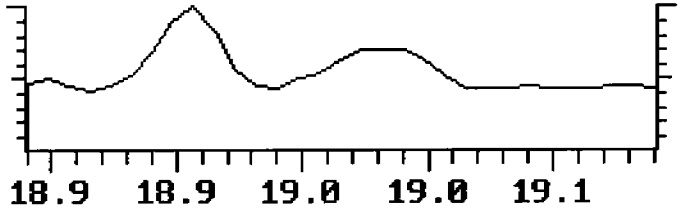
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

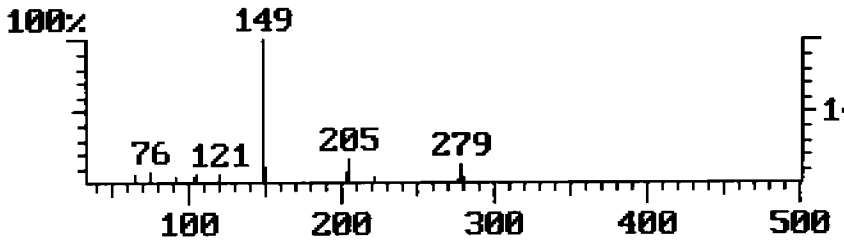


Approved_____ Date_____

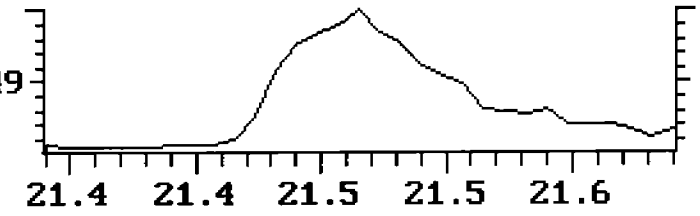
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 42 of 51
Data File: 305331 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:22 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2576
AGC: 212

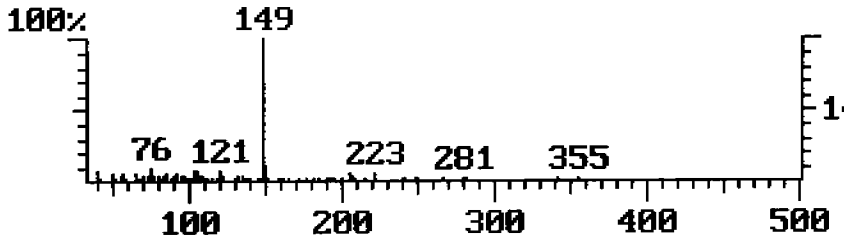
REFERENCE STANDARD SPECTRUM



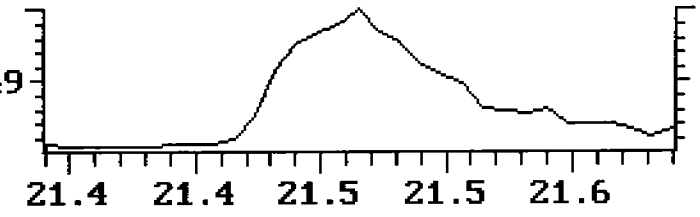
MASS 149 PLOT



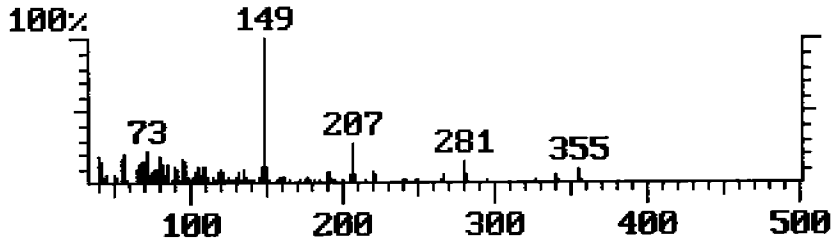
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



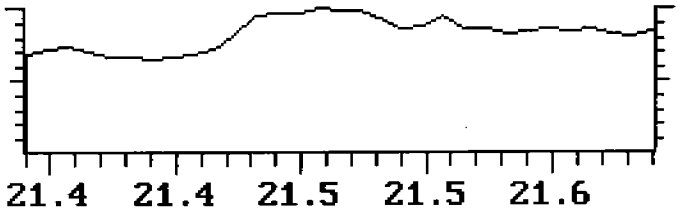
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

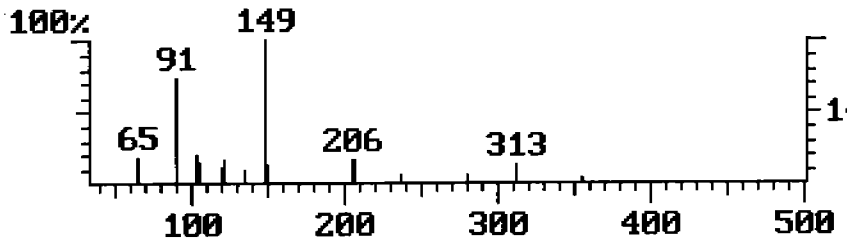


Approved_____ Date_____

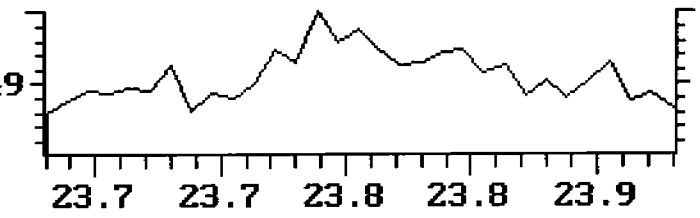
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 43 of 51
Data File: 305331 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:22 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2851
AGC: 129

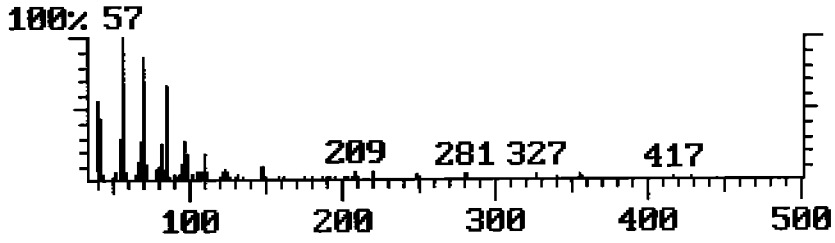
REFERENCE STANDARD SPECTRUM



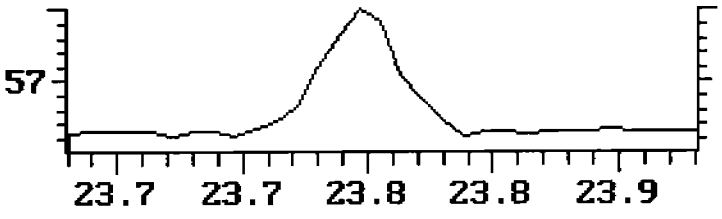
MASS 149 PLOT



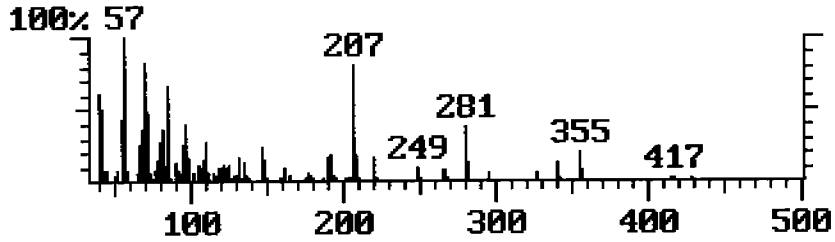
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



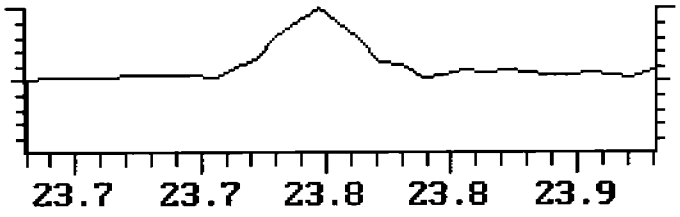
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

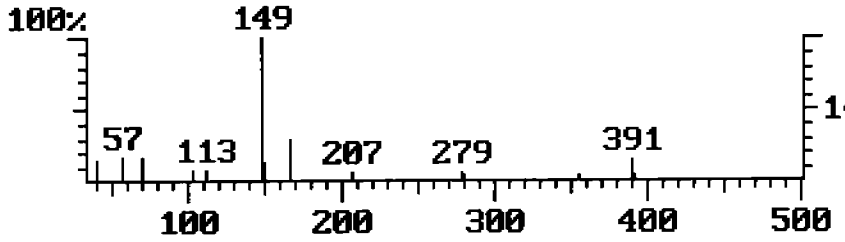


Approved_____ Date_____

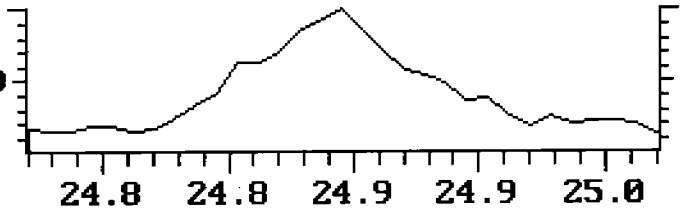
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 51
Data File: 305331 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:22 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2982
AGC: 233

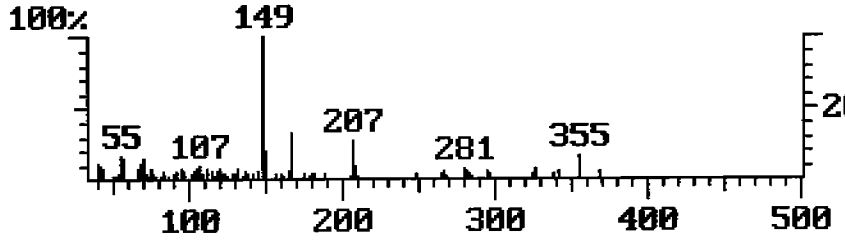
REFERENCE STANDARD SPECTRUM



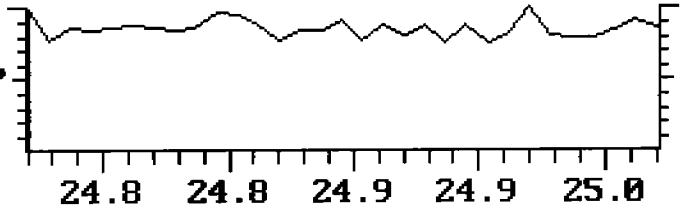
MASS 149 PLOT



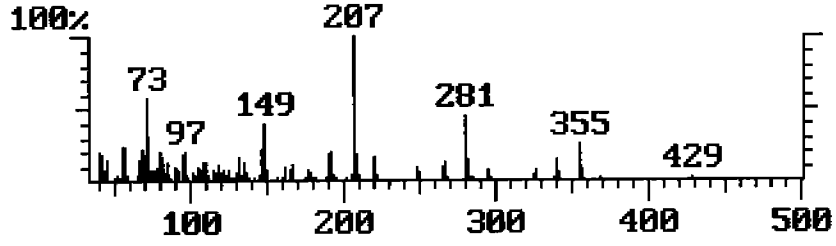
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



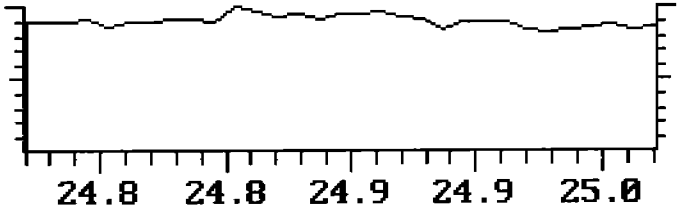
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
9BWP01008

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:59
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305332
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.006**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
9BWP01008

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 11:59
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305332
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.012**		0.002	0.005
84-66-2	Diethylphthalate	**0.012**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.064**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	ND	U	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.005**	J	0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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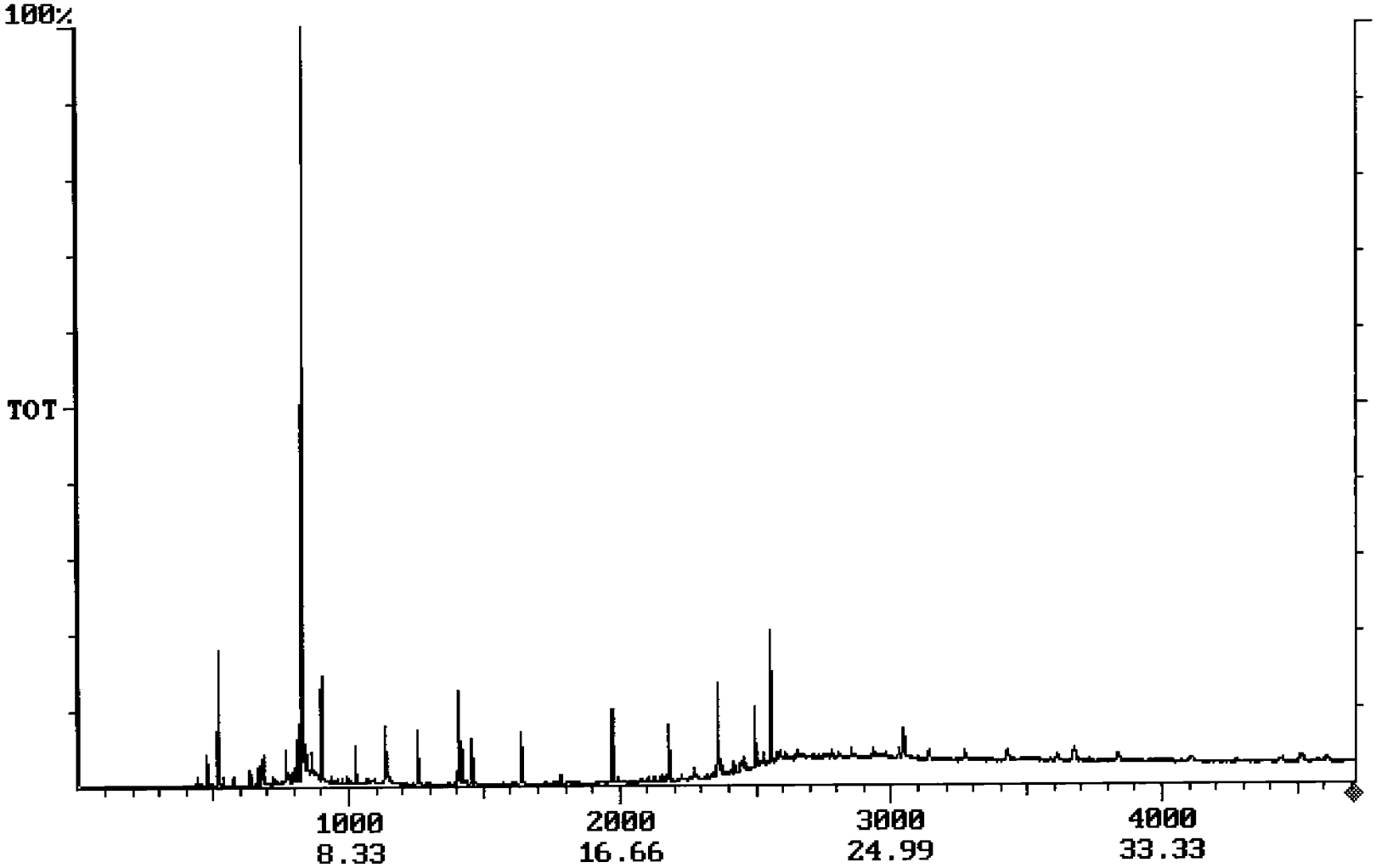
Chromatogram Plot C:\SATURN\DATA\305332 Date: 05/22/02 05:08:44
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 14701603



000691

Operator ID: DMC
Output File: 305332.1B2
Data File: 305332.MS
Name: 305332
Sample:

Quant Time: 05/22/02 11:31
Injected at: 05/22/02 05:08
Dilution Factor: 1.00
Instrument ID: 138

30 µl → 1 ml
100 %

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.47	1256	152	723053	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	2264423	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	1363159	5.00	ng/ul	996	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	2074347	5.00	ng/ul	997	1.000
5)	*IS:D12-Chrysene	25.38	3046	240	1799172	5.00	ng/ul	935	1.000
6)	*IS:D12-Perylene	30.62	3675	264	1494508	5.00	ng/ul	916	1.000
7)	ACSUR:2-Fluorophenol	7.51	901	112	2809348	12.34	ng/ul	995	1.574
8)	ACSUR:D6-Phenol	9.46	1135	99	3479631	12.64	ng/ul	996	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	1267303	13.96	ng/ul	995	0.333
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	605325	8.04	ng/ul	950	0.167
11)	BNSUR:Decafluorobiphenyl	11.71	1405	334	2463828	7.45	ng/ul	940	0.731
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	2623165	8.17	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.28	2554	230	2365922	9.12	ng/ul	979	0.722
14)	Pyridine	4.82	578	79	1304	0.01	ng/ul	536	1.031
15)	Phenol	0.00	1141	94	0	Not Found	ng/ul	131	0.000
16)	Aniline	9.71	1165	93	410	0.00	ng/ul	308	1.852
17)	Bis(2-Chloroethyl)Ether	9.91	1189	92	0	0.00	ng/ul	156	0.862
18)	2-Chlorophenol	0.00	1199	128	0	Not Found	ng/ul	498	0.000
19)	1,3-Dichlorobenzene	10.34	1241	146	3469	0.02	ng/ul	808	1.538
20)	1,4-Dichlorobenzene	10.51	1261	146	608	0.00	ng/ul	156	1.533
21)	Benzyl Alcohol	10.72	1287	108	3241	0.03	ng/ul	943	0.647
22)	1,2-Dichlorobenzene	10.88	1305	146	2742	0.01	ng/ul	840	1.426
23)	2-Methylphenol	10.84	1301	108	0	0.00	ng/ul	330	1.185
24)	Bis(2-Chloroisopropyl)Ether	11.15	1338	45	0	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.27	1352	108	0	0.00	ng/ul	451	1.306
26)	N-Nitrosodi-N-Propylamine	11.49	1379	70	4987	0.04	ng/ul	688	0.786
27)	Hexachloroethane	11.79	1415	119	0	0.00	ng/ul	911	0.645
28)	Nitrobenzene	11.83	1420	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	437	0.000
30)	2-Nitrophenol	12.75	1530	109	0	0.00	ng/ul	0	0.374

* Compound is ISTD

Operator ID: DMC
Output File: 305332.1B2
Data File: 305332.MS
Name: 305332
Sample:

Quant Time: 05/22/02 11:31
Injected at: 05/22/02 05:08
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	333	0.000	
32)	Benzoic Acid	13.06	1568	105	0	0.00	ng/ul	0	0.318	
33)	Bis(2-Chloroethoxy)Methane	13.06	1568	92	0	0.00	ng/ul	129	0.473	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	77	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1619	180	0	Not Found	ng/ul	407	0.000	
36)	Naphthalene	0.00	1648	128	0	Not Found	ng/ul	657	0.000	
37)	4-Chloroaniline	0.00	1657	127	0	Not Found	ng/ul	648	0.000	
38)	2,6-Dichlorophenol	0.00	1659	162	0	Not Found	ng/ul	470	0.000	
39)	Hexachlorobutadiene	13.87	1665	225	0	0.00	ng/ul	352	0.282	
40)	4-Chloro-3-Methylphenol	15.03	1804	107	44388	0.17	ng/ul	898	0.594	0.005J
41)	2-Methylnaphthalene	15.51	1861	142	2664	0.01	ng/ul	879	0.647	
42)	Hexachlorocyclopentadiene	15.90	1908	237	0	0.00	ng/ul	0	0.379	
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	202	0.000	
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	200	0.000	
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	631	0.000	
46)	2-Nitroaniline	17.07	2048	138	0	0.00	ng/ul	0	0.447	
47)	Dimethyl Phthalate	0.00	2094	163	0	Not Found	ng/ul	714	0.000	
48)	2,6-Dinitrotoluene	17.70	2124	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2146	152	0	Not Found	ng/ul	557	0.000	
50)	3-Nitroaniline	18.12	2174	138	0	0.00	ng/ul	438	0.367	
51)	Acenaphthene	0.00	2191	152	0	Not Found	ng/ul	670	0.000	
52)	2,4-Dinitrophenol	18.25	2190	184	0	0.00	ng/ul	566	0.236	
53)	4-Nitrophenol	18.18	2182	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	225	0.000	
55)	2,4-Dinitrotoluene	18.52	2223	165	57576	0.37	ng/ul	904	0.578	0.01L
56)	Benzo(b)Fluoranthene	28.86	3463	252	0	0.00	ng/ul	0	1.127	
57)	Diethyl Phthalate	19.05	2286	149	216731	0.38	ng/ul	758	2.124	0.01L
58)	Fluorene	19.24	2309	166	0	0.00	ng/ul	621	1.020	
59)	4-Chlorophenyl Phenyl Ether	19.24	2309	204	0	0.00	ng/ul	386	0.773	
60)	4-Nitroaniline	19.29	2315	108	0	0.00	ng/ul	0	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305332.1B2
Data File: 305332.MS
Name: 305332
Sample:

Quant Time: 05/22/02 11:31
Injected at: 05/22/02 05:08
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2314	198	0	Not Found	ng/ul	229	0.000	
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	248	0.000	
63)	1,2-Diphenylhydrazine	19.51	2341	77	19438	0.04	ng/ul	829	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	393	0.000	
65)	Hexachlorobenzene	0.00	2442	284	0	Not Found	ng/ul	312	0.000	
66)	Pentachlorophenol	0.00	2458	266	0	Not Found	ng/ul	278	0.000	
67)	Phenanthrene	20.78	2494	178	0	0.00	ng/ul	0	1.126	
68)	Anthracene	20.87	2504	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	21.01	2521	167	0	0.00	ng/ul	0	1.065	
70)	Di-n-Butyl Phthalate	21.46	2575	149	1490125	1.91	ng/ul	745	1.884	0.064
71)	Fluoranthene	22.45	2694	202	0	0.00	ng/ul	0	1.074	
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	2	0.000	
73)	Pyrene	0.00	2755	202	0	Not Found	ng/ul	288	0.000	
74)	Butyl Benzyl Phthalate	23.89	2867	149	0	0.00	ng/ul	0	1.194	
75)	3,3'-Dichlorobenzidine	0.00	3017	252	0	Not Found	ng/ul	52	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.98	2998	149	97721	0.16	ng/ul	674	1.694	0.0054
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	48	0.000	
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	12	0.000	
79)	Di-n-Octylphthalate	26.75	3210	149	5716	0.01	ng/ul	452	2.650	
80)	Benzo(k)Fluoranthene	28.85	3462	252	1403	0.00	ng/ul	409	1.252	
81)	Benzo(a)Pyrene	0.00	3637	252	0	Not Found	ng/ul	176	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	5	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4422	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	90	0.000	
85)	N-Nitrosodimethylamine	4.78	574	73	78753	1.56	ng/ul	672	0.349	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	58	0.000	
87)	2-Chloroaniline	12.42	1491	127	219	0.00	ng/ul	498	0.535	
88)	2,4-Diaminotoluene	16.13	1936	121	7192	0.06	ng/ul	786	0.453	
89)	2,3-Dinitrotoluene	0.00	2191	165	0	Not Found	ng/ul	821	0.000	
90)	1-Naphthylamine	18.79	2255	143	1039	0.01	ng/ul	911	0.724	

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 11:31
Output File: 305332.1B2 Injected at: 05/22/02 05:08
Data File: 305332.MS Dilution Factor: 1.00
Name: 305332 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

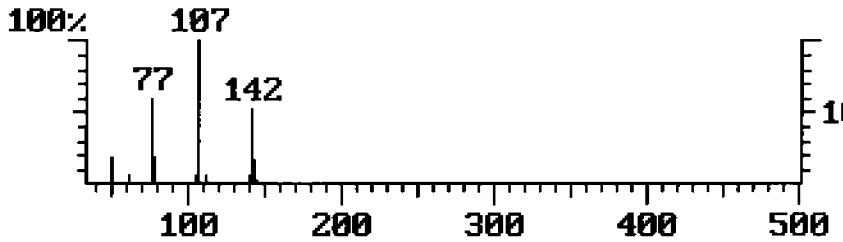
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.39	2327	152	548	0.00	ng/ul	419	0.425

* Compound is ISTD

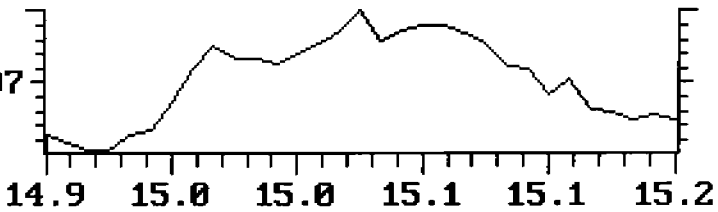
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 31 of 59
Data File: 305332 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:08 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1804
AGC: 2159

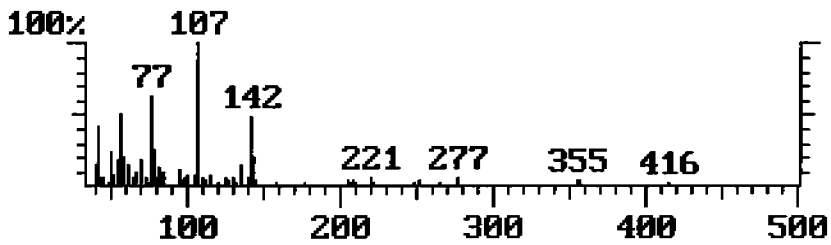
REFERENCE STANDARD SPECTRUM



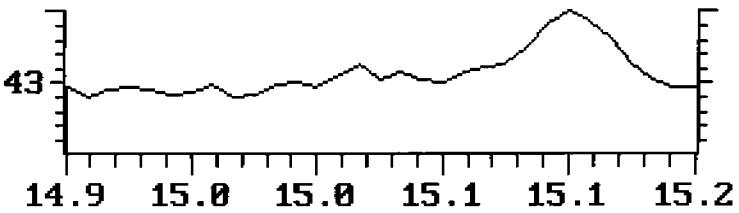
MASS 107 PLOT



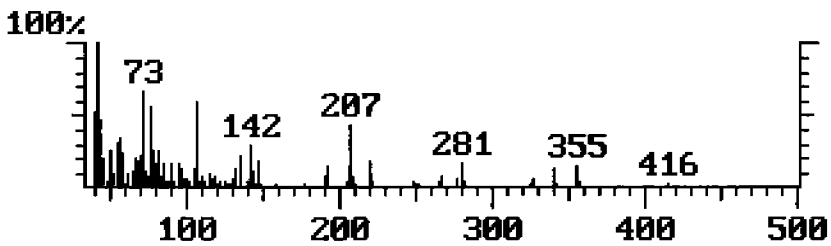
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



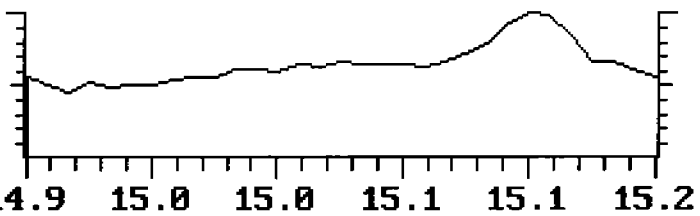
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

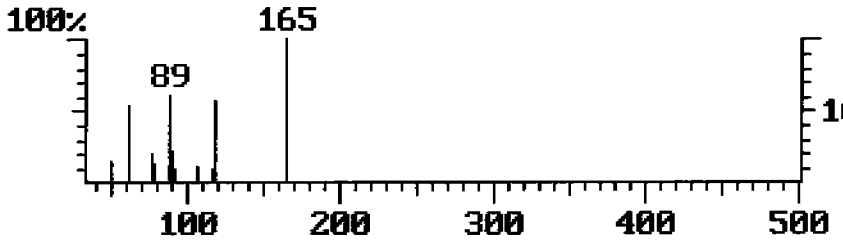


Approved_____ Date_____

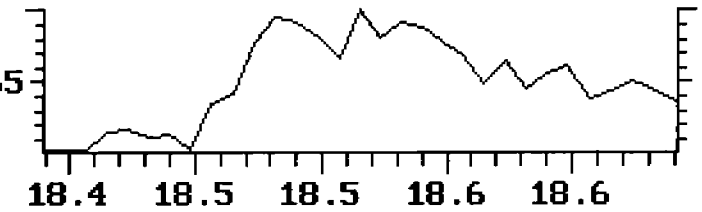
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 59
Data File: 305332 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:08 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2223
AGC: 717

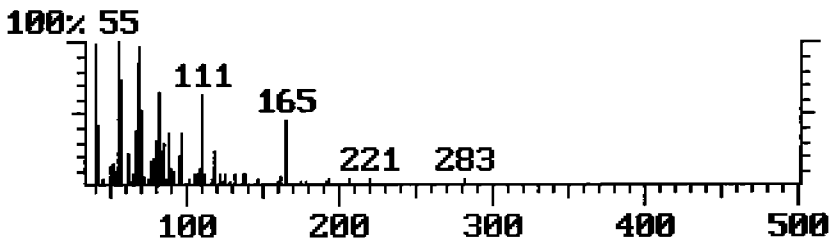
REFERENCE STANDARD SPECTRUM



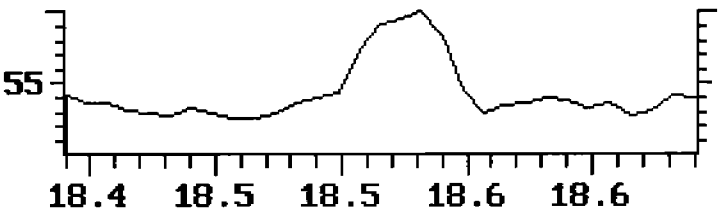
MASS 165 PLOT



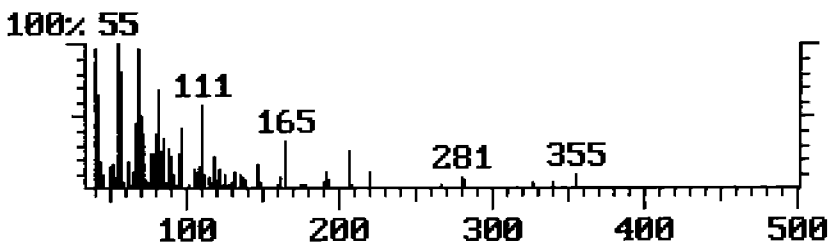
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



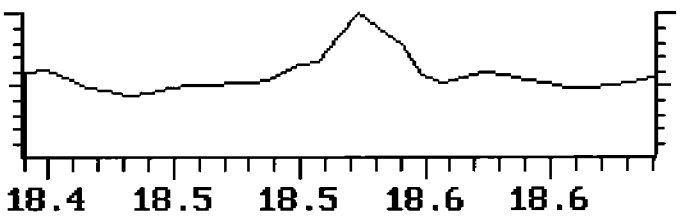
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

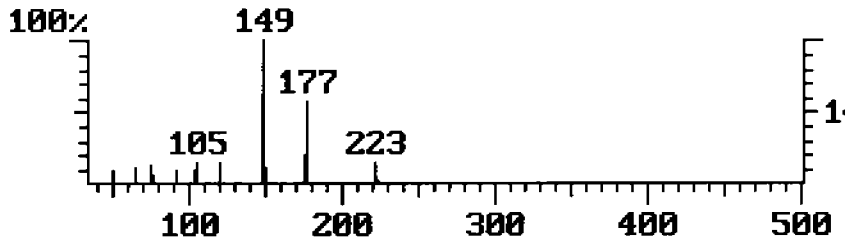


Approved_____ Date_____

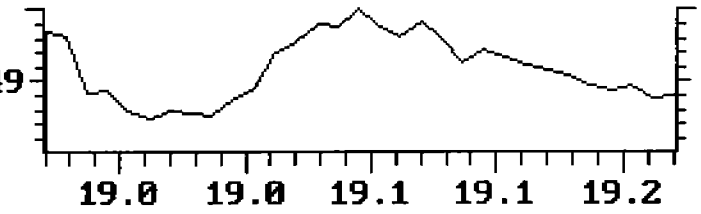
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 41 of 59
Data File: 305332 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:08 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2286
AGC: 849

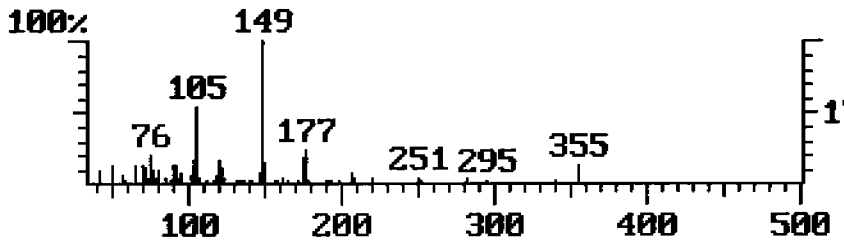
REFERENCE STANDARD SPECTRUM



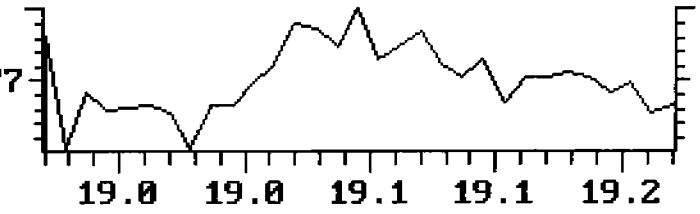
MASS 149 PLOT



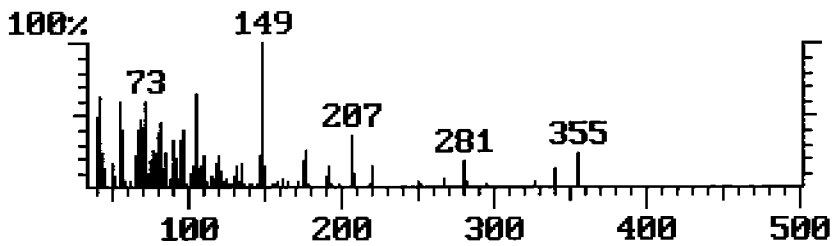
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



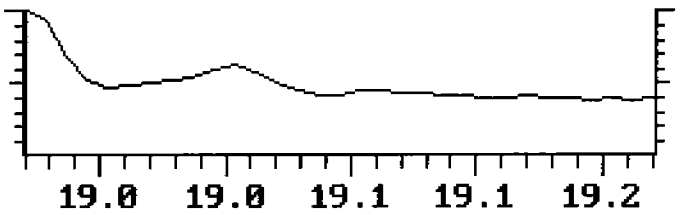
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

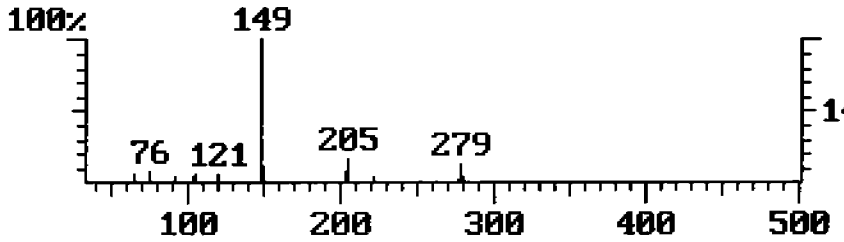


Approved_____ Date_____

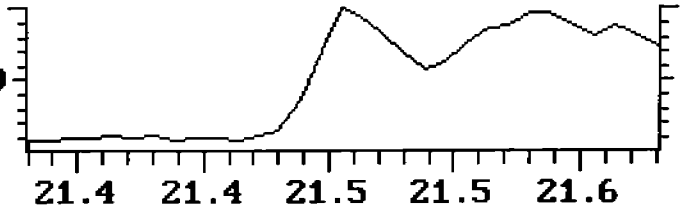
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 59
Data File: 305332 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:08 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2575
AGC: 209

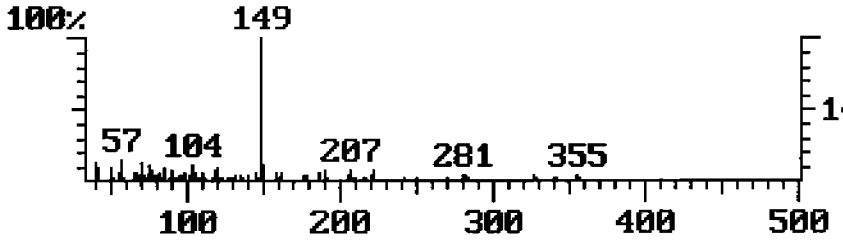
REFERENCE STANDARD SPECTRUM



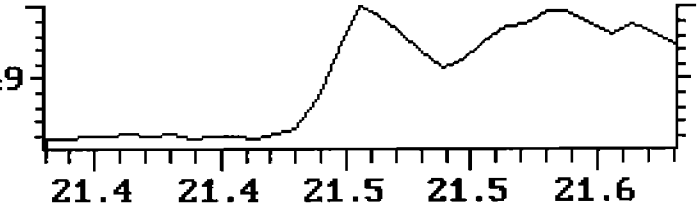
MASS 149 PLOT



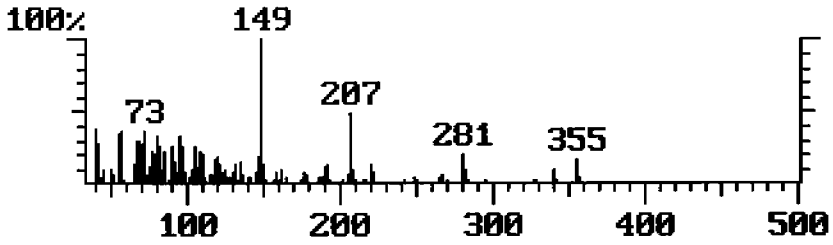
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



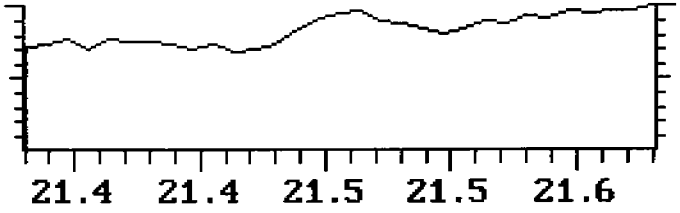
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

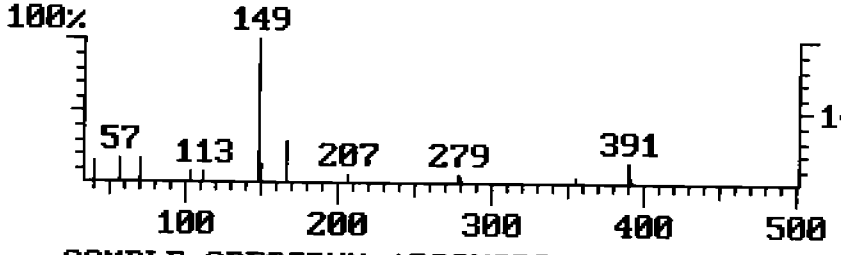


Approved_____ Date_____

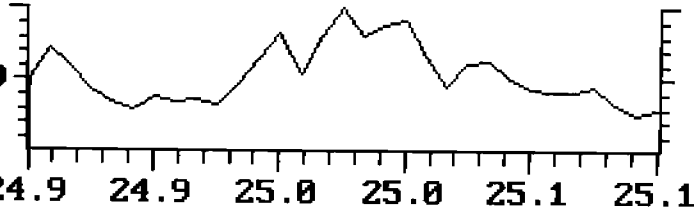
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 52 of 59
Data File: 305332 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:08 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2998
AGC: 229

REFERENCE STANDARD SPECTRUM



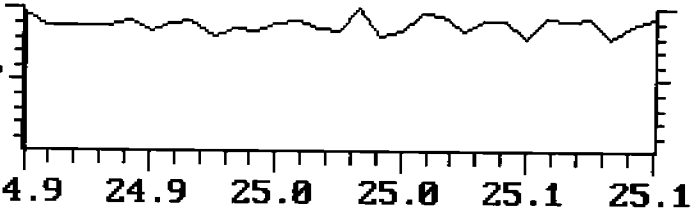
MASS 149 PLOT



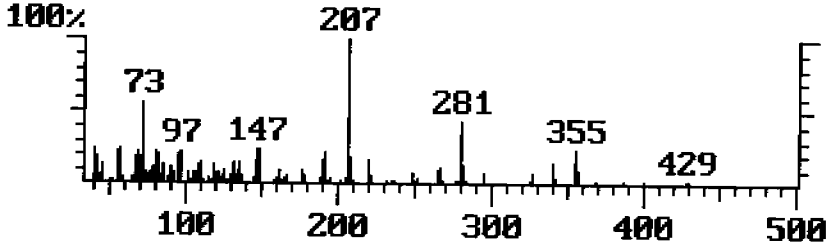
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



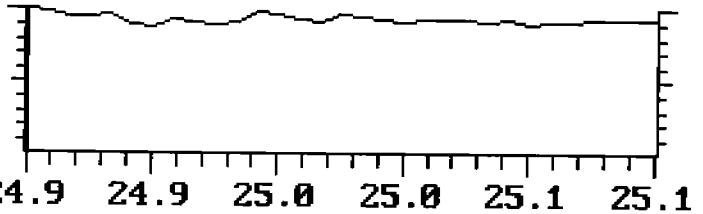
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
1ANS01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:15
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305333
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	**0.002**	J	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	**0.021**		0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.009**		0.001	0.002
91-57-6	2-Methylnaphthalene	**0.12**		0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	**0.006**		0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	**0.30**		0.001	0.002

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
1ANS01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:15
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305333
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	**0.27**		0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.052**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	**0.29**		0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	**0.65**		0.001	0.004
120-12-7	Anthracene	**0.11**		0.001	0.003
86-74-8	Carbazole	**0.13**		0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.54**	B	0.002	0.006
206-44-0	Fluoranthene	**0.20**		0.001	0.004
129-00-0	Pyrene	**0.14**		0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.014**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	**0.019**		0.002	0.007
218-01-9	Chrysene	**0.014**		0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.095**		0.003	0.011
117-84-0	Di-n-Octylphthalate	**0.015**		0.002	0.005
205-99-2	Benzo (b) Fluoranthene	**0.006**	J	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	**0.004**	J	0.002	0.005
50-32-8	Benzo (a) Pyrene	**0.004**	J	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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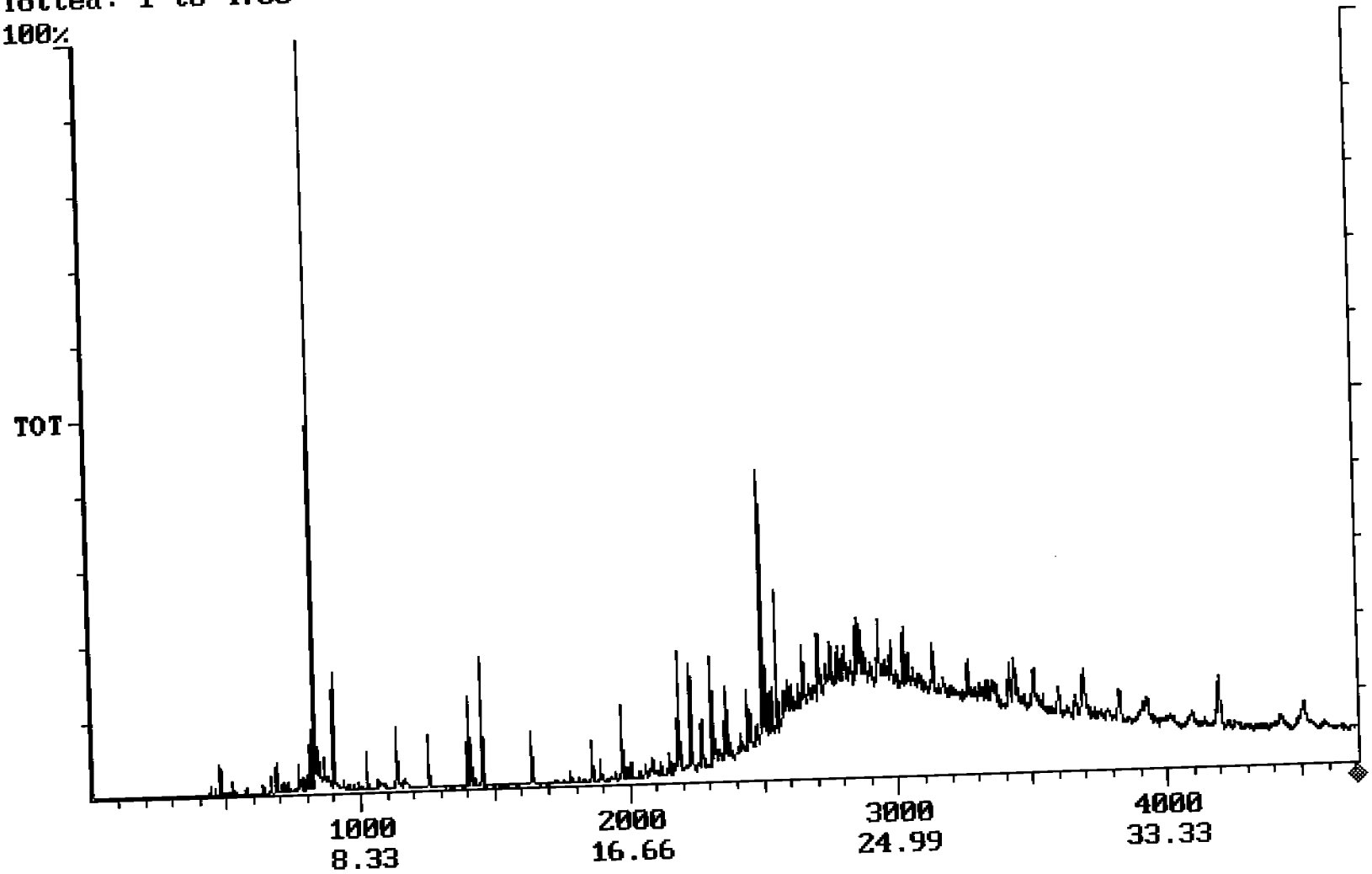
Chromatogram Plot C:\SATURN\DATA\305333 Date: 05/22/02 05:55:05
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4703 Range: 1 to 4703 100% = 13824508



000703

Operator ID: DMC
Output File: 305333.1B2
Data File: 305333.MS
Name: 305333
Sample:

Quant Time: 05/22/02 11:40
Injected at: 05/22/02 05:55
Dilution Factor: 1.00
Instrument ID: 138

30 → 10
100 %

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
1)	*IS:D4-1,4-Dichlorobenzene	10.46	1255	152	682024	5.00	ng/ul	998	1.000	
2)	*IS:D8-Naphthalene	13.64	1637	136	2189961	5.00	ng/ul	998	1.000	
3)	*IS:D10-Acenaphthene	18.14	2177	162	1305892	5.00	ng/ul	994	1.000	
4)	*IS:D10-Phenanthrene	20.79	2495	188	2155097	5.00	ng/ul	989	1.000	
5)	*IS:D12-Chrysene	25.33	3040	240	1828925	5.00	ng/ul	894	1.000	
6)	*IS:D12-Perylene	30.52	3662	264	2046062	5.00	ng/ul	886	1.000	
7)	ACSUR:2-Fluorophenol	7.51	901	112	2586424	12.05	ng/ul	994	1.574	
8)	ACSUR:D6-Phenol	9.45	1134	99	3154072	12.15	ng/ul	997	1.904	
9)	ACSUR:2,4,6-Tribromophenol	19.65	2358	330	755913	8.76	ng/ul	991	0.331	
10)	BNSUR:D5-Nitrobenzene	11.78	1414	127	571127	7.84	ng/ul	932	0.167	
11)	BNSUR:Decafluorobiphenyl	11.70	1404	334	2368255	7.40	ng/ul	942	0.731	
12)	BNSUR:2-Fluorobiphenyl	16.43	1972	172	2549246	8.29	ng/ul	998	1.178	
13)	BNSUR:O-Terphenyl	21.27	2552	230	2159703	8.26	ng/ul	985	0.716	
14)	Pyridine	5.14	617	79	217	0.00	ng/ul	455	1.031	
15)	Phenol	0.00	1141	94	0	Not Found ng/ul		272	0.000	
16)	Aniline	9.62	1155	93	1408	0.01	ng/ul	396	1.852	
17)	Bis(2-Chloroethyl)Ether	9.62	1155	92	1788	0.02	ng/ul	391	0.862	
18)	2-Chlorophenol	0.00	1199	128	0	Not Found ng/ul		199	0.000	
19)	1,3-Dichlorobenzene	10.33	1240	146	3198	0.02	ng/ul	895	1.538	
20)	1,4-Dichlorobenzene	10.53	1264	146	0	0.00	ng/ul	0	1.533	
21)	Benzyl Alcohol	10.71	1285	108	3705	0.04	ng/ul	916	0.647	
22)	1,2-Dichlorobenzene	10.87	1304	146	2398	0.01	ng/ul	625	1.426	
23)	2-Methylphenol	10.91	1309	108	0	0.00	ng/ul	393	1.185	
24)	Bis(2-Chloroisopropyl)Ether	0.00	1330	45	0	Not Found ng/ul		236	0.000	
25)	4-Methylphenol	11.33	1360	108	8755	0.05	ng/ul	783	1.306	0.0017
26)	N-Nitrosodi-N-Propylamine	11.46	1376	70	5459	0.05	ng/ul	803	0.786	
27)	Hexachloroethane	11.77	1412	119	0	0.00	ng/ul	2	0.645	
28)	Nitrobenzene	12.12	1454	77	0	0.00	ng/ul	0	0.547	
29)	Isophorone	0.00	1495	82	0	Not Found ng/ul		812	0.000	
30)	2-Nitrophenol	12.73	1527	109	0	0.00	ng/ul	298	0.374	

* Compound is ISTD

Operator ID: DMC
Output File: 305333.1B2
Data File: 305333.MS
Name: 305333
Sample:

Quant Time: 05/22/02 11:40
Injected at: 05/22/02 05:55
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	326	0.000	
32)	Benzoic Acid	13.13	1576	105	3649	0.03	ng/ul	594	0.318	
33)	Bis(2-Chloroethoxy)Methane	13.07	1568	92	0	0.00	ng/ul	0	0.473	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	167	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1619	180	0	Not Found	ng/ul	342	0.000	
36)	Naphthalene	13.69	1643	128	385709	0.63	ng/ul	997	1.390	0.021
37)	4-Chloroaniline	13.88	1666	127	246	0.00	ng/ul	779	0.570	
38)	2,6-Dichlorophenol	0.00	1659	162	0	Not Found	ng/ul	446	0.000	
39)	Hexachlorobutadiene	14.02	1682	225	0	0.00	ng/ul	352	0.282	
40)	4-Chloro-3-Methylphenol	15.00	1800	107	72110	0.28	ng/ul	960	0.594	0.0093
41)	2-Methylnaphthalene	15.50	1860	142	1017550	3.60	ng/ul	999	0.647	0.12
42)	Hexachlorocyclopentadiene	0.00	1909	237	0	Not Found	ng/ul	0	0.000	
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	113	0.000	
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	152	0.000	
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	634	0.000	
46)	2-Nitroaniline	17.08	2050	138	0	0.00	ng/ul	167	0.447	
47)	Dimethyl Phthalate	17.40	2088	163	0	0.00	ng/ul	0	1.884	
48)	2,6-Dinitrotoluene	17.63	2115	165	0	0.00	ng/ul	40	0.371	
49)	Acenaphthylene	17.84	2141	152	76433	0.18	ng/ul	961	1.644	0.0060
50)	3-Nitroaniline	18.02	2163	138	0	0.00	ng/ul	0	0.367	
51)	Acenaphthene	18.21	2185	152	3770038	8.85	ng/ul	908	1.632	0.30
52)	2,4-Dinitrophenol	18.22	2187	184	0	0.00	ng/ul	900	0.236	
53)	4-Nitrophenol	18.22	2187	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	18.57	2228	168	3527964	7.98	ng/ul	998	1.693	0.27
55)	2,4-Dinitrotoluene	18.56	2227	165	0	0.00	ng/ul	45	0.578	
56)	Benzo(b)Fluoranthene	28.81	3457	252	77544	0.17	ng/ul	501	1.127	0.0056
57)	Diethyl Phthalate	18.92	2270	149	862451	1.55	ng/ul	873	2.124	0.052
58)	Fluorene	19.22	2307	166	2435685	8.60	ng/ul	920	1.085	0.29
59)	4-Chlorophenyl Phenyl Ether	0.00	2306	204	0	Not Found	ng/ul	148	0.000	
60)	4-Nitroaniline	19.25	2310	108	0	0.00	ng/ul	841	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305333.1B2
Data File: 305333.MS
Name: 305333
Sample:

Quant Time: 05/22/02 11:40
Injected at: 05/22/02 05:55
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.25	2310	198	0	0.00	ng/ul	307	0.215	
62)	N-Nitrosodiphenylamine	0.00	2329	169	0	Not Found	ng/ul	750	0.000	
63)	1,2-Diphenylhydrazine	0.00	2340	77	0	Not Found	ng/ul	631	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	241	0.000	
65)	Hexachlorobenzene	0.00	2422	284	0	Not Found	ng/ul	129	0.000	
66)	Pentachlorophenol	0.00	2458	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.82	2499	178	9512689	19.60	ng/ul	983	1.126	0.05
68)	Anthracene	20.90	2508	178	1732976	3.43	ng/ul	981	1.171	0.11
69)	Carbazole	21.11	2533	167	1842062	4.01	ng/ul	966	1.065	0.13
70)	Di-n-Butyl Phthalate	21.45	2574	149	1344432	1.63	ng/ul	878	1.911	0.54
71)	Fluoranthene	22.55	2706	202	2814600	6.08	ng/ul	984	1.074	0.20
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	110	0.000	
73)	Pyrene	22.93	2752	202	1778058	4.06	ng/ul	953	1.198	0.14
74)	Butyl Benzyl Phthalate	23.75	2850	149	179696	0.41	ng/ul	592	1.194	0.014
75)	3,3'-Dichlorobenzidine	0.00	3017	252	0	Not Found	ng/ul	68	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.82	2979	149	1776330	2.85	ng/ul	883	1.705	0.095
77)	Benzo(a)Anthracene	25.32	3038	228	256233	0.58	ng/ul	481	1.205	0.019
78)	Chrysene	25.43	3051	228	255466	0.42	ng/ul	906	1.655	0.014
79)	Di-n-Octylphthalate	26.65	3198	149	437939	0.45	ng/ul	780	2.656	0.015
80)	Benzo(k)Fluoranthene	28.87	3464	252	66918	0.13	ng/ul	590	1.252	0.0044
81)	Benzo(a)Pyrene	30.24	3629	252	53363	0.12	ng/ul	334	1.075	0.004
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	69	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4422	278	0	Not Found	ng/ul	264	0.000	
84)	Benzo(g,h,i)Perylene	38.74	4649	276	3712	0.01	ng/ul	511	1.281	
85)	N-Nitrosodimethylamine	5.16	619	73	0	0.00	ng/ul	0	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	49	0.000	
87)	2-Chloroaniline	12.42	1490	127	250	0.00	ng/ul	677	0.535	
88)	2,4-Diaminotoluene	0.00	1933	121	0	Not Found	ng/ul	530	0.000	
89)	2,3-Dinitrotoluene	0.00	2193	165	0	Not Found	ng/ul	816	0.000	
90)	1-Naphthylamine	18.88	2266	143	28273	0.15	ng/ul	797	0.727	

* Compound is ISTD

Operator ID: DMC
Output File: 305333.1B2
Data File: 305333.MS
Name: 305333
Sample:

Quant Time: 05/22/02 11:40
Injected at: 05/22/02 05:55
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

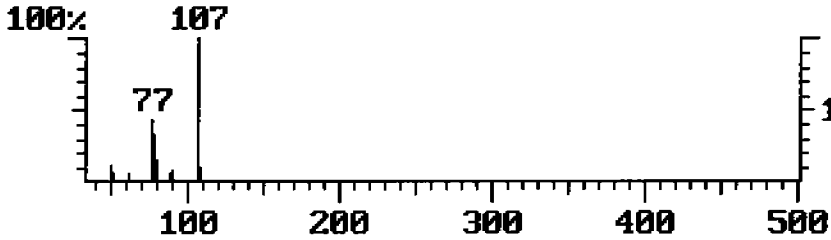
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2287	152	0	Not Found	ng/ul	419	0.000

* Compound is ISTD

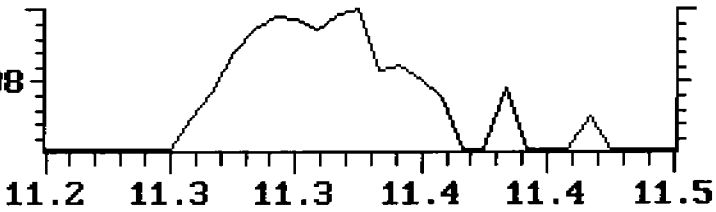
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 22 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Methylphenol SCAN#: 1360
AGC: 2202

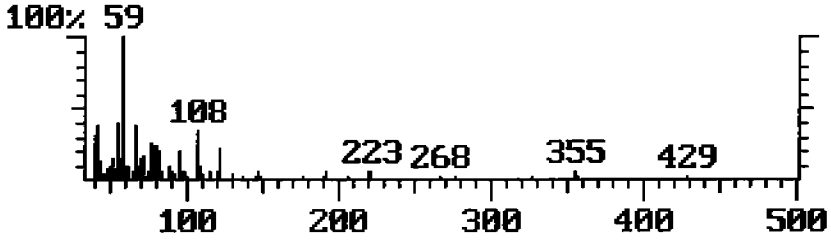
REFERENCE STANDARD SPECTRUM



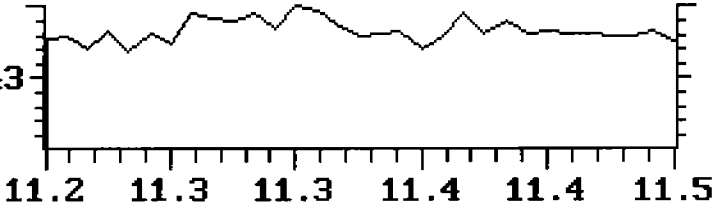
MASS 108 PLOT



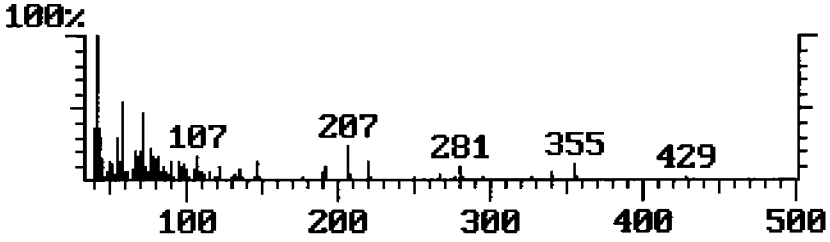
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



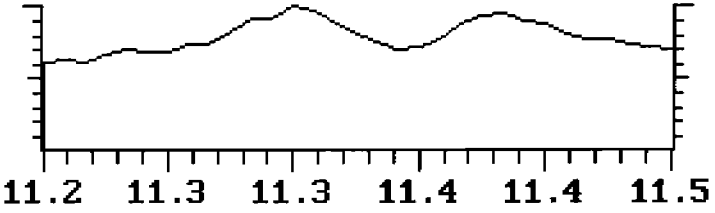
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

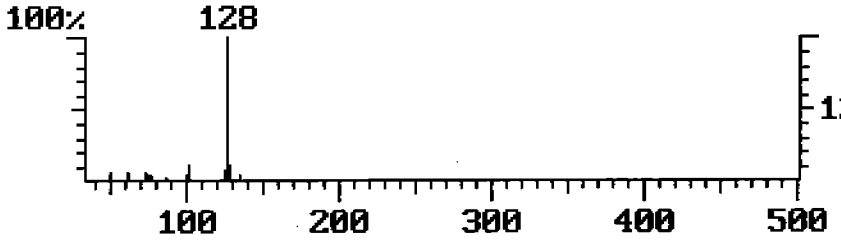


Approved_____ Date_____

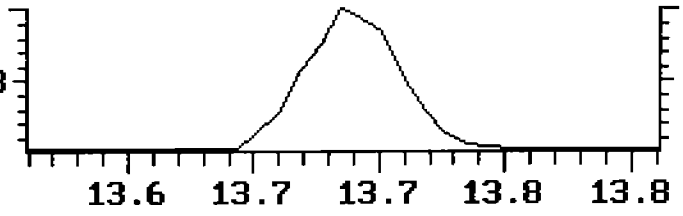
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 29 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Naphthalene SCAN#: 1643
AGC: 570

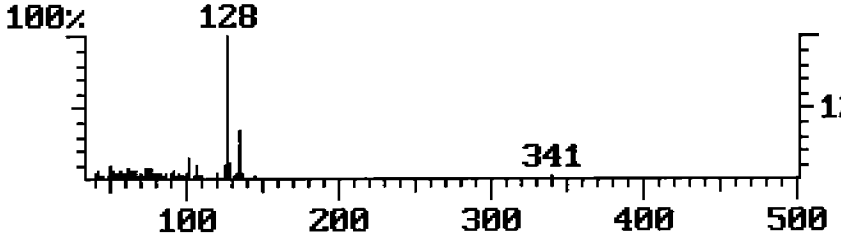
REFERENCE STANDARD SPECTRUM



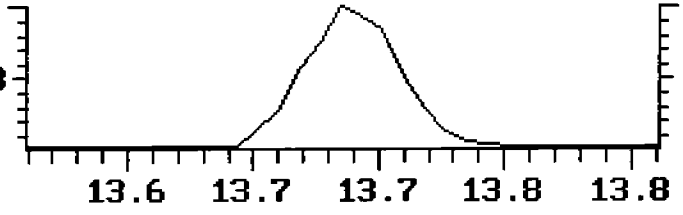
MASS 128 PLOT



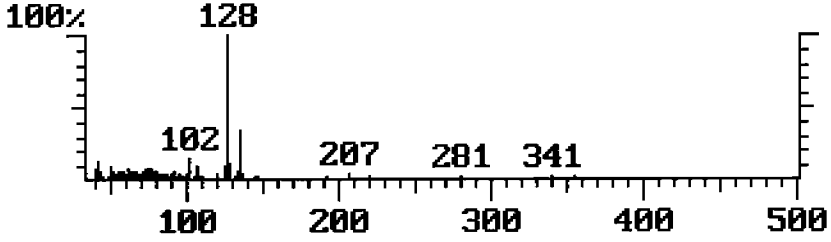
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



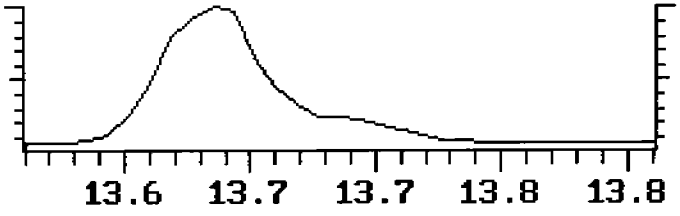
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

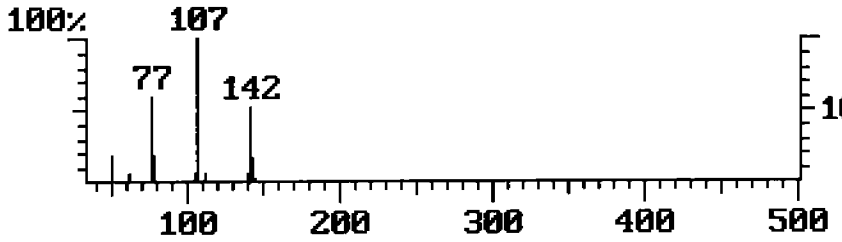


Approved_____ Date_____

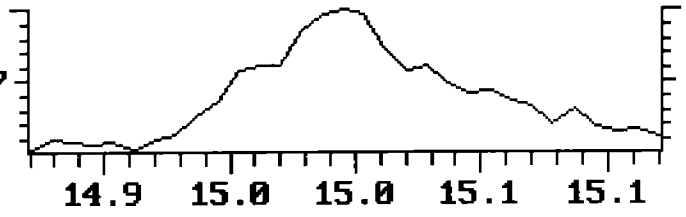
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 32 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1800
AGC: 1535

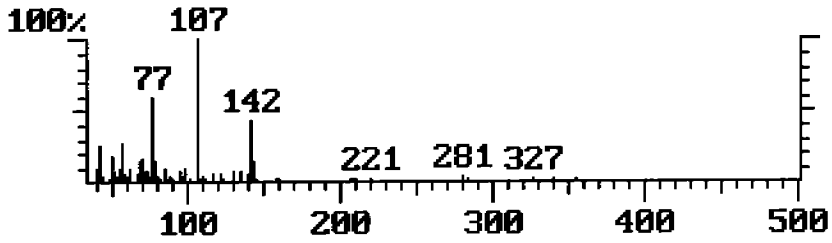
REFERENCE STANDARD SPECTRUM



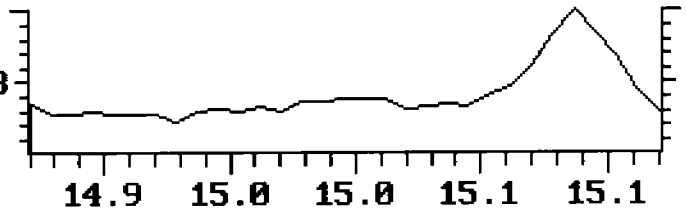
MASS 107 PLOT



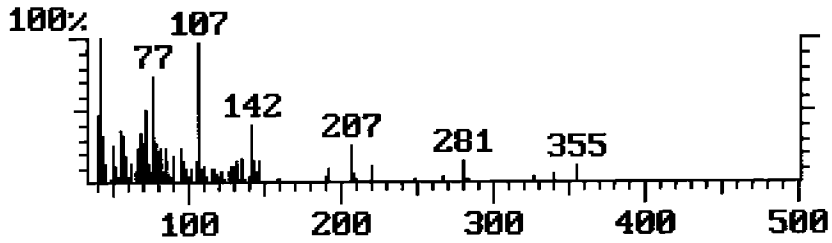
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



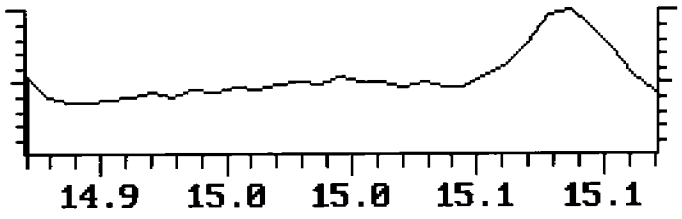
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

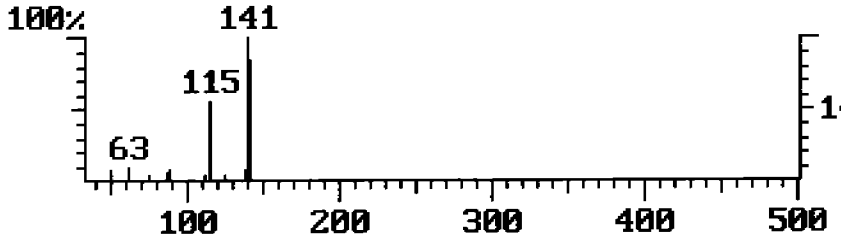


Approved_____ Date_____

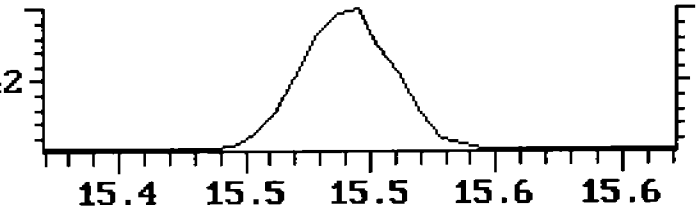
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2-Methylnaphthalene SCAN#: 1860
AGC: 150

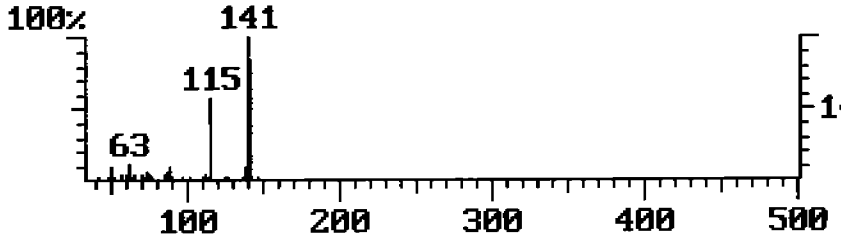
REFERENCE STANDARD SPECTRUM



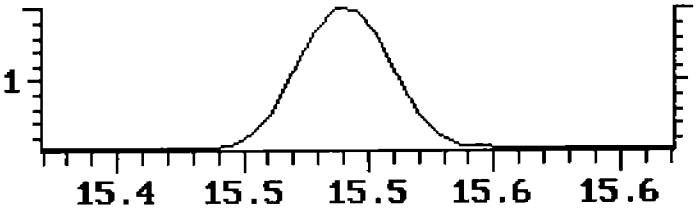
MASS 142 PLOT



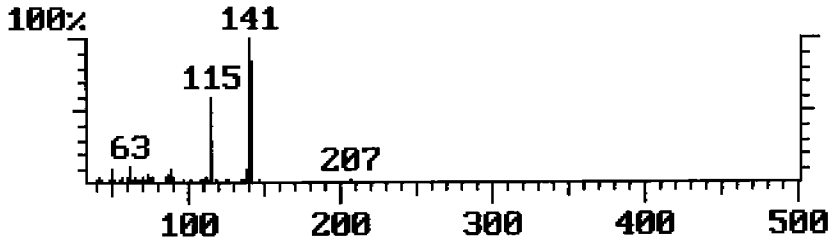
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



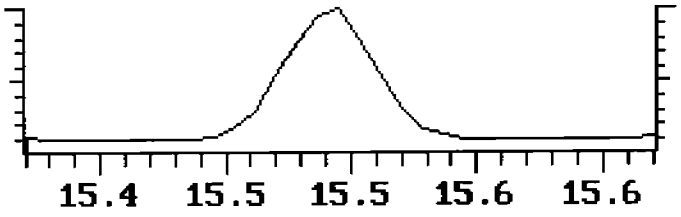
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



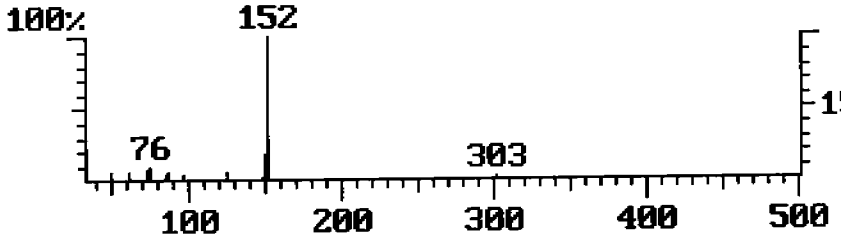
Approved_____ Date_____

000711

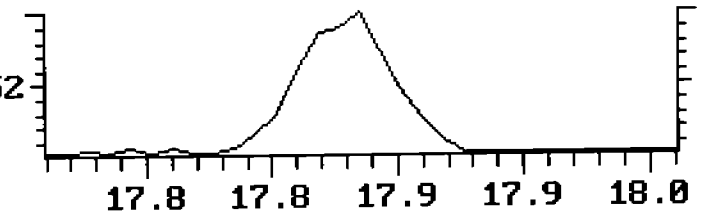
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 37 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Acenaphthylene SCAN#: 2141
AGC: 584

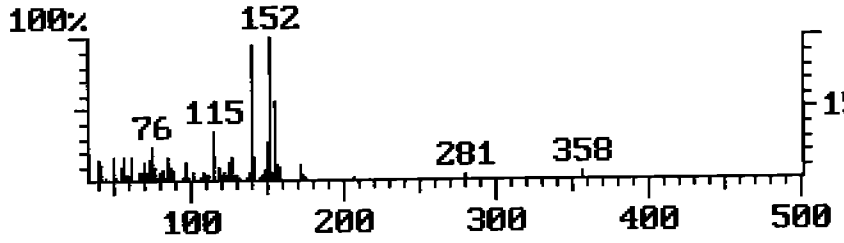
REFERENCE STANDARD SPECTRUM



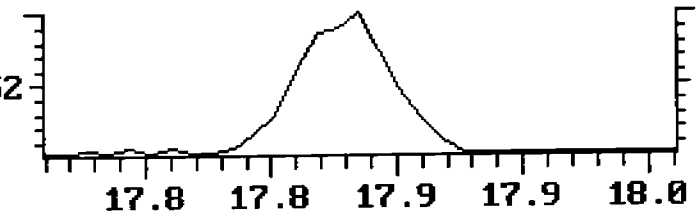
MASS 152 PLOT



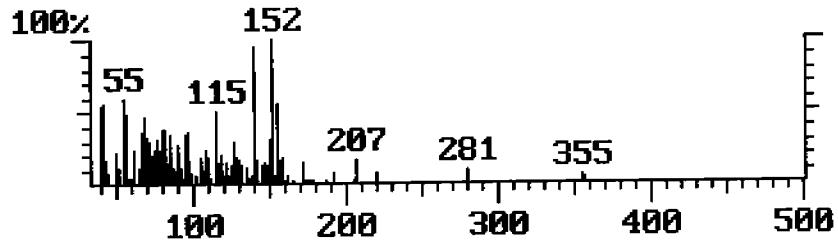
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



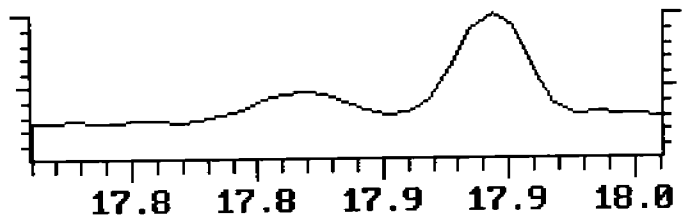
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

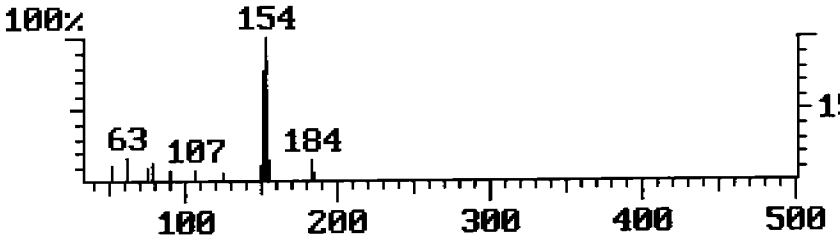


Approved_____ Date_____

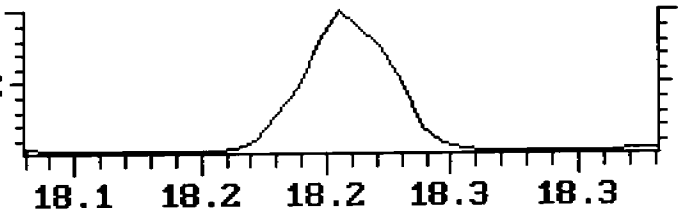
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Acenaphthene SCAN#: 2185
AGC: 50

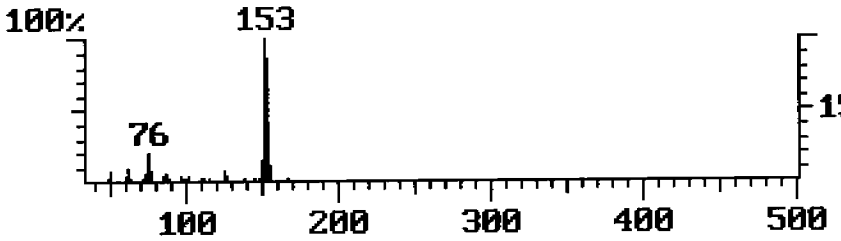
REFERENCE STANDARD SPECTRUM



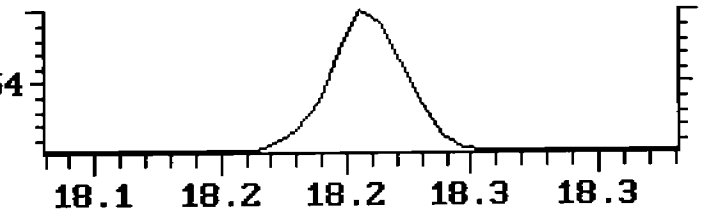
MASS 152 PLOT



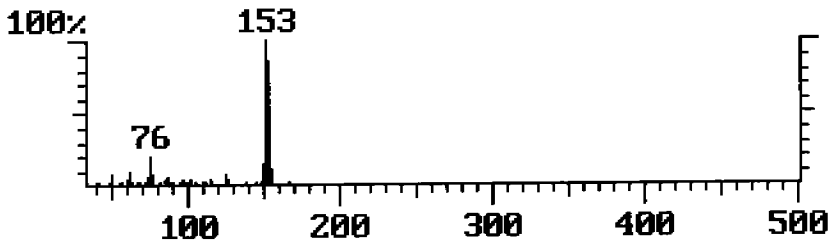
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



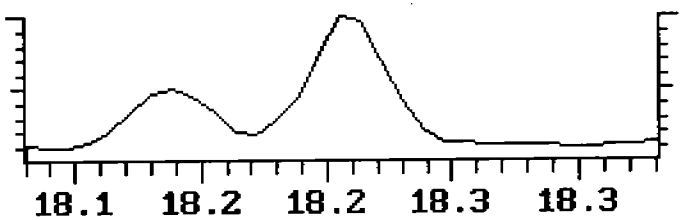
MASS 154 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

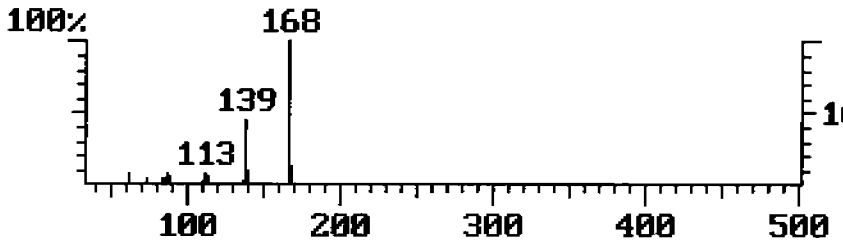


Approved_____ Date_____

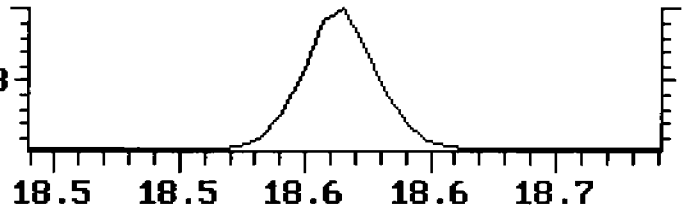
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 42 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Dibenzofuran SCAN#: 2228
AGC: 54

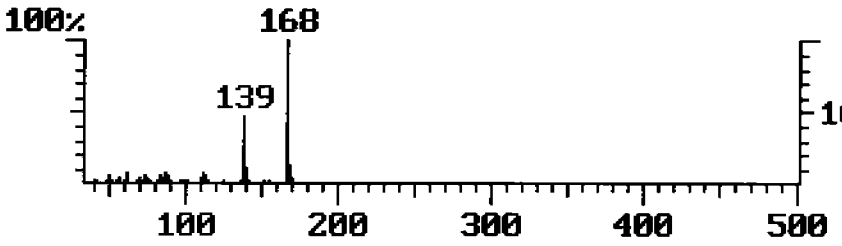
REFERENCE STANDARD SPECTRUM



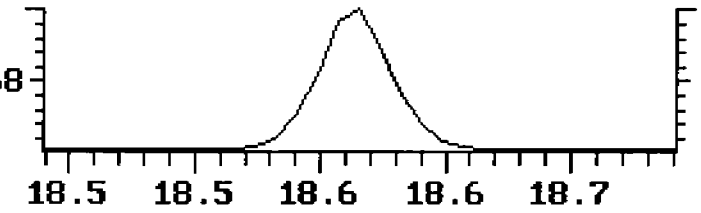
MASS 168 PLOT



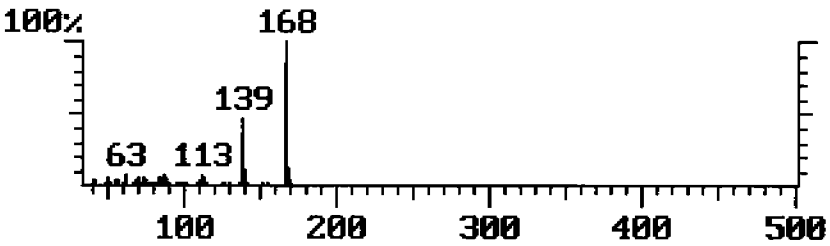
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



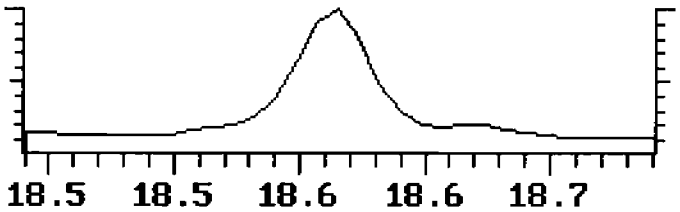
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

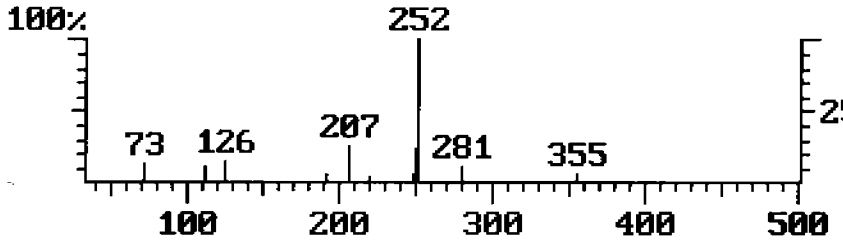


Approved_____ Date_____

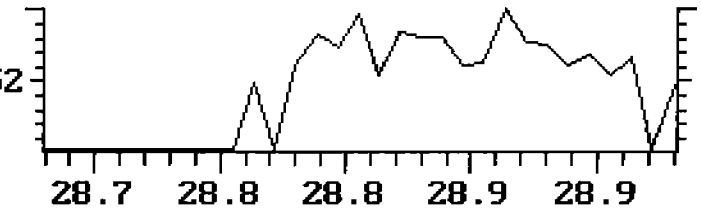
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Benzo(b)Fluoranthene SCAN#: 3457
AGC: 89

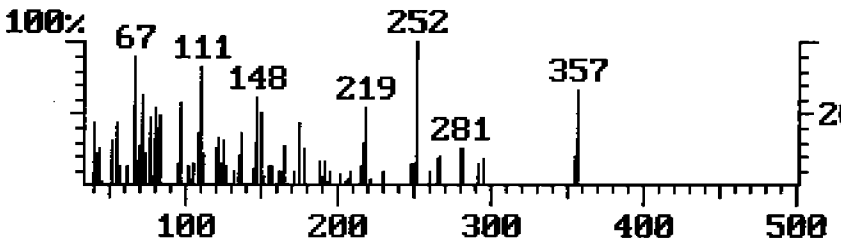
REFERENCE STANDARD SPECTRUM



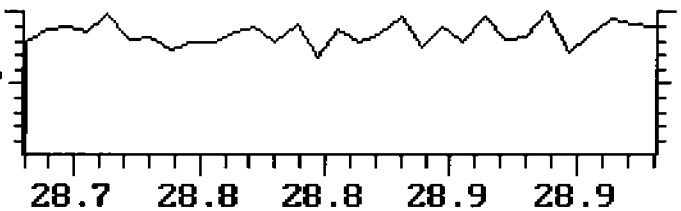
MASS 252 PLOT



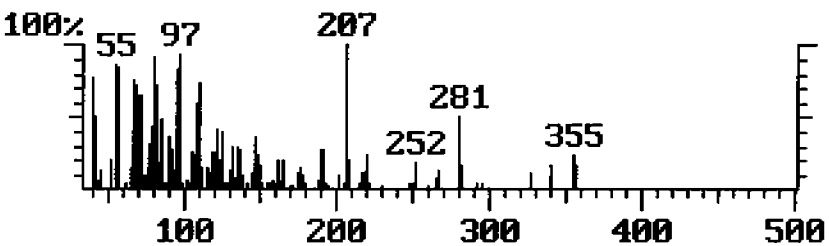
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



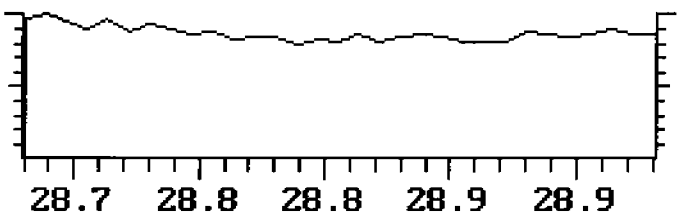
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



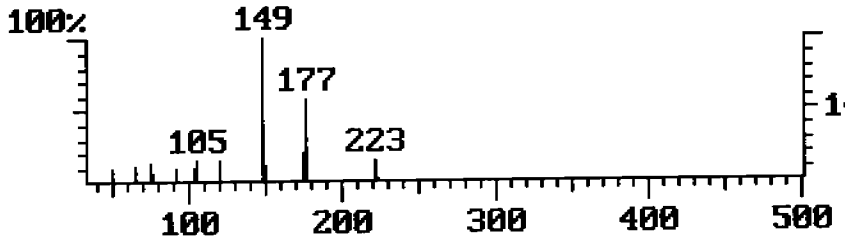
Approved_____ Date_____

Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

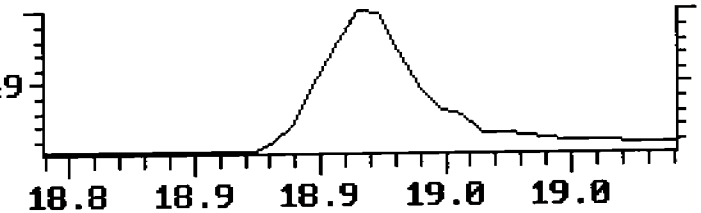
Diethyl Phthalate

SCAN#: 2270
AGC: 112

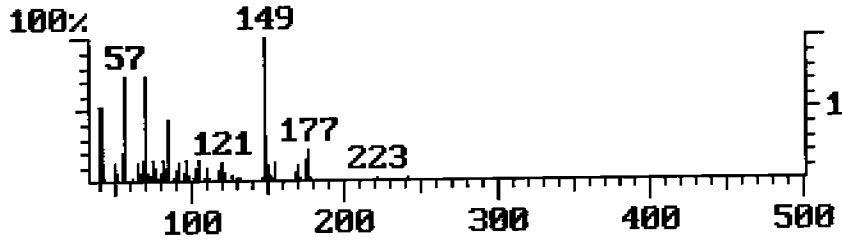
REFERENCE STANDARD SPECTRUM



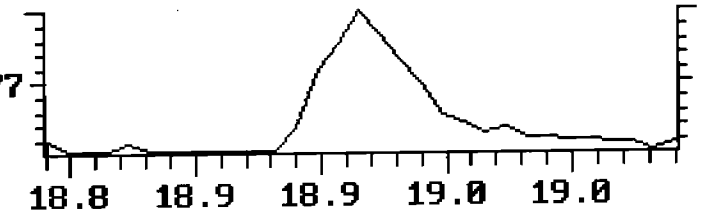
MASS 149 PLOT



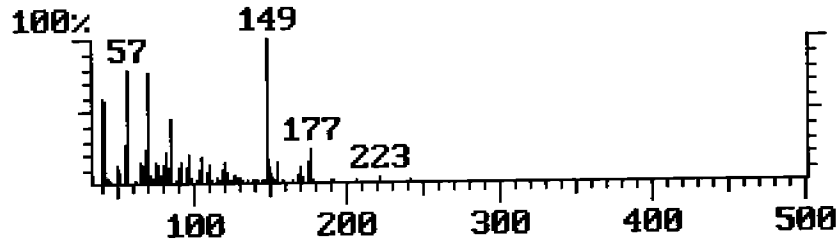
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



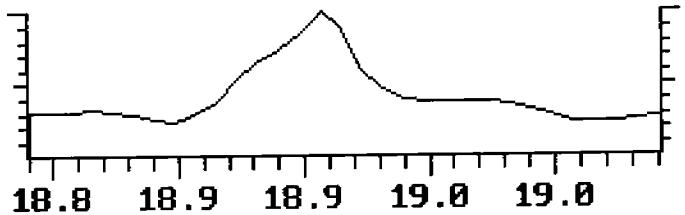
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



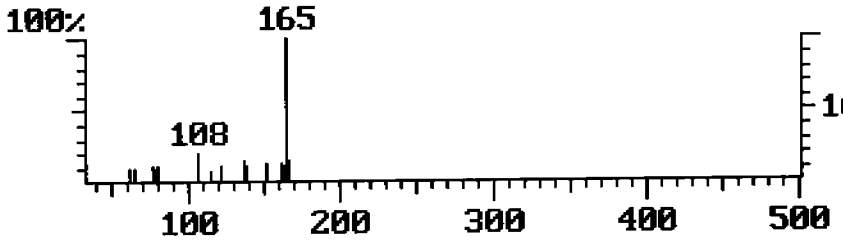
Approved_____ Date_____

Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

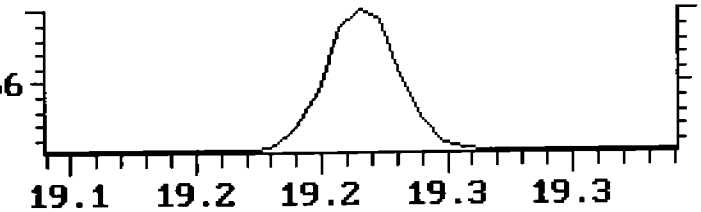
Fluorene

SCAN#: 2307
AGC: 48

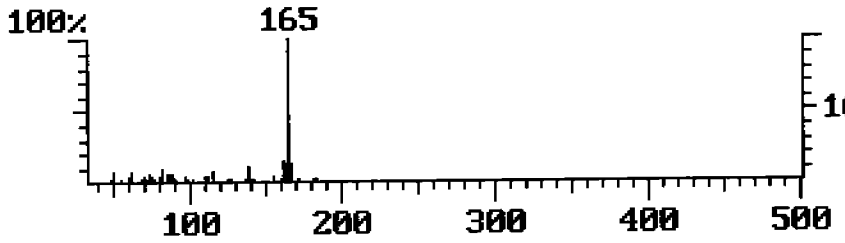
REFERENCE STANDARD SPECTRUM



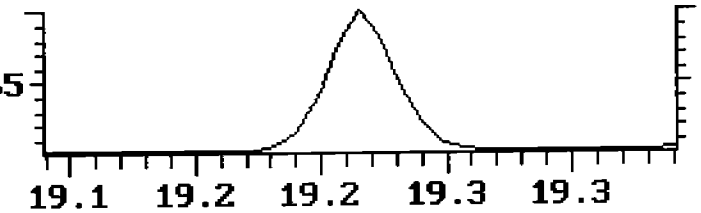
MASS 166 PLOT



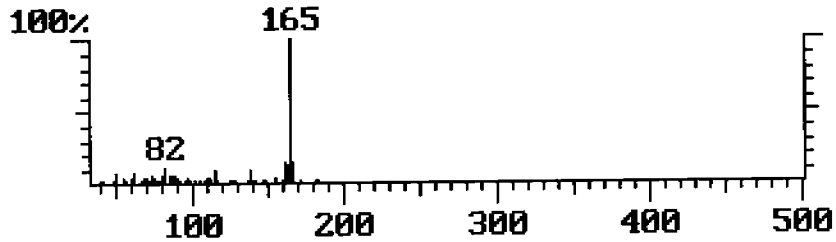
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



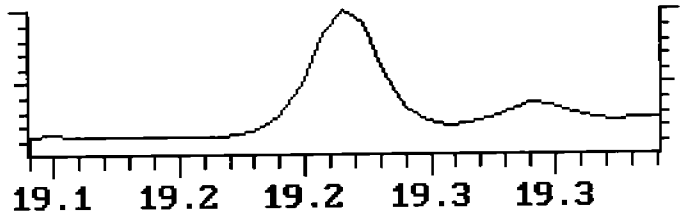
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

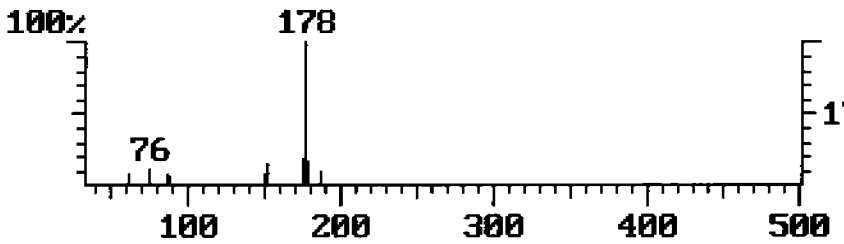


Approved_____ Date_____

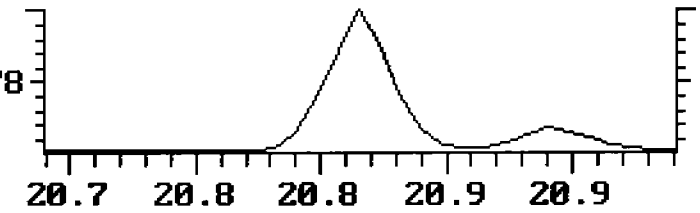
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Phenanthrene SCAN#: 2499
AGC: 21

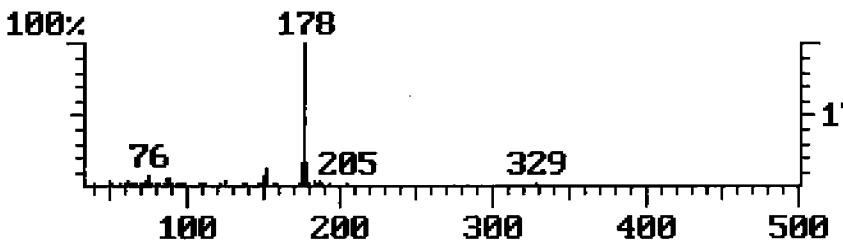
REFERENCE STANDARD SPECTRUM



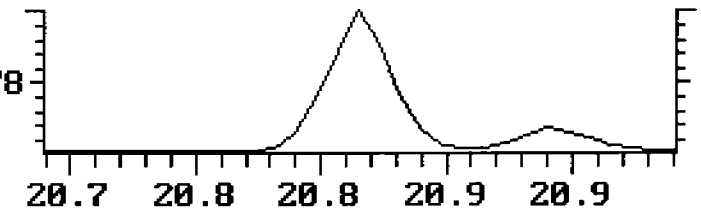
MASS 178 PLOT



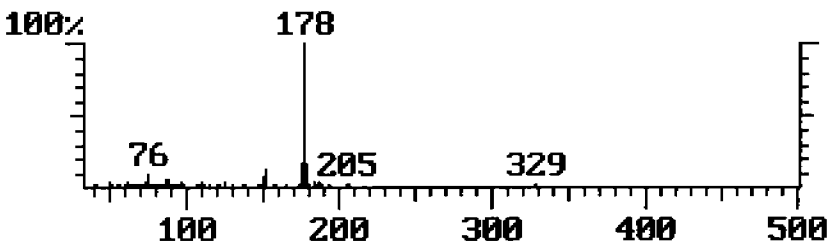
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



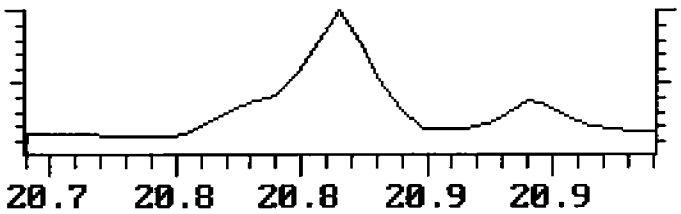
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

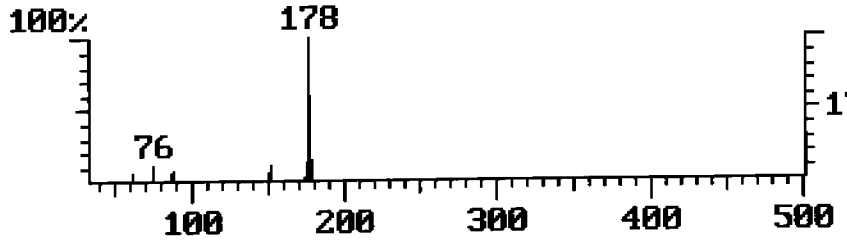


Approved_____ Date_____

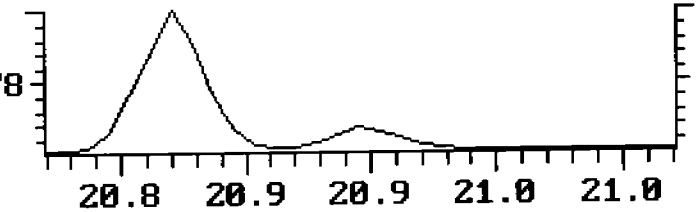
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Anthracene SCAN#: 2508
AGC: 54

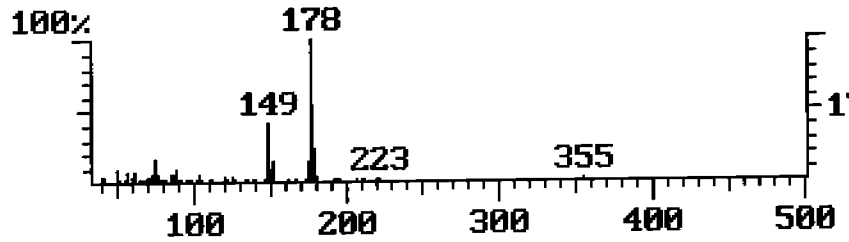
REFERENCE STANDARD SPECTRUM



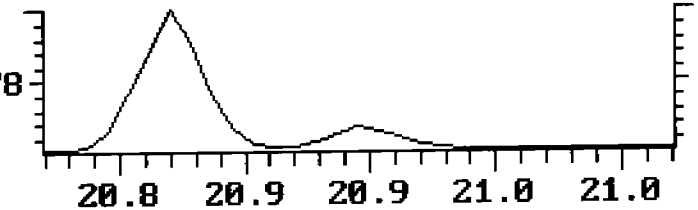
MASS 178 PLOT



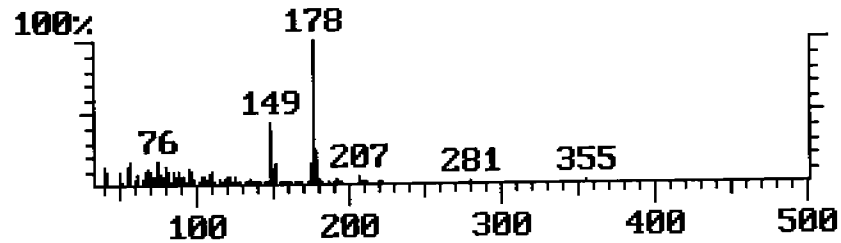
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



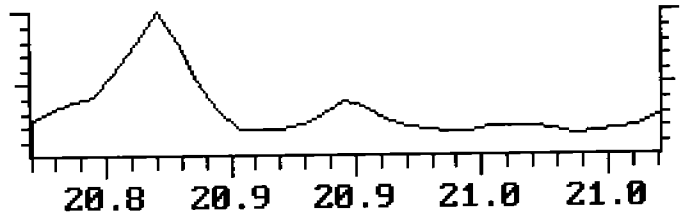
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TARGET COMPOUND CONFIRMATION REPORT 3

TRIMATRIX

Method: 8270
Data File: 305333
Date: 05/22/02 5:55 am
Sample:
Comments: INSTRUMENT 138

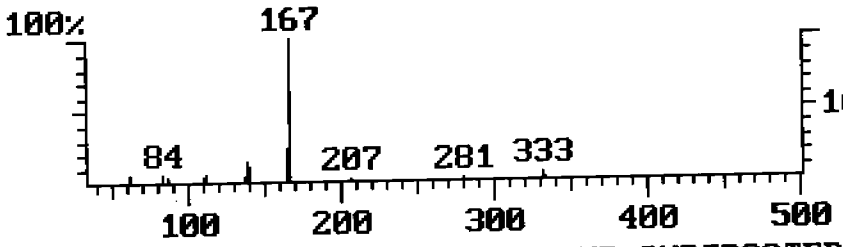
Calibration File: CCC8270
Calibration Date: 05/22/02
Operator: DMC

Dilution Factor: 1.00

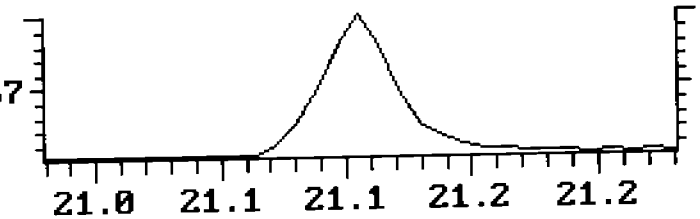
Carbazole

SCAN#: 2533
AGC: 59

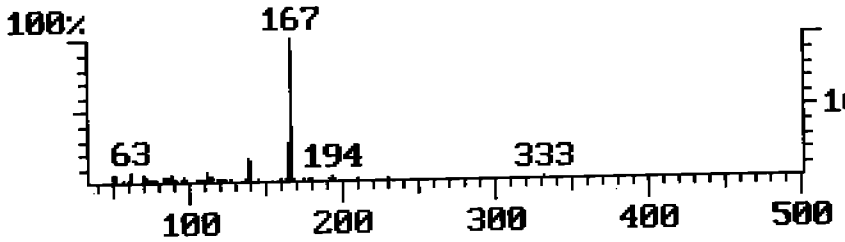
REFERENCE STANDARD SPECTRUM



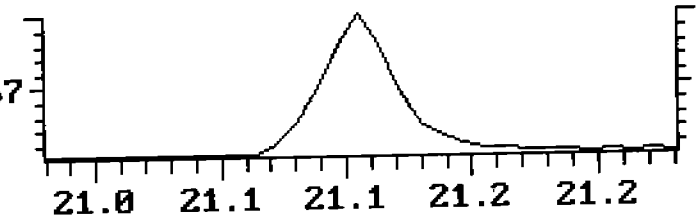
MASS 167 PLOT



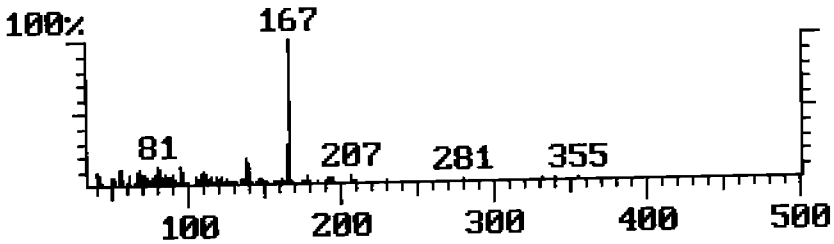
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



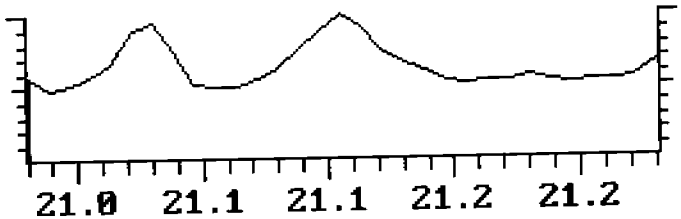
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



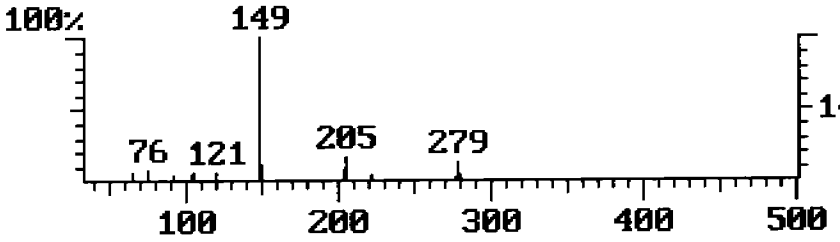
Approved_____ Date_____

000720

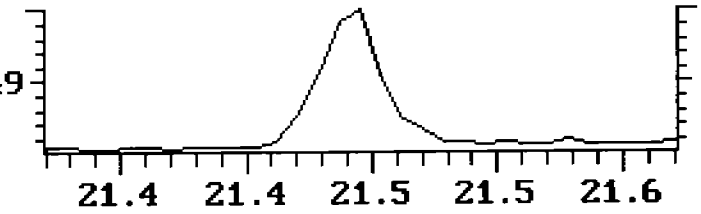
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2574
AGC: 73

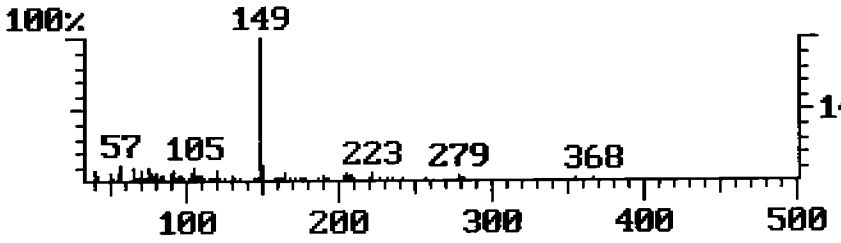
REFERENCE STANDARD SPECTRUM



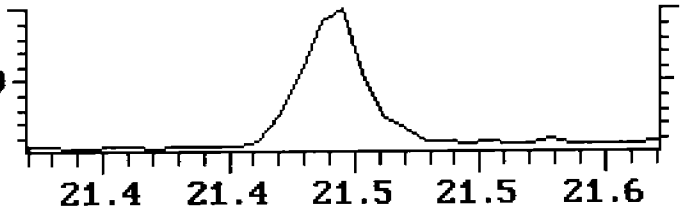
MASS 149 PLOT



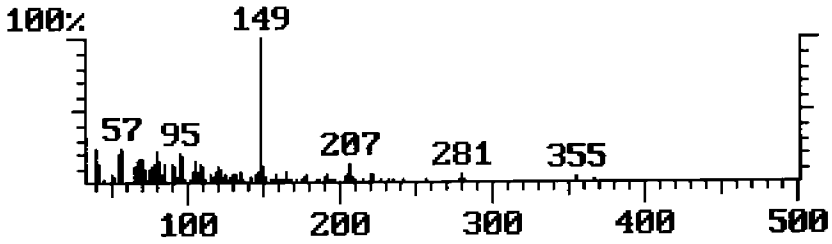
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



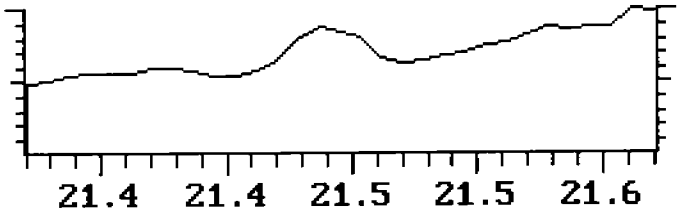
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



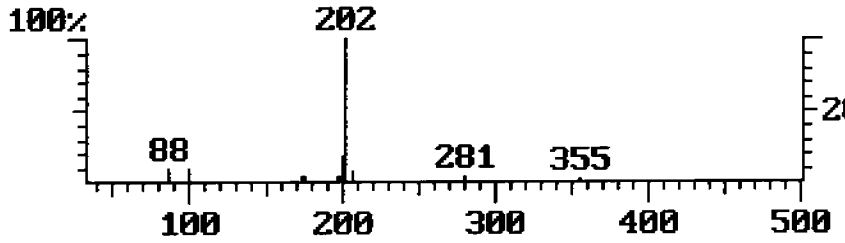
Approved_____ Date_____

000721

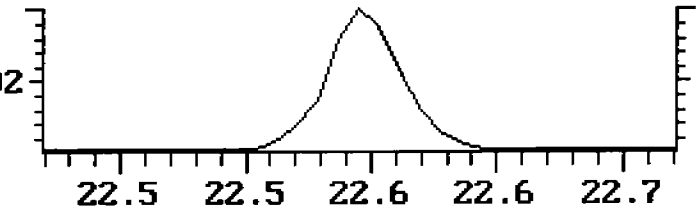
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 53 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Fluoranthene SCAN#: 2706
AGC: 40

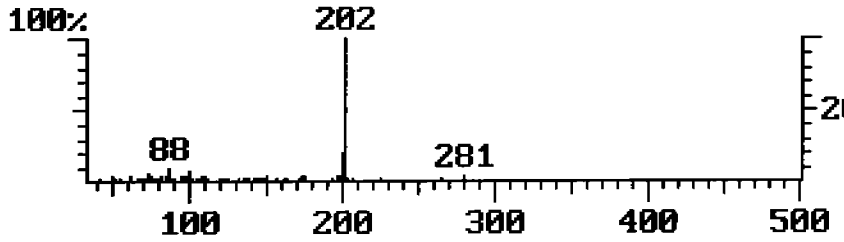
REFERENCE STANDARD SPECTRUM



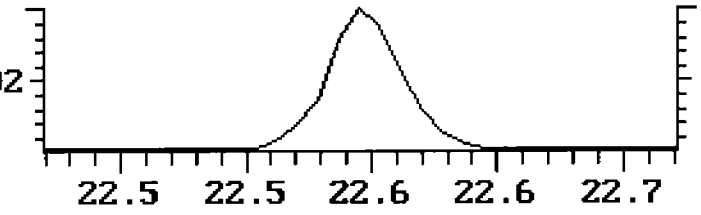
MASS 202 PLOT



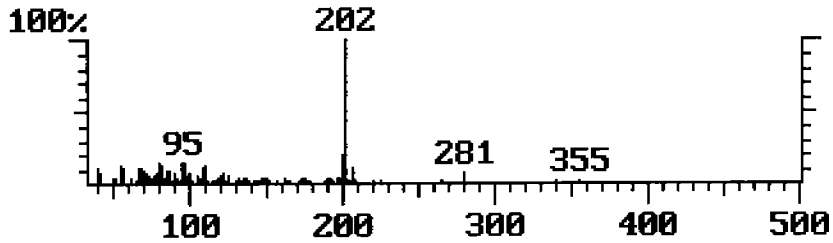
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



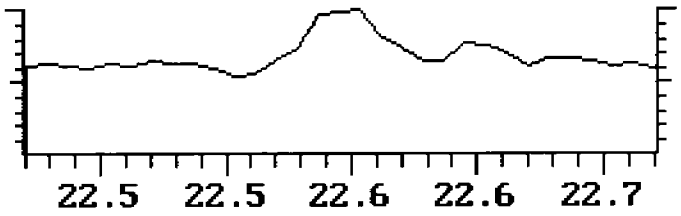
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

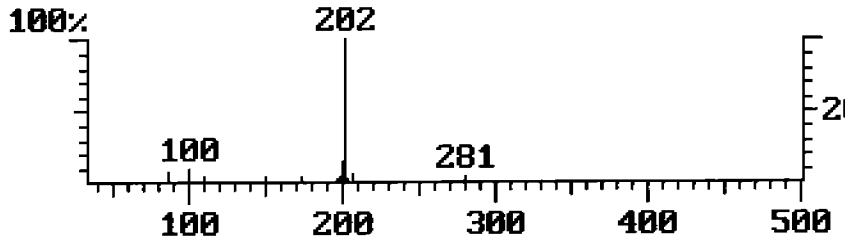


Approved_____ Date_____

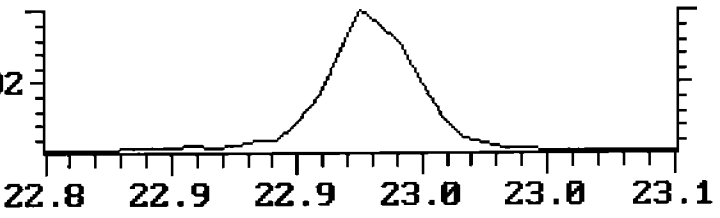
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 54 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Pyrene SCAN#: 2752
AGC: 42

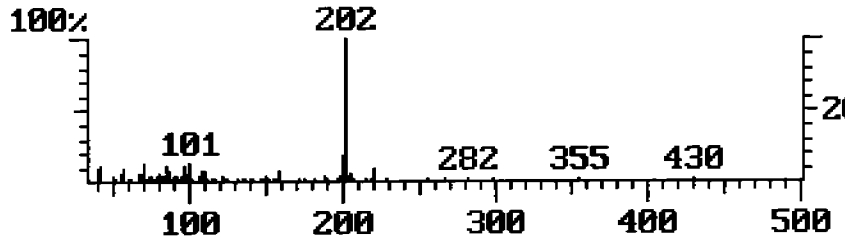
REFERENCE STANDARD SPECTRUM



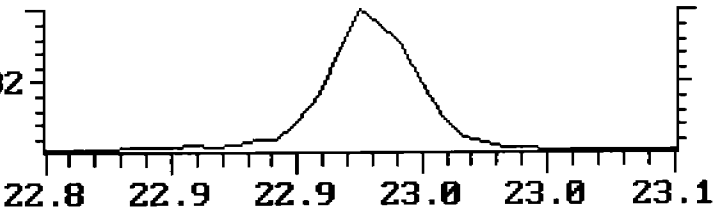
MASS 202 PLOT



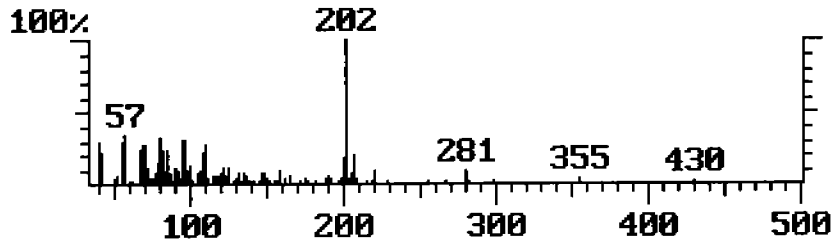
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



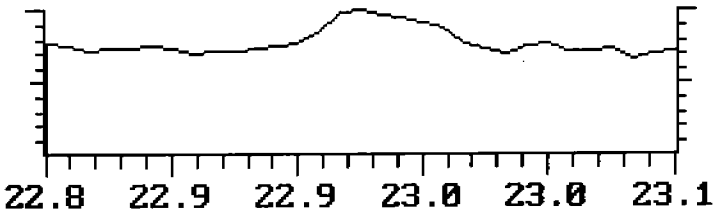
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

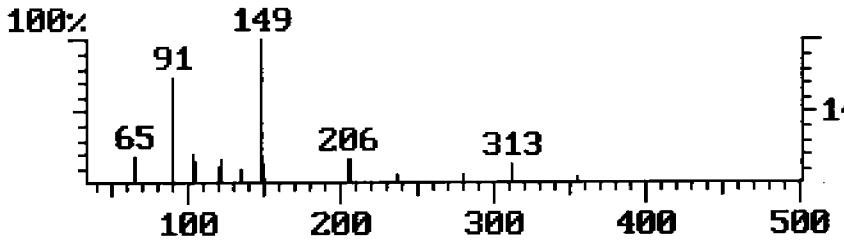


Approved_____ Date_____

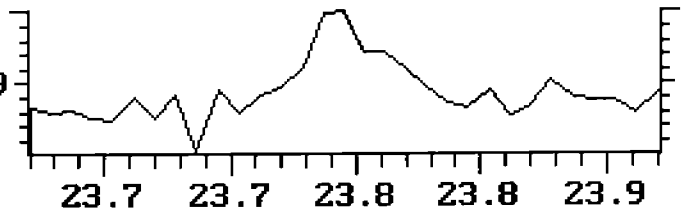
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 55 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2850
AGC: 38

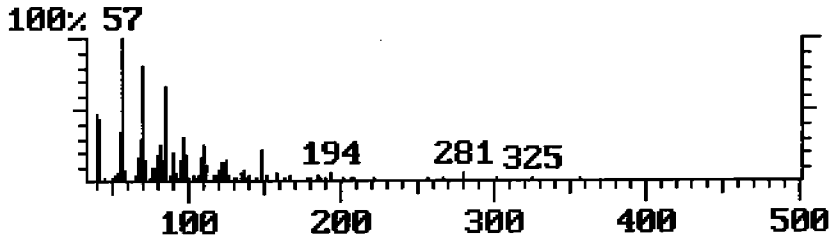
REFERENCE STANDARD SPECTRUM



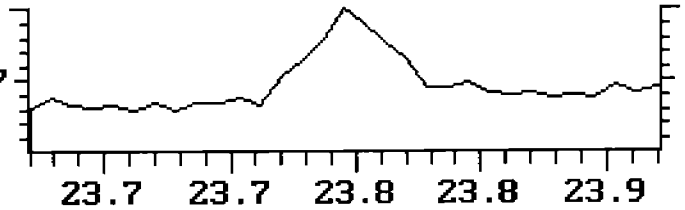
MASS 149 PLOT



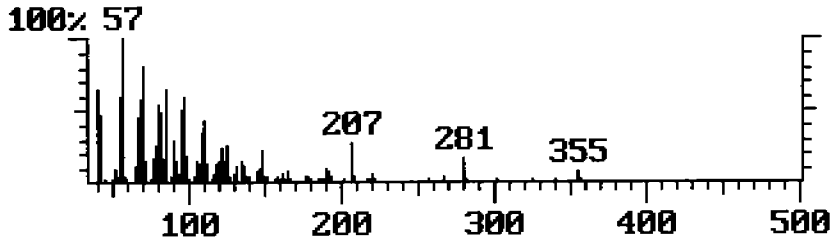
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



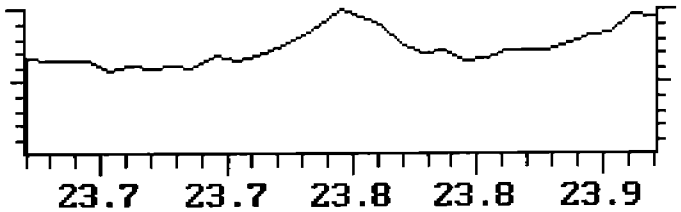
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

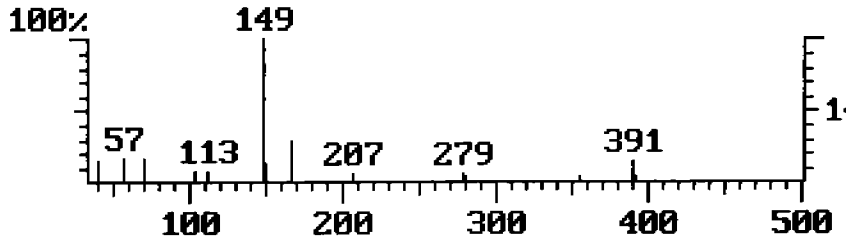


Approved_____ Date_____

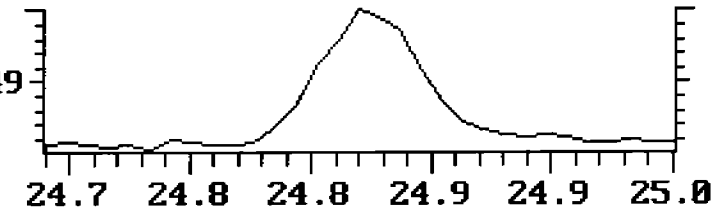
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 56 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2979
AGC: 46

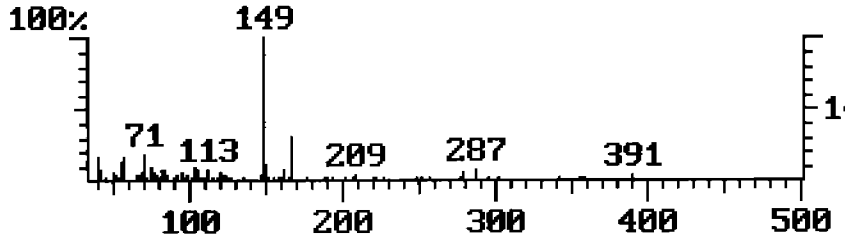
REFERENCE STANDARD SPECTRUM



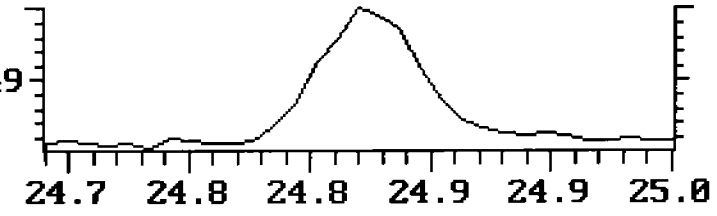
MASS 149 PLOT



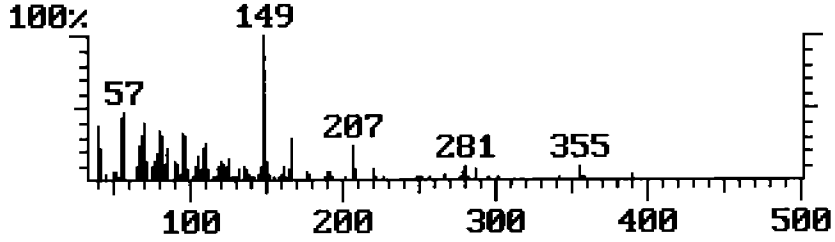
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



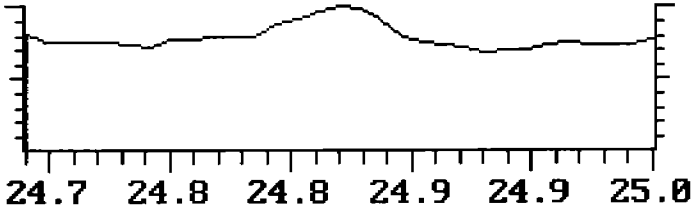
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

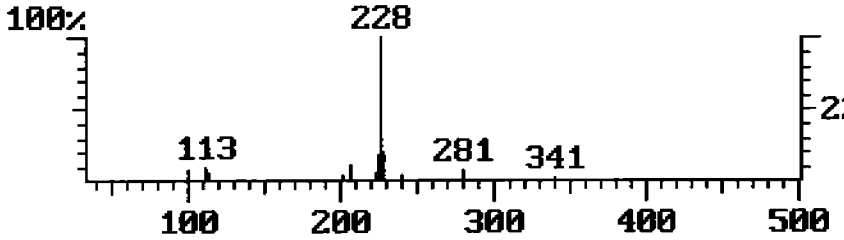


Approved_____ Date_____

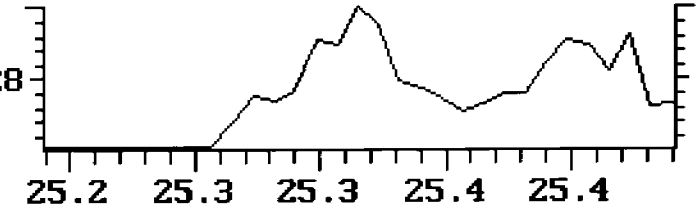
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 57 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Benzo(a)Anthracene SCAN#: 3038
AGC: 51

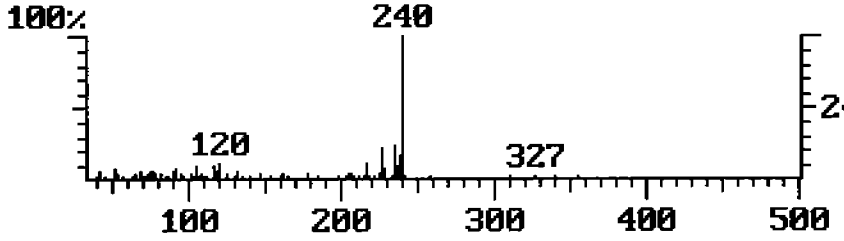
REFERENCE STANDARD SPECTRUM



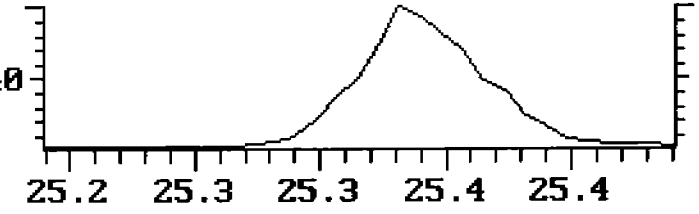
MASS 228 PLOT



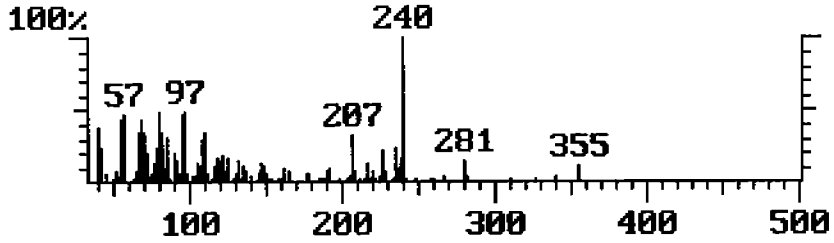
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



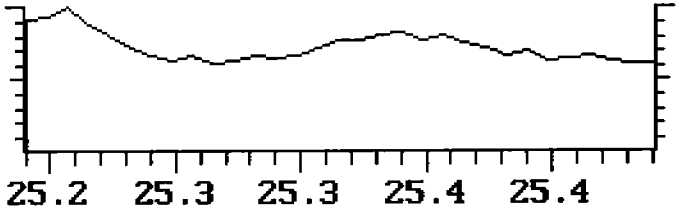
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

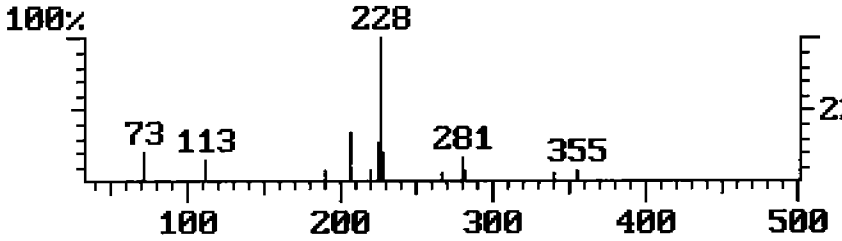


Approved_____ Date_____

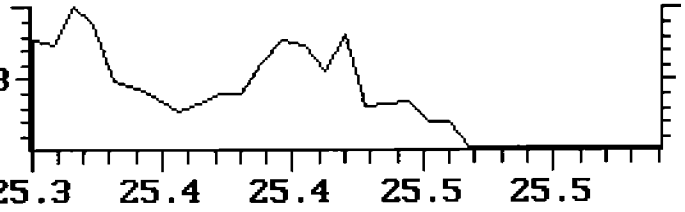
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 58 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Chrysene SCAN#: 3051
AGC: 65

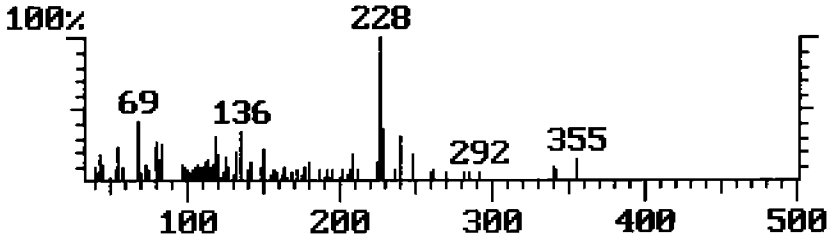
REFERENCE STANDARD SPECTRUM



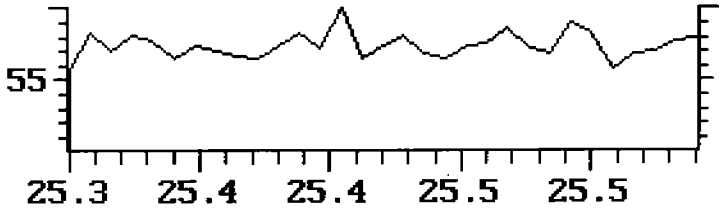
MASS 228 PLOT



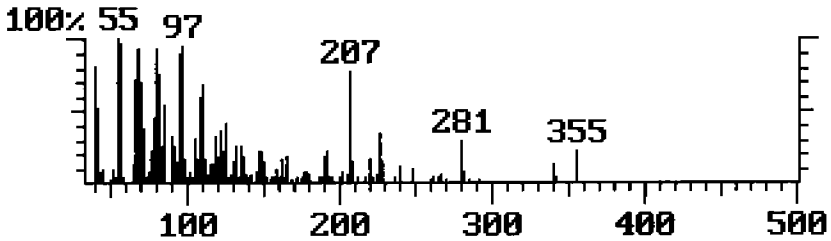
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



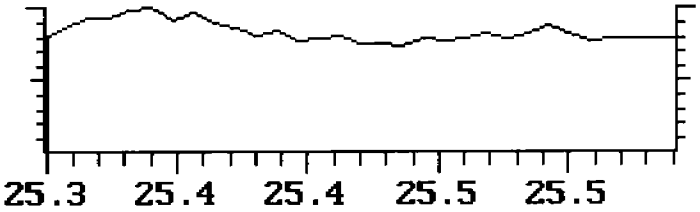
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

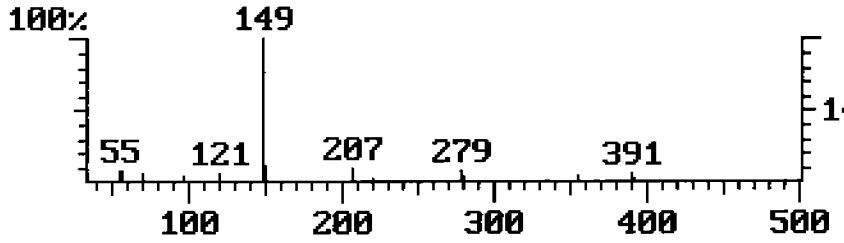


Approved_____ Date_____

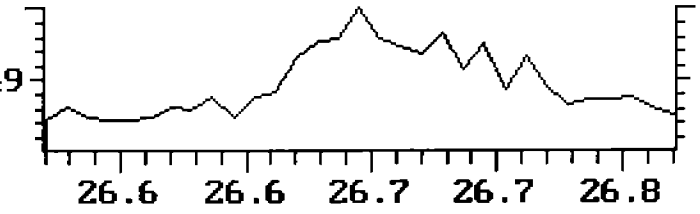
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 59 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Octylphthalate SCAN#: 3198
AGC: 72

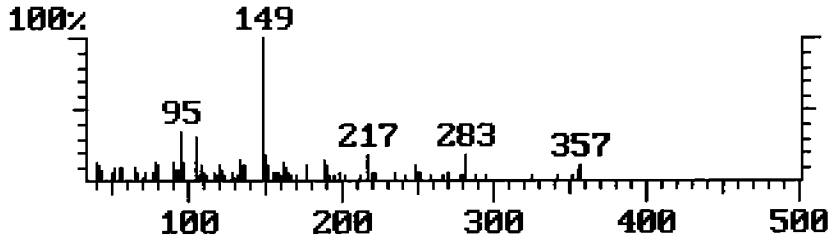
REFERENCE STANDARD SPECTRUM



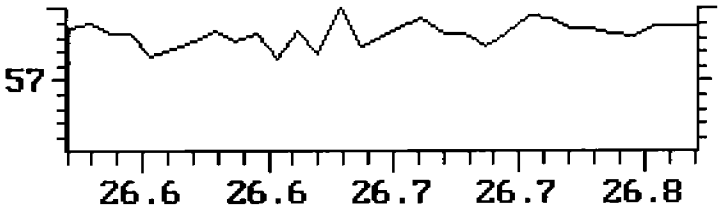
MASS 149 PLOT



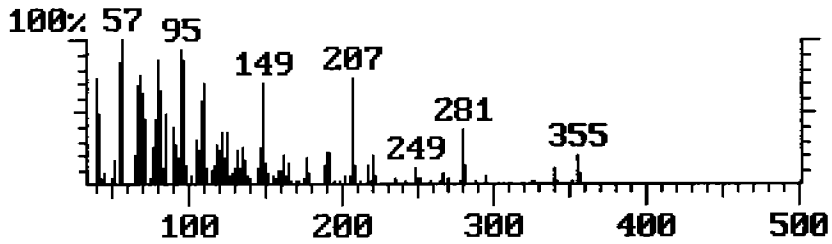
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



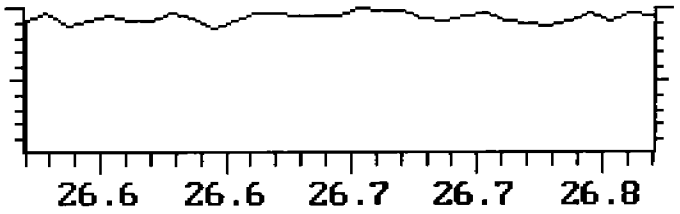
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

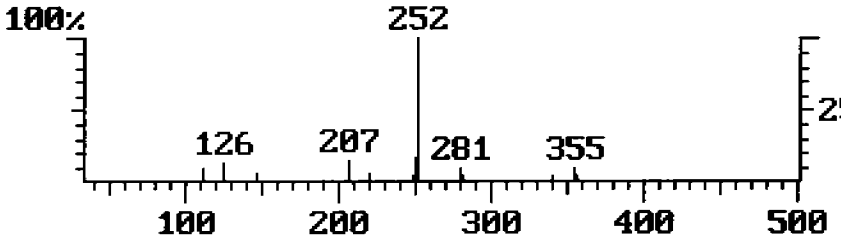


Approved_____ Date_____

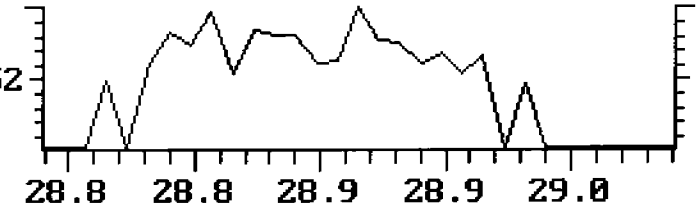
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 60 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Benzo(k)Fluoranthene SCAN#: 3464
AGC: 91

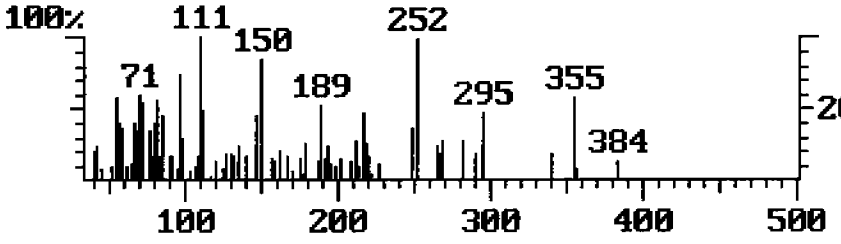
REFERENCE STANDARD SPECTRUM



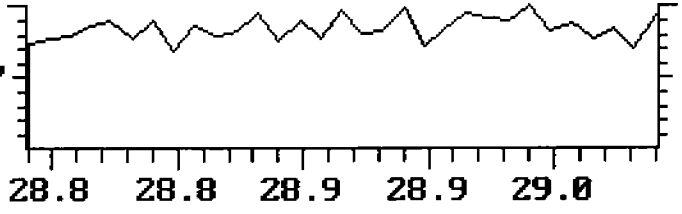
MASS 252 PLOT



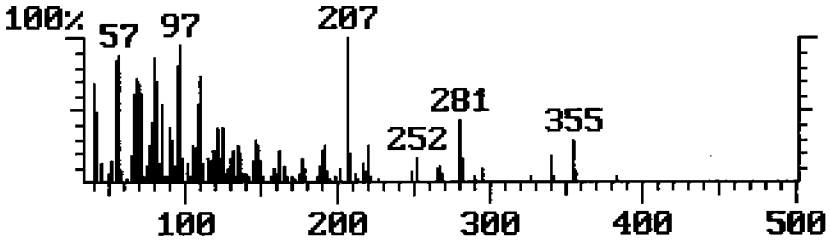
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



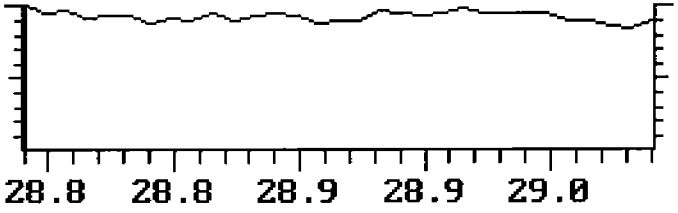
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

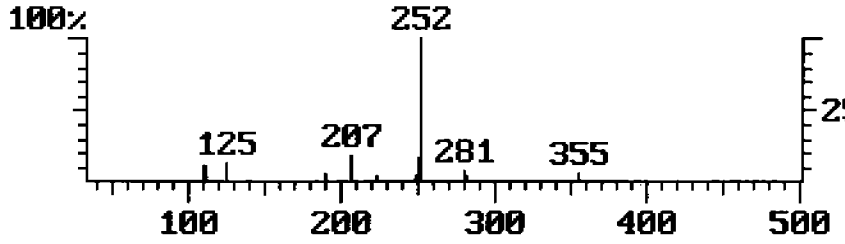


Approved_____ Date_____

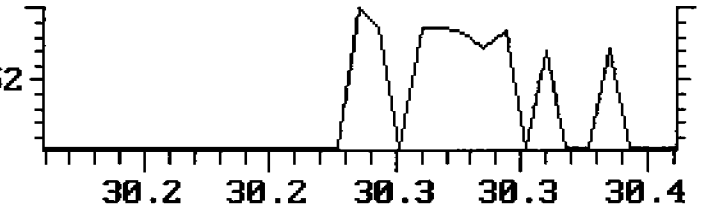
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 61 of 65
Data File: 305333 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Benzo(a)Pyrene SCAN#: 3629
AGC: 104

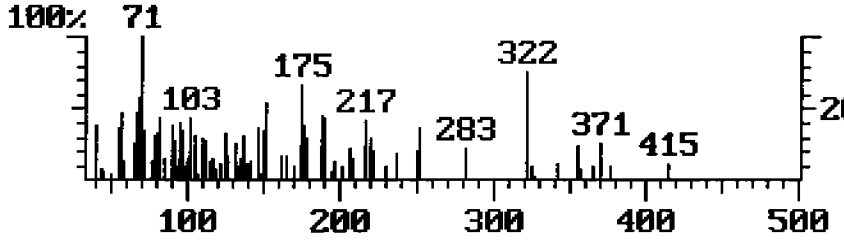
REFERENCE STANDARD SPECTRUM



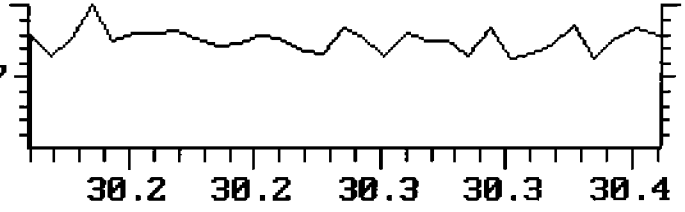
MASS 252 PLOT



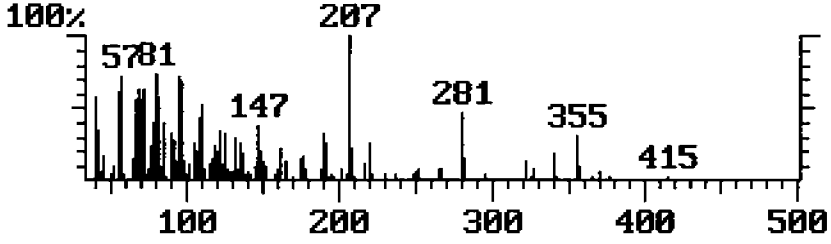
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



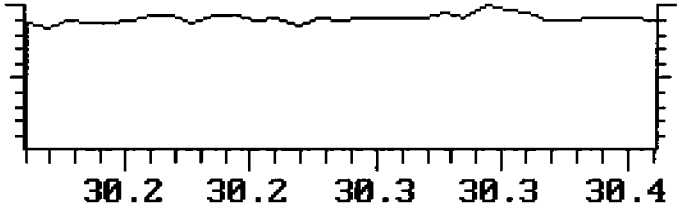
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
2CNS01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:19
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305334
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.005**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
2CNS01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:19
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305334
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.10**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.050**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.006**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.028**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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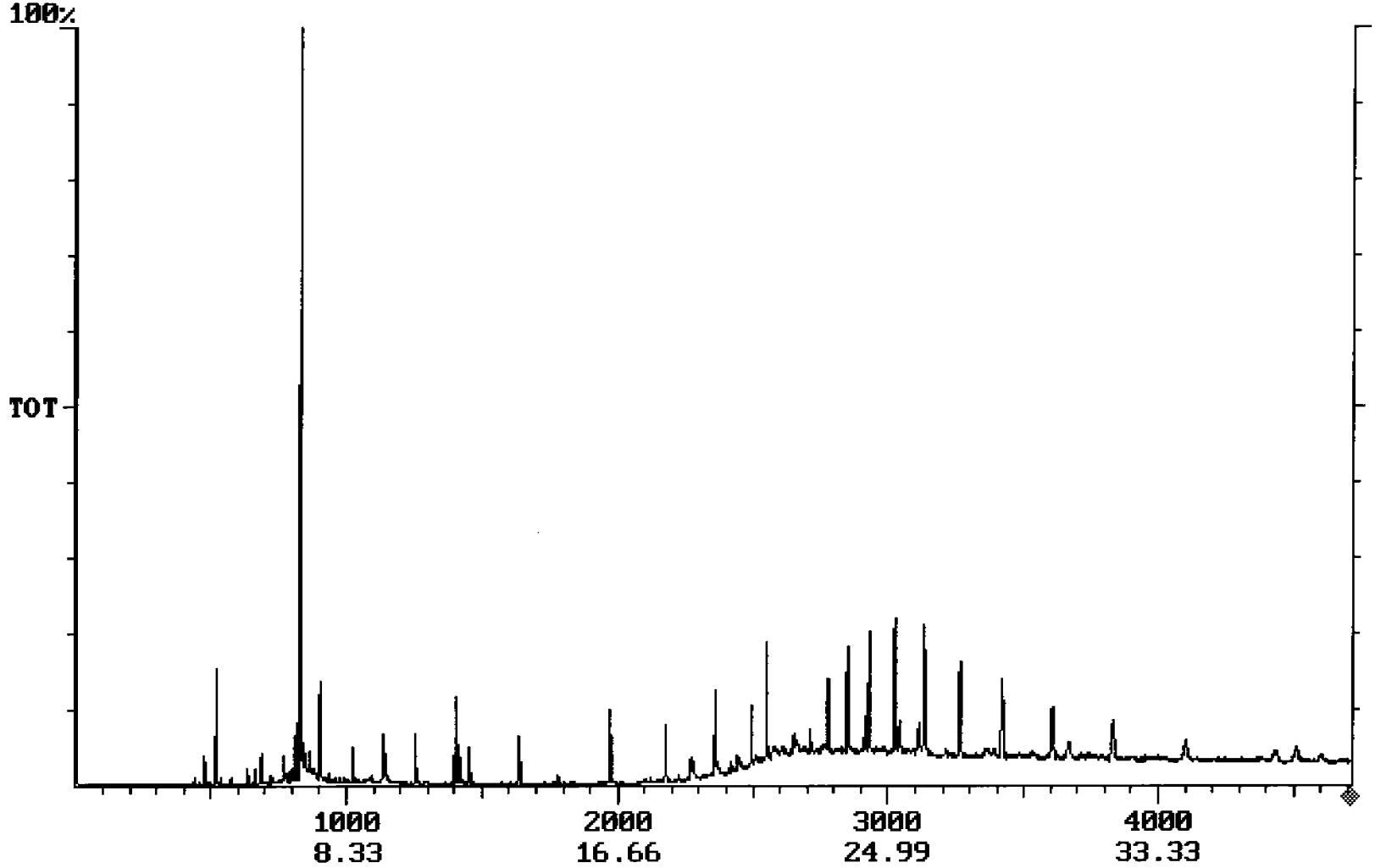
Chromatogram Plot C:\SATURN\DATA\305334 Date: 05/22/02 06:41:41
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 16294250



Operator ID: DMC
Output File: 305334.1B2
Data File: 305334.MS
Name: 305334
Sample:

Quant Time: 05/22/02 11:44
Injected at: 05/22/02 06:41
Dilution Factor: 1.00
Instrument ID: 138

30g → 1 ml
96 %

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.46	1255	152	769624	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	2406867	5.00	ng/ul	998	1.000
3)	*IS:D10-Acenaphthene	18.15	2178	162	1505153	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.79	2495	188	2182652	5.00	ng/ul	995	1.000
5)	*IS:D12-Chrysene	25.35	3042	240	1935689	5.00	ng/ul	912	1.000
6)	*IS:D12-Perylene	30.57	3668	264	1913846	5.00	ng/ul	878	1.000
7)	ACSUR:2-Fluorophenol	7.51	901	112	2781807	11.48	ng/ul	994	1.574
8)	ACSUR:D6-Phenol	9.46	1135	99	3582288	12.23	ng/ul	997	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	1223037	12.24	ng/ul	994	0.332
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	639752	7.99	ng/ul	918	0.167
11)	BNSUR:Decafluorobiphenyl	11.70	1404	334	2600851	7.40	ng/ul	951	0.731
12)	BNSUR:2-Fluorobiphenyl	16.44	1973	172	2759352	7.78	ng/ul	999	1.178
13)	BNSUR:O-Terphenyl	21.27	2552	230	2356898	8.49	ng/ul	988	0.717
14)	Pyridine	4.88	586	79	297	0.00	ng/ul	456	1.031
15)	Phenol	0.00	1141	94	0	Not Found	ng/ul	204	0.000
16)	Aniline	9.67	1161	93	1555	0.01	ng/ul	359	1.852
17)	Bis(2-Chloroethyl)Ether	9.74	1169	92	0	0.00	ng/ul	0	0.862
18)	2-Chlorophenol	0.00	1199	128	0	Not Found	ng/ul	281	0.000
19)	1,3-Dichlorobenzene	10.33	1240	146	2890	0.01	ng/ul	810	1.538
20)	1,4-Dichlorobenzene	10.51	1261	146	489	0.00	ng/ul	100	1.533
21)	Benzyl Alcohol	10.81	1297	108	706	0.01	ng/ul	753	0.647
22)	1,2-Dichlorobenzene	10.88	1305	146	2472	0.01	ng/ul	732	1.426
23)	2-Methylphenol	10.98	1318	108	0	0.00	ng/ul	0	1.185
24)	Bis(2-Chloroisopropyl)Ether	11.11	1333	45	15	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.20	1344	108	0	0.00	ng/ul	659	1.306
26)	N-Nitrosodi-N-Propylamine	11.46	1375	70	2151	0.02	ng/ul	812	0.786
27)	Hexachloroethane	11.78	1414	119	0	0.00	ng/ul	942	0.645
28)	Nitrobenzene	0.00	1423	77	0	Not Found	ng/ul	142	0.000
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	301	0.000
30)	2-Nitrophenol	12.73	1528	109	0	0.00	ng/ul	0	0.374

* Compound is ISTD

Operator ID: DMC
Output File: 305334.1B2
Data File: 305334.MS
Name: 305334
Sample:

Quant Time: 05/22/02 11:44
Injected at: 05/22/02 06:41
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	468	0.000	
32)	Benzoic Acid	12.94	1553	105	2096	0.01	ng/ul	738	0.318	
33)	Bis(2-Chloroethoxy)Methane	13.08	1570	92	0	0.00	ng/ul	0	0.473	
34)	2,4-Dichlorophenol	0.00	1590	162	0	Not Found	ng/ul	249	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1619	180	0	Not Found	ng/ul	695	0.000	
36)	Naphthalene	0.00	1648	128	0	Not Found	ng/ul	629	0.000	
37)	4-Chloroaniline	0.00	1657	127	0	Not Found	ng/ul	661	0.000	
38)	2,6-Dichlorophenol	0.00	1657	162	0	Not Found	ng/ul	667	0.000	
39)	Hexachlorobutadiene	14.12	1694	225	0	0.00	ng/ul	2	0.282	
40)	4-Chloro-3-Methylphenol	15.02	1803	107	39390	0.14	ng/ul	951	0.594	0.0648
41)	2-Methylnaphthalene	15.48	1858	142	2762	0.01	ng/ul	784	0.647	
42)	Hexachlorocyclopentadiene	0.00	1909	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	99	0.000	
44)	2,4,5-Trichlorophenol	16.22	1947	196	0	0.00	ng/ul	188	0.489	
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	602	0.000	
46)	2-Nitroaniline	17.11	2054	138	0	0.00	ng/ul	50	0.447	
47)	Dimethyl Phthalate	0.00	2095	163	0	Not Found	ng/ul	693	0.000	
48)	2,6-Dinitrotoluene	17.74	2129	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2146	152	0	Not Found	ng/ul	496	0.000	
50)	3-Nitroaniline	17.91	2149	138	0	0.00	ng/ul	426	0.367	
51)	Acenaphthene	18.22	2187	152	2153	0.00	ng/ul	829	1.538	
52)	2,4-Dinitrophenol	18.25	2190	184	0	0.00	ng/ul	809	0.236	
53)	4-Nitrophenol	18.40	2208	65	0	0.00	ng/ul	78	0.222	
54)	Dibenzofuran	0.00	2233	168	0	Not Found	ng/ul	460	0.000	
55)	2,4-Dinitrotoluene	0.00	2220	165	0	Not Found	ng/ul	951	0.000	
56)	Benzo(b)Fluoranthene	0.00	3463	252	0	Not Found	ng/ul	477	0.000	
57)	Diethyl Phthalate	18.97	2277	149	1940423	3.04	ng/ul	892	2.124	0.10
58)	Fluorene	19.23	2308	166	0	0.00	ng/ul	238	1.020	
59)	4-Chlorophenyl Phenyl Ether	0.00	2306	204	0	Not Found	ng/ul	295	0.000	
60)	4-Nitroaniline	19.24	2309	108	0	0.00	ng/ul	0	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305334.1B2
Data File: 305334.MS
Name: 305334
Sample:

Quant Time: 05/22/02 11:44
Injected at: 05/22/02 06:41
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2314	198	0	Not Found	ng/ul	230	0.000	
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	246	0.000	
63)	1,2-Diphenylhydrazine	0.00	2342	77	0	Not Found	ng/ul	800	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	323	0.000	
65)	Hexachlorobenzene	0.00	2422	284	0	Not Found	ng/ul	148	0.000	
66)	Pentachlorophenol	0.00	2458	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.89	2507	178	0	0.00	ng/ul	0	1.126	
68)	Anthracene	20.87	2505	178	0	0.00	ng/ul	42	1.171	
69)	Carbazole	20.97	2517	167	0	0.00	ng/ul	0	1.065	
70)	Di-n-Butyl Phthalate	21.50	2580	149	1206370	1.43	ng/ul	784	1.931	0.050
71)	Fluoranthene	0.00	2710	202	0	Not Found	ng/ul	74	0.000	
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	4	0.000	
73)	Pyrene	0.00	2756	202	0	Not Found	ng/ul	77	0.000	
74)	Butyl Benzyl Phthalate	23.79	2855	149	78081	0.17	ng/ul	543	1.194	0.0059
75)	3,3'-Dichlorobenzidine	0.00	3017	252	0	Not Found	ng/ul	65	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.87	2984	149	525093	0.80	ng/ul	847	1.696	0.028
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	82	0.000	
78)	Chrysene	25.38	3046	228	0	0.00	ng/ul	0	1.675	
79)	Di-n-Octylphthalate	26.66	3199	149	13955	0.01	ng/ul	379	2.650	
80)	Benzo(k)Fluoranthene	0.00	3475	252	0	Not Found	ng/ul	204	0.000	
81)	Benzo(a)Pyrene	0.00	3637	252	0	Not Found	ng/ul	0	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	22	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4423	278	0	Not Found	ng/ul	146	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	168	0.000	
85)	N-Nitrosodimethylamine	4.99	599	73	5175	0.09	ng/ul	712	0.366	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	58	0.000	
87)	2-Chloroaniline	12.73	1528	127	526	0.00	ng/ul	783	0.535	
88)	2,4-Diaminotoluene	16.12	1934	121	6329	0.05	ng/ul	606	0.453	
89)	2,3-Dinitrotoluene	18.52	2222	165	16588	0.10	ng/ul	877	0.576	
90)	1-Naphthylamine	18.91	2269	143	13336	0.06	ng/ul	908	0.725	

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 11:44
Output File: 305334.1B2 Injected at: 05/22/02 06:41
Data File: 305334.MS Dilution Factor: 1.00
Name: 305334 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

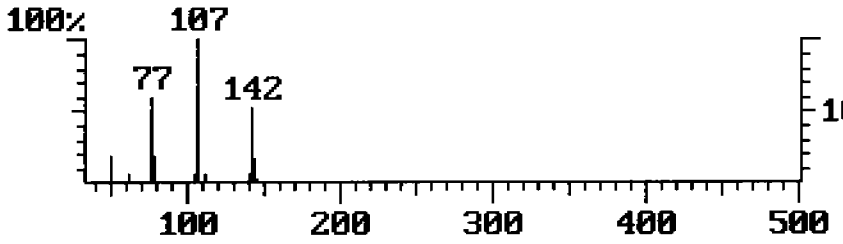
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2308	152	0	Not Found	ng/ul	273	0.000

* Compound is ISTD

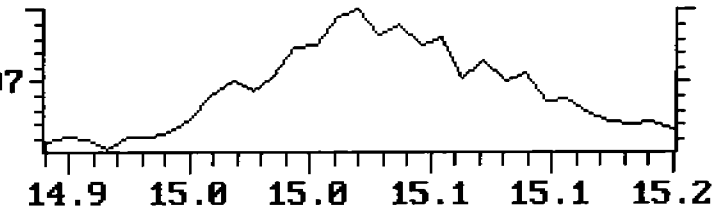
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 30 of 54
Data File: 305334 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1803
AGC: 2146

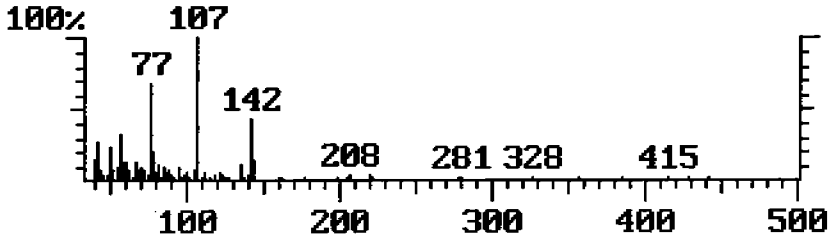
REFERENCE STANDARD SPECTRUM



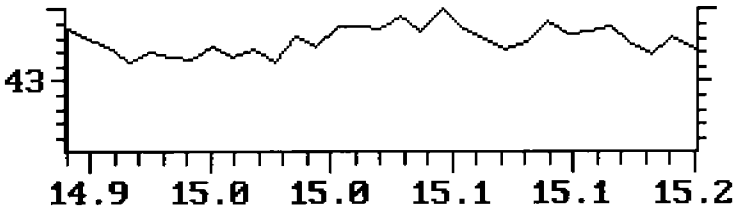
MASS 107 PLOT



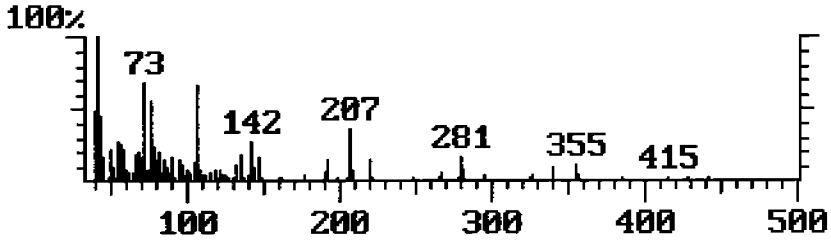
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



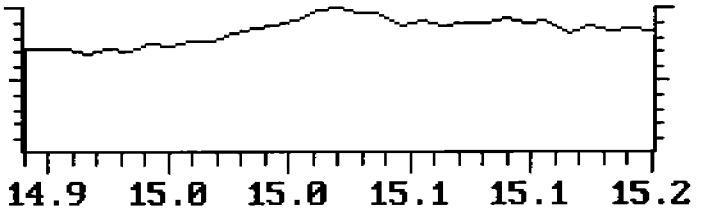
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

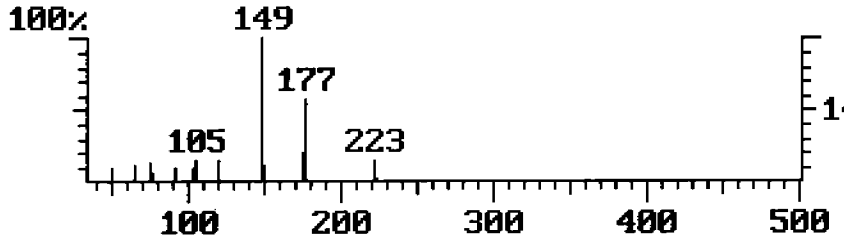


Approved_____ Date_____

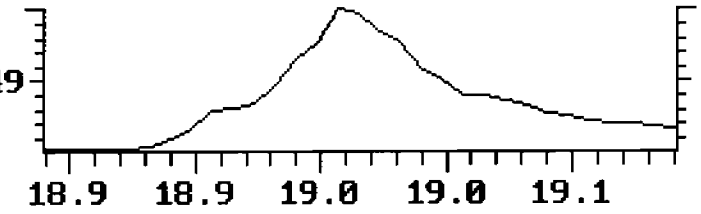
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 54
Data File: 305334 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2277
AGC: 264

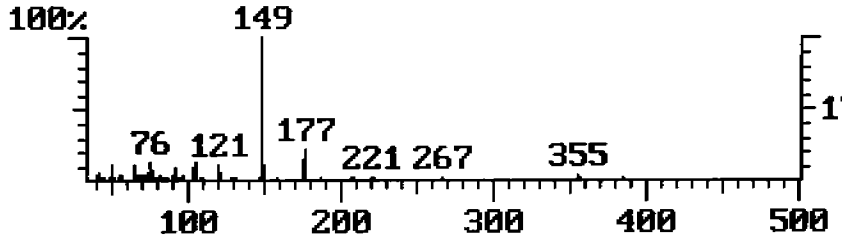
REFERENCE STANDARD SPECTRUM



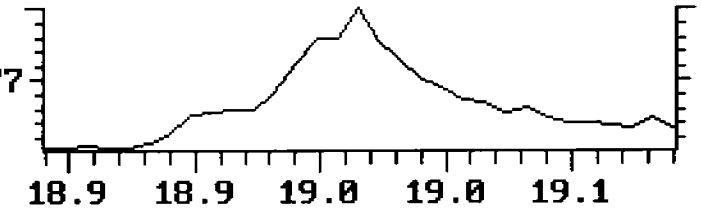
MASS 149 PLOT



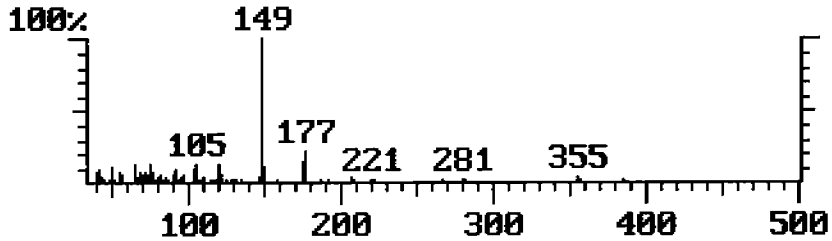
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



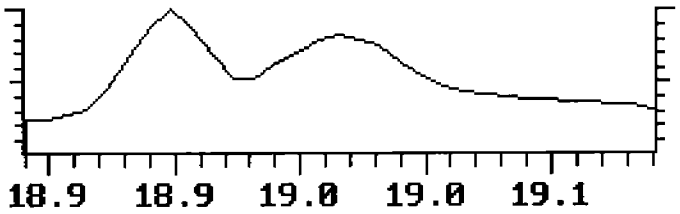
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

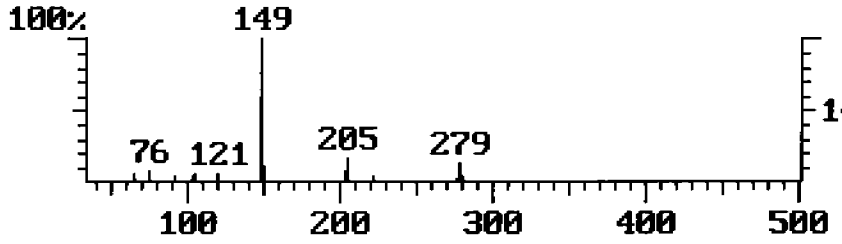


Approved_____ Date_____

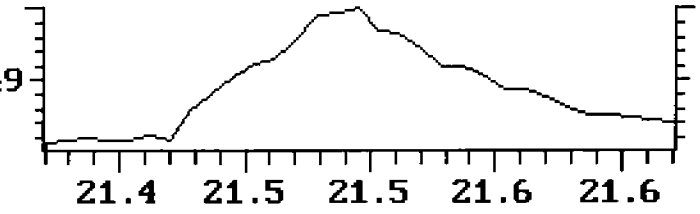
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 54
Data File: 305334 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2580
AGC: 148

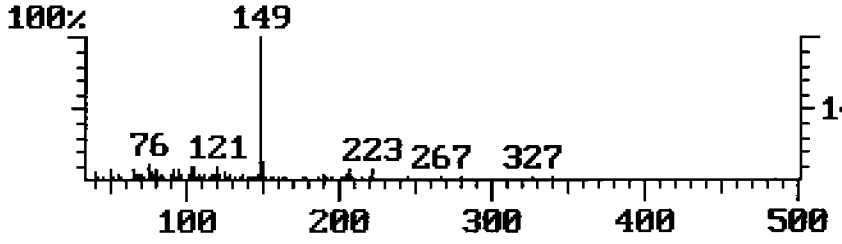
REFERENCE STANDARD SPECTRUM



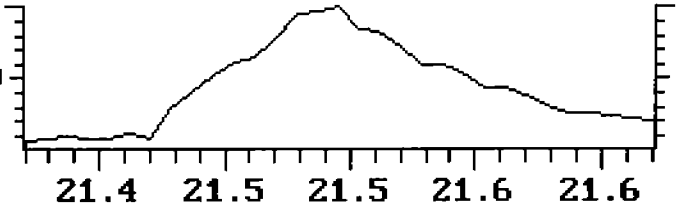
MASS 149 PLOT



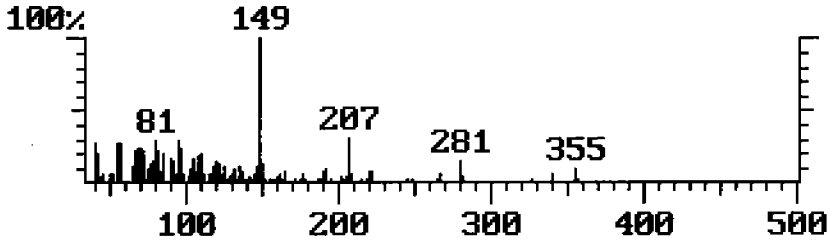
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



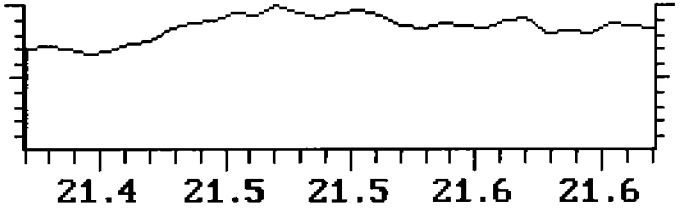
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

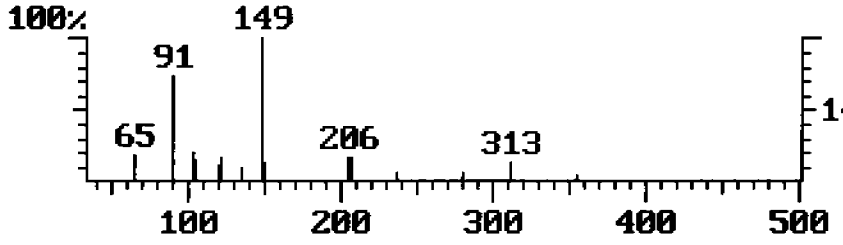


Approved_____ Date_____

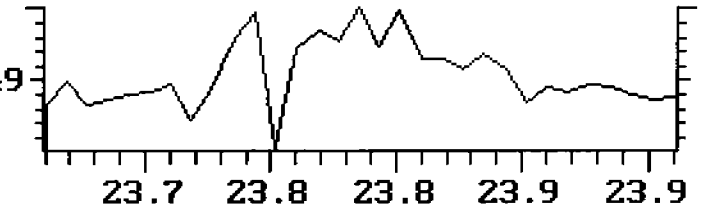
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 54
Data File: 305334 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2855
AGC: 129

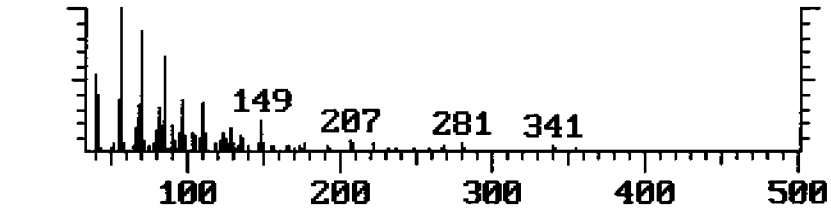
REFERENCE STANDARD SPECTRUM



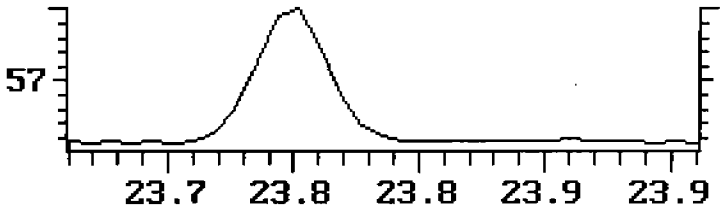
MASS 149 PLOT



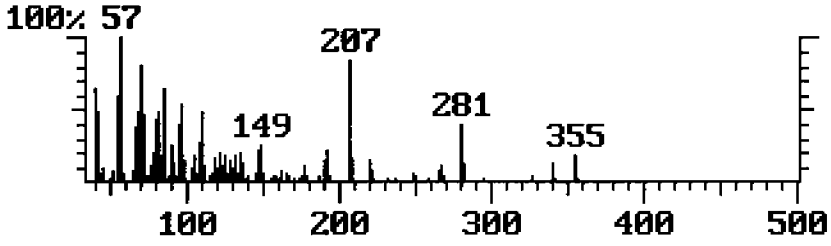
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



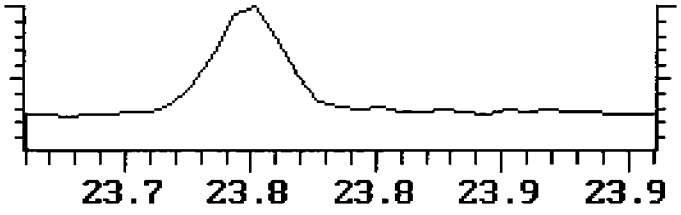
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

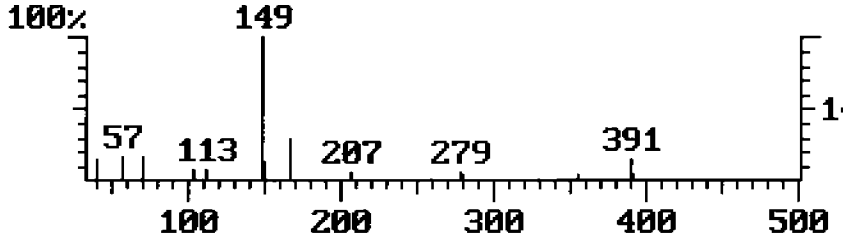


Approved_____ Date_____

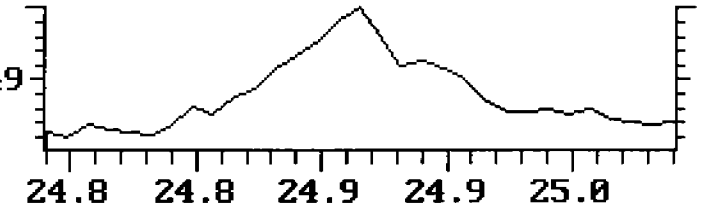
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 54
Data File: 305334 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2984
AGC: 145

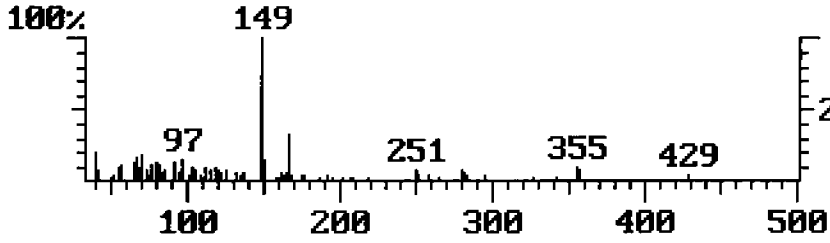
REFERENCE STANDARD SPECTRUM



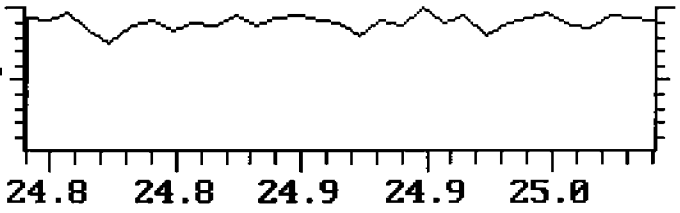
MASS 149 PLOT



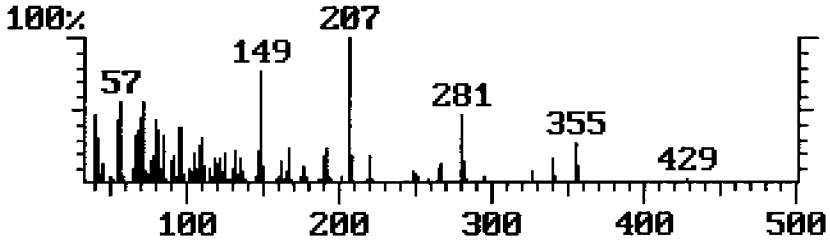
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



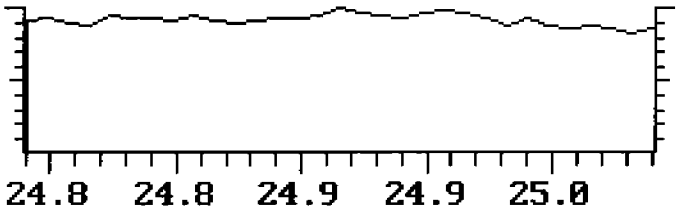
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
2CANS01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:22
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305335
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.006**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
2CANS01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:22
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305335
Batch No: 186156

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.003**	J	0.002	0.005
84-66-2	Diethylphthalate	**0.016**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.043**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.010**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.085**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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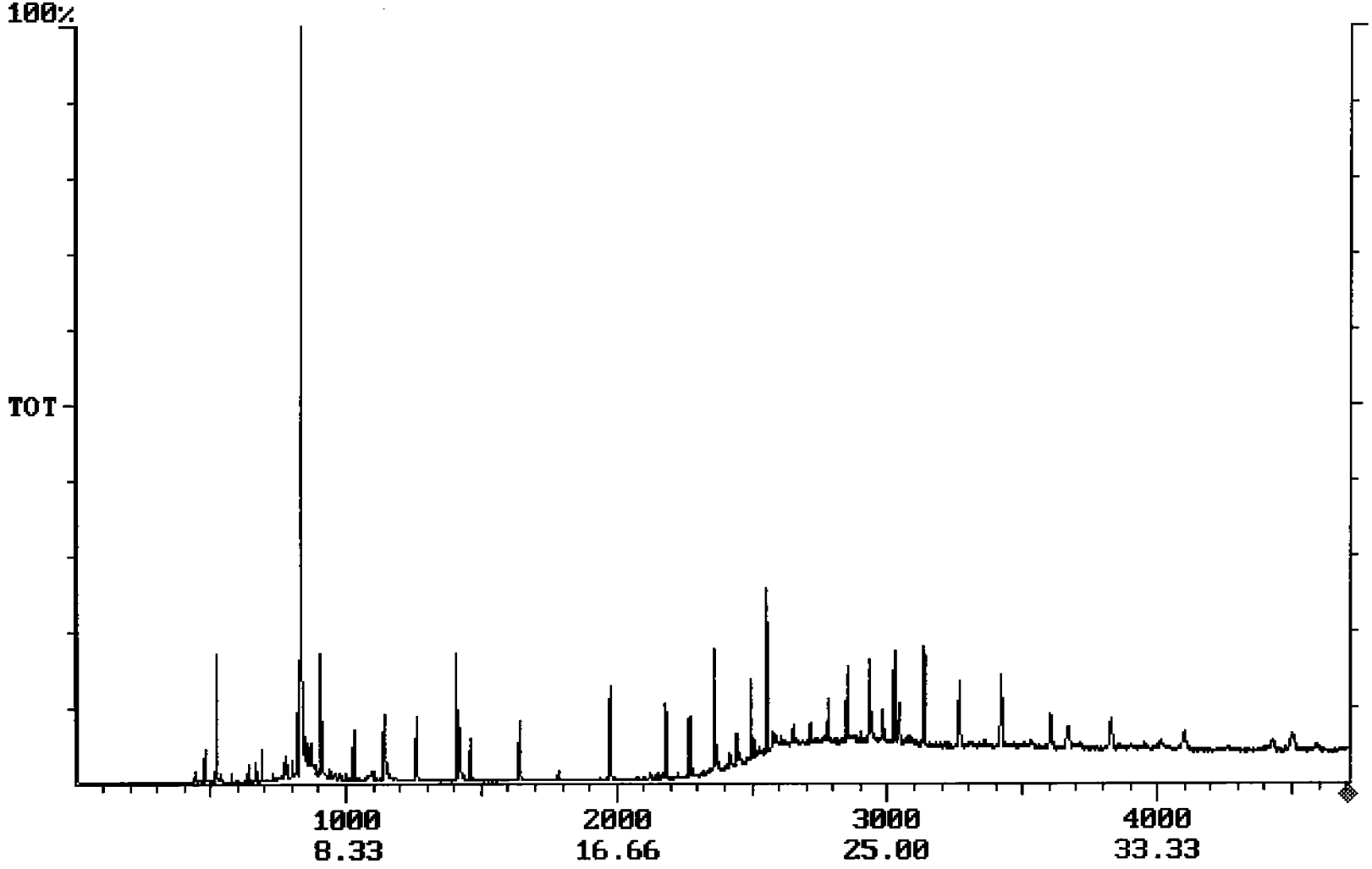
Chromatogram Plot C:\SATURN\DATA\305335 Date: 05/22/02 07:28:22
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4703 Range: 1 to 4703 100% = 10559426



Operator ID: DMC
Output File: 305335.1B2
Data File: 305335.MS
Name: 305335
Sample:

Quant Time: 05/22/02 11:59
Injected at: 05/22/02 07:28
Dilution Factor: 1.00
Instrument ID: 138

30 → 1
94%

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.50	1260	152	595404	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.67	1641	136	1941893	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.17	2180	162	1152501	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	1775591	5.00	ng/ul	993	1.000
5)	*IS:D12-Chrysene	25.36	3043	240	1470139	5.00	ng/ul	912	1.000
6)	*IS:D12-Perylene	30.55	3666	264	1529479	5.00	ng/ul	888	1.000
7)	ACSUR:2-Fluorophenol	7.54	905	112	2434643	12.99	ng/ul	994	1.574
8)	ACSUR:D6-Phenol	9.51	1141	99	2959715	13.06	ng/ul	997	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.68	2361	330	1117049	14.54	ng/ul	993	0.334
10)	BNSUR:D5-Nitrobenzene	11.83	1420	127	534551	8.28	ng/ul	927	0.167
11)	BNSUR:Decafluorobiphenyl	11.73	1408	334	2189615	7.72	ng/ul	942	0.731
12)	BNSUR:2-Fluorobiphenyl	16.46	1976	172	2274360	8.38	ng/ul	997	1.178
13)	BNSUR:O-Terphenyl	21.28	2554	230	1983772	9.33	ng/ul	983	0.723
14)	Pyridine	0.00	602	79	0	Not Found	ng/ul	275	0.000
15)	Phenol	0.00	1141	94	0	Not Found	ng/ul	175	0.000
16)	Aniline	9.74	1169	93	563	0.00	ng/ul	359	1.852
17)	Bis(2-Chloroethyl)Ether	9.74	1169	92	1156	0.01	ng/ul	430	0.862
18)	2-Chlorophenol	0.00	1199	128	0	Not Found	ng/ul	166	0.000
19)	1,3-Dichlorobenzene	10.37	1244	146	2937	0.02	ng/ul	854	1.538
20)	1,4-Dichlorobenzene	10.55	1266	146	409	0.00	ng/ul	162	1.533
21)	Benzyl Alcohol	10.92	1310	108	737	0.01	ng/ul	804	0.647
22)	1,2-Dichlorobenzene	10.91	1309	146	3176	0.02	ng/ul	801	1.426
23)	2-Methylphenol	10.99	1319	108	205	0.00	ng/ul	667	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1330	45	0	Not Found	ng/ul	277	0.000
25)	4-Methylphenol	11.32	1359	108	0	0.00	ng/ul	328	1.306
26)	N-Nitrosodi-N-Propylamine	11.31	1357	70	436	0.00	ng/ul	759	0.786
27)	Hexachloroethane	11.65	1398	119	1179	0.02	ng/ul	937	0.645
28)	Nitrobenzene	0.00	1423	77	0	Not Found	ng/ul	124	0.000
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	484	0.000
30)	2-Nitrophenol	12.82	1538	109	0	0.00	ng/ul	0	0.374

* Compound is ISTD

Operator ID: DMC
Output File: 305335.1B2
Data File: 305335.MS
Name: 305335
Sample:

Quant Time: 05/22/02 11:59
Injected at: 05/22/02 07:28
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	699	0.000	
32)	Benzoic Acid	12.96	1555	105	0	0.00	ng/ul	0	0.318	
33)	Bis(2-Chloroethoxy)Methane	12.97	1556	92	0	0.00	ng/ul	0	0.473	
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	181	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1619	180	0	Not Found	ng/ul	624	0.000	
36)	Naphthalene	0.00	1648	128	0	Not Found	ng/ul	552	0.000	
37)	4-Chloroaniline	0.00	1657	127	0	Not Found	ng/ul	690	0.000	
38)	2,6-Dichlorophenol	0.00	1670	162	0	Not Found	ng/ul	557	0.000	
39)	Hexachlorobutadiene	13.91	1669	225	0	0.00	ng/ul	352	0.282	
40)	4-Chloro-3-Methylphenol	15.06	1807	107	40695	0.18	ng/ul	928	0.594	0.003
41)	2-Methylnaphthalene	15.53	1864	142	1907	0.01	ng/ul	819	0.647	
42)	Hexachlorocyclopentadiene	0.00	1909	237	0	Not Found	ng/ul	0	0.000	
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	102	0.000	
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	200	0.000	
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	655	0.000	
46)	2-Nitroaniline	17.13	2056	138	0	0.00	ng/ul	152	0.447	
47)	Dimethyl Phthalate	0.00	2108	163	0	Not Found	ng/ul	733	0.000	
48)	2,6-Dinitrotoluene	17.75	2130	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2146	152	0	Not Found	ng/ul	501	0.000	
50)	3-Nitroaniline	18.03	2164	138	0	0.00	ng/ul	508	0.367	
51)	Acenaphthene	0.00	2191	152	0	Not Found	ng/ul	683	0.000	
52)	2,4-Dinitrophenol	18.26	2192	184	0	0.00	ng/ul	668	0.236	
53)	4-Nitrophenol	18.47	2216	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	243	0.000	
55)	2,4-Dinitrotoluene	18.53	2224	165	9818	0.07	ng/ul	849	0.578	0.002C
56)	Benzo(b)Fluoranthene	28.85	3462	252	0	0.00	ng/ul	0	1.127	
57)	Diethyl Phthalate	18.98	2278	149	216979	0.44	ng/ul	873	2.124	0.01C
58)	Fluorene	19.26	2311	166	0	0.00	ng/ul	333	1.020	
59)	4-Chlorophenyl Phenyl Ether	19.17	2301	204	0	0.00	ng/ul	308	0.773	
60)	4-Nitroaniline	19.25	2310	108	0	0.00	ng/ul	538	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305335.1B2
Data File: 305335.MS
Name: 305335
Sample:

Quant Time: 05/22/02 11:59
Injected at: 05/22/02 07:28
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2314	198	0	Not Found	ng/ul	253	0.000	
62)	N-Nitrosodiphenylamine	19.42	2330	169	0	0.00	ng/ul	364	0.495	
63)	1,2-Diphenylhydrazine	19.52	2343	77	47062	0.12	ng/ul	735	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	228	0.000	
65)	Hexachlorobenzene	0.00	2422	284	0	Not Found	ng/ul	281	0.000	
66)	Pentachlorophenol	0.00	2458	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.81	2497	178	0	0.00	ng/ul	0	1.126	
68)	Anthracene	20.87	2504	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	335	0.000	
70)	Di-n-Butyl Phthalate	21.47	2577	149	836310	1.21	ng/ul	801	1.954	0.043
71)	Fluoranthene	0.00	2710	202	0	Not Found	ng/ul	116	0.000	
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	44	0.000	
73)	Pyrene	0.00	2755	202	0	Not Found	ng/ul	12	0.000	
74)	Butyl Benzyl Phthalate	23.79	2855	149	94345	0.27	ng/ul	630	1.194	0.0095
75)	3,3'-Dichlorobenzidine	0.00	3017	252	0	Not Found	ng/ul	52	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.85	2982	149	1198613	2.40	ng/ul	850	1.702	0.085
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	48	0.000	
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	12	0.000	
79)	Di-n-Octylphthalate	26.68	3202	149	8569	0.01	ng/ul	571	2.650	
80)	Benzo(k)Fluoranthene	28.92	3470	252	0	0.00	ng/ul	0	1.252	
81)	Benzo(a)Pyrene	0.00	3637	252	0	Not Found	ng/ul	83	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4422	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	125	0.000	
85)	N-Nitrosodimethylamine	4.99	599	73	89	0.00	ng/ul	473	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	58	0.000	
87)	2-Chloroaniline	12.43	1492	127	166	0.00	ng/ul	505	0.535	
88)	2,4-Diaminotoluene	16.15	1938	121	5633	0.05	ng/ul	749	0.453	
89)	2,3-Dinitrotoluene	18.31	2197	165	0	0.00	ng/ul	0	0.576	
90)	1-Naphthylamine	18.90	2268	143	19865	0.12	ng/ul	790	0.726	

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 11:59
Output File: 305335.1B2 Injected at: 05/22/02 07:28
Data File: 305335.MS Dilution Factor: 1.00
Name: 305335 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

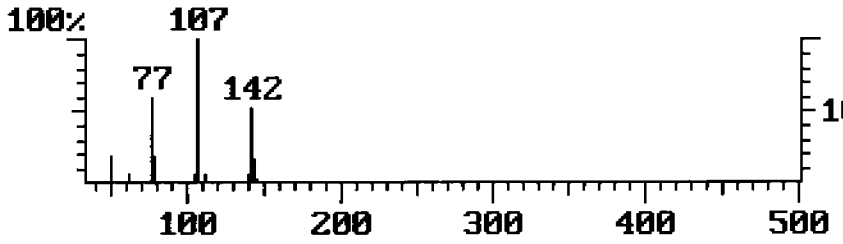
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.23	2308	152	396	0.00	ng/ul	411	0.425

* Compound is ISTD

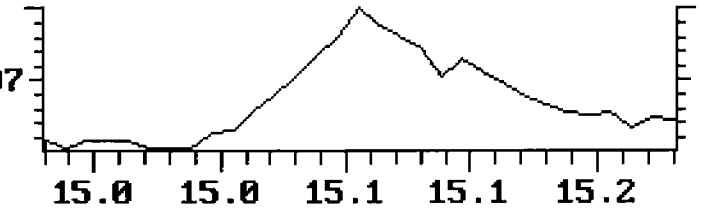
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 28 of 55
Data File: 305335 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:28 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1807
AGC: 2192

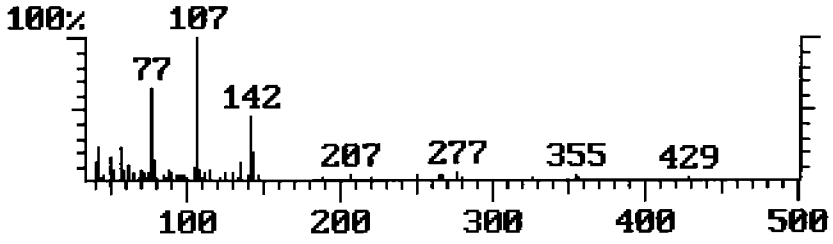
REFERENCE STANDARD SPECTRUM



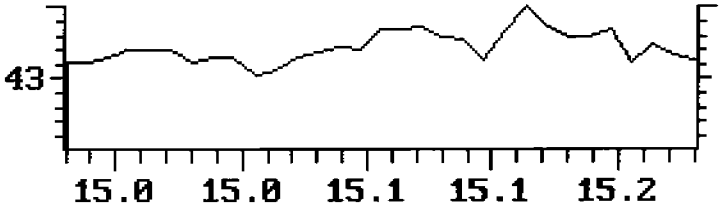
MASS 107 PLOT



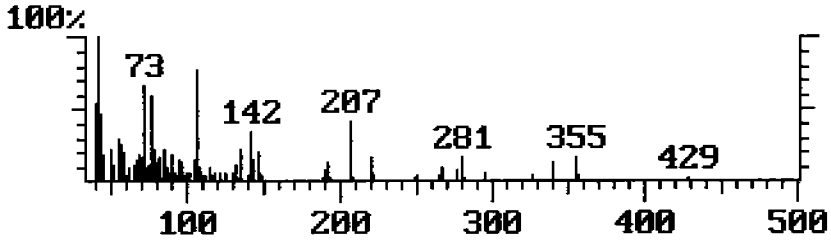
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



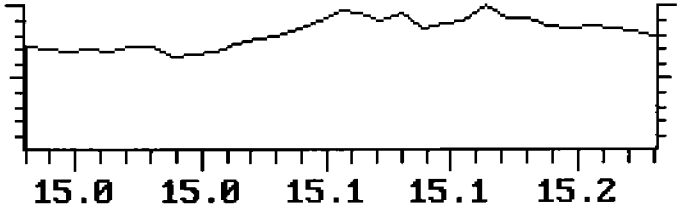
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

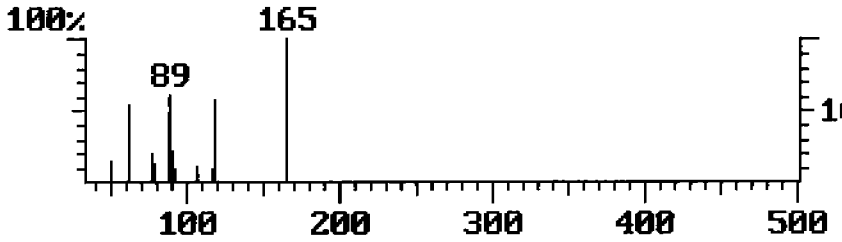


Approved_____ Date_____

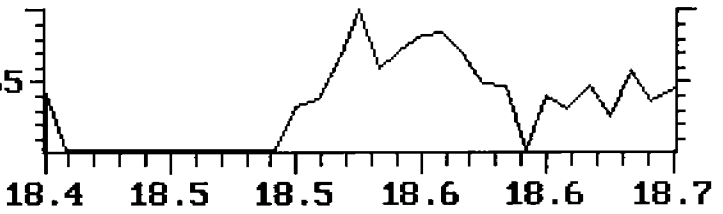
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 35 of 55
Data File: 305335 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:28 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2224
AGC: 798

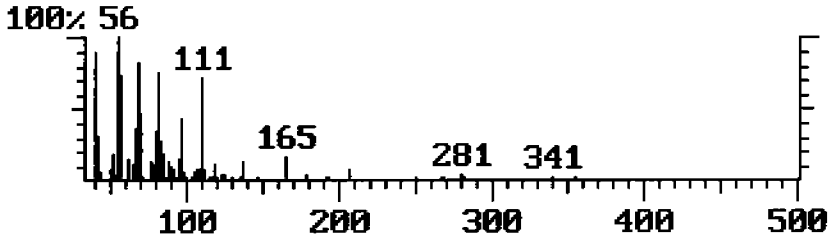
REFERENCE STANDARD SPECTRUM



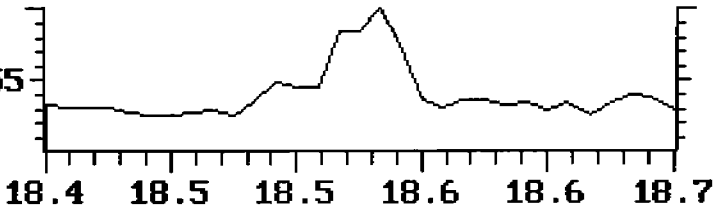
MASS 165 PLOT



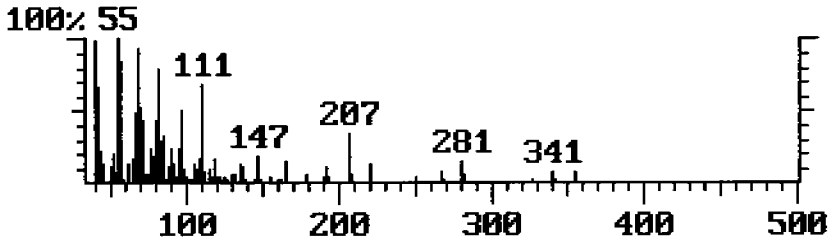
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



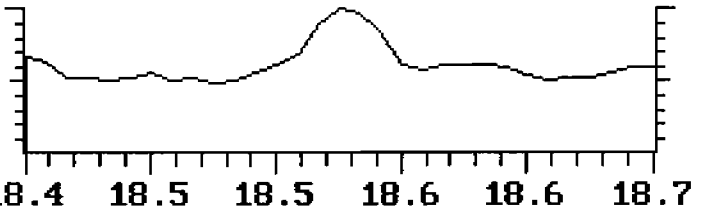
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

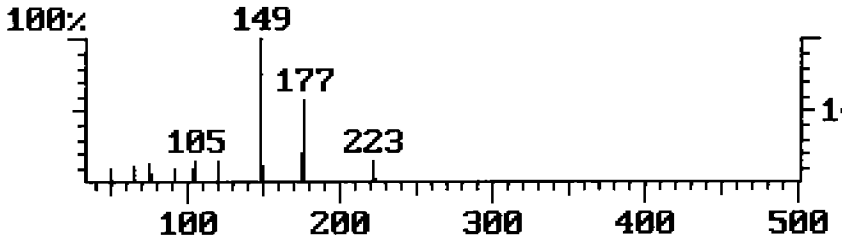


Approved_____ Date_____

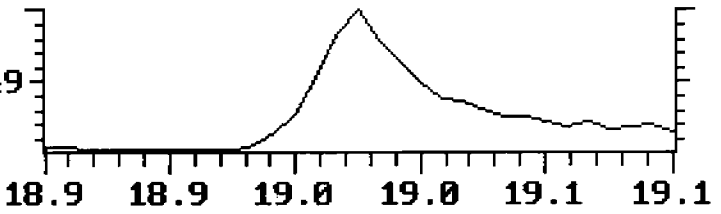
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 37 of 55
Data File: 305335 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:28 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2278
AGC: 624

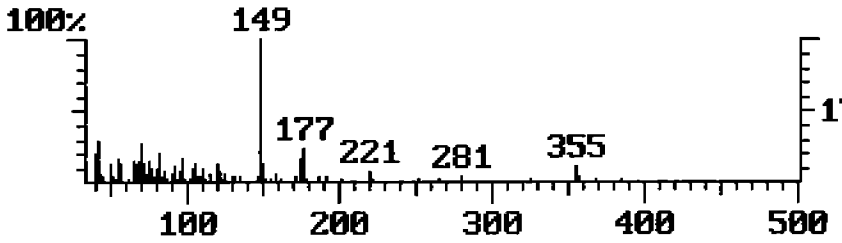
REFERENCE STANDARD SPECTRUM



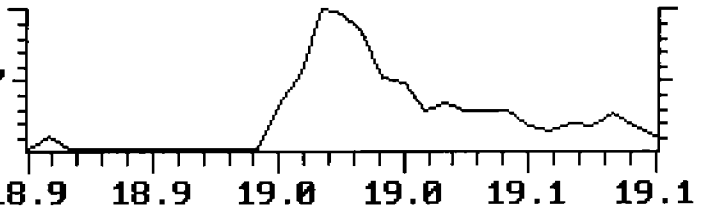
MASS 149 PLOT



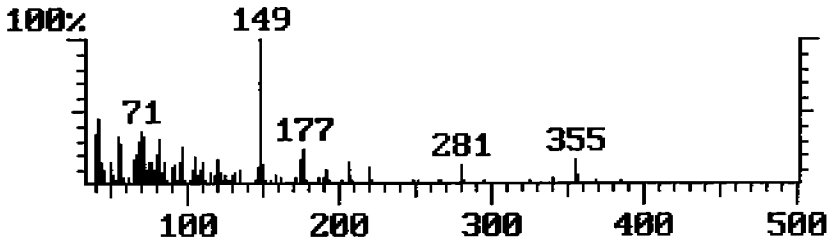
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



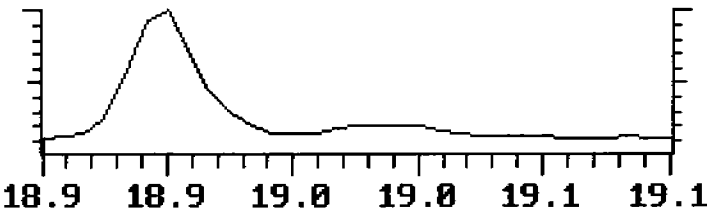
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

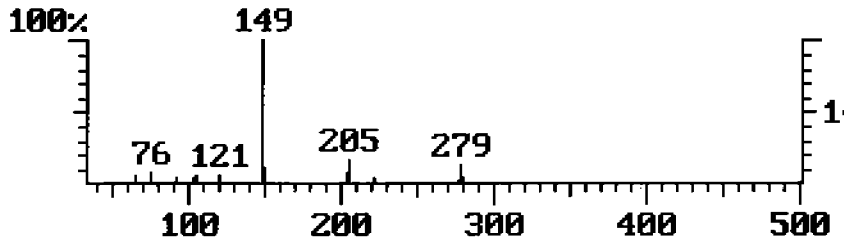


Approved_____ Date_____

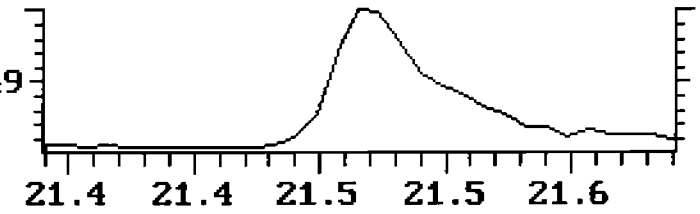
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 55
Data File: 305335 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:28 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2577
AGC: 158

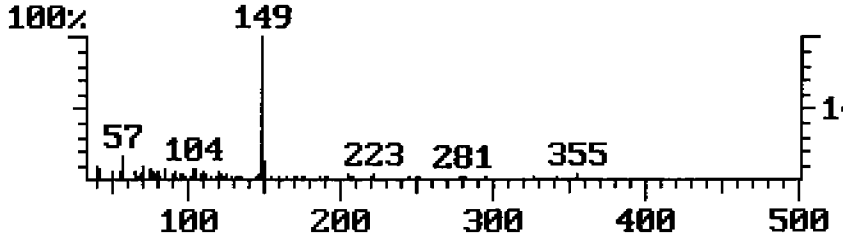
REFERENCE STANDARD SPECTRUM



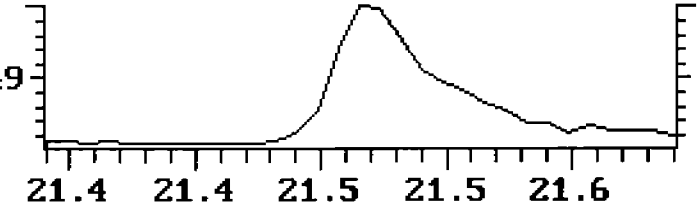
MASS 149 PLOT



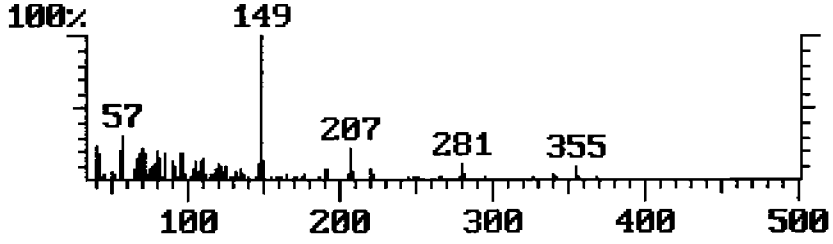
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



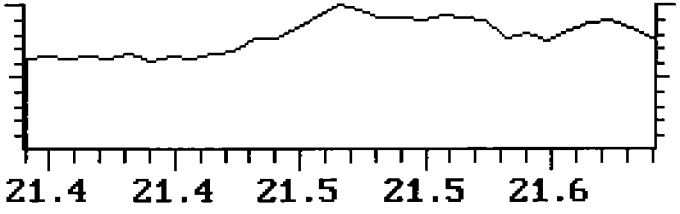
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

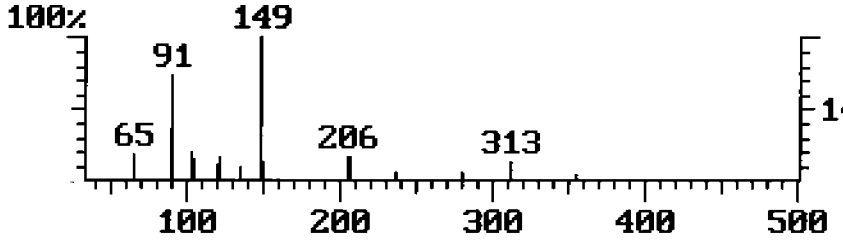


Approved_____ Date_____

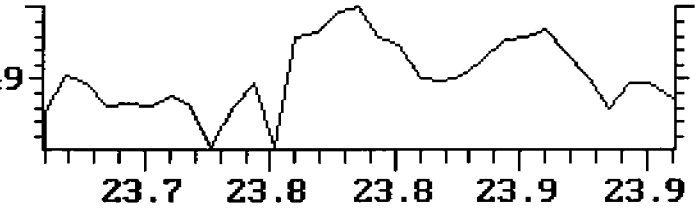
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 55
Data File: 305335 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:28 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2855
AGC: 145

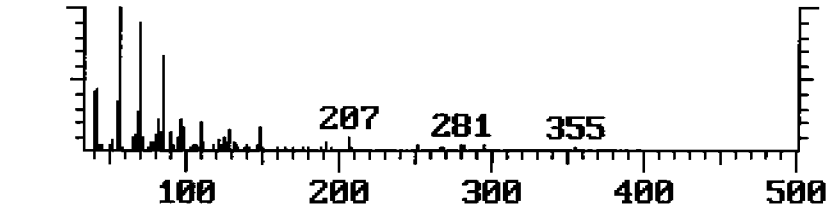
REFERENCE STANDARD SPECTRUM



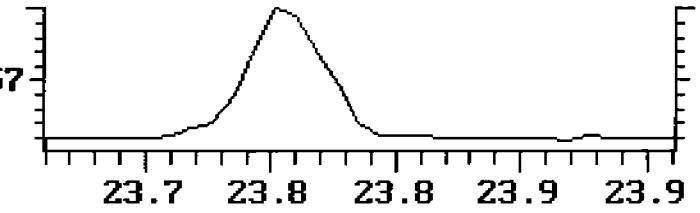
MASS 149 PLOT



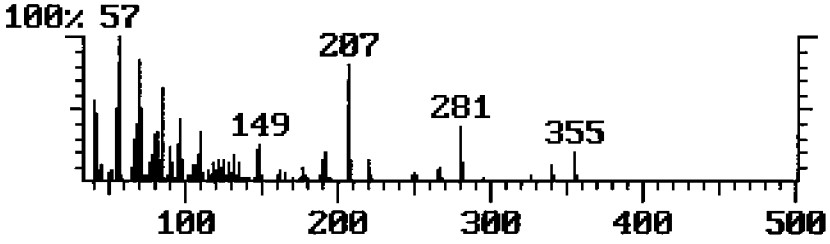
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



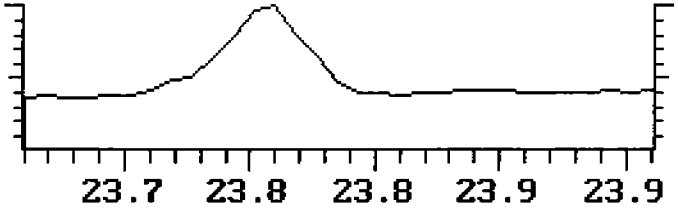
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

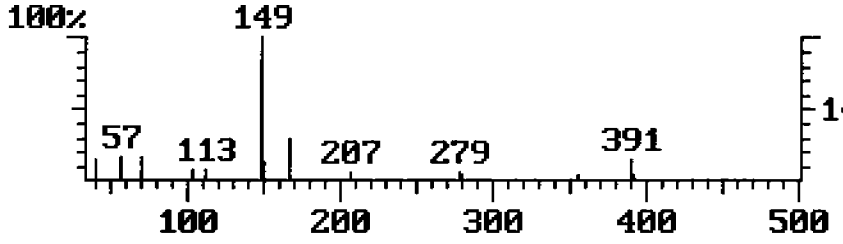


Approved_____ Date_____

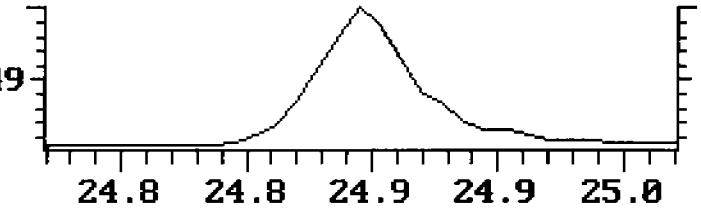
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 55
Data File: 305335 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 7:28 am Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2982
AGC: 120

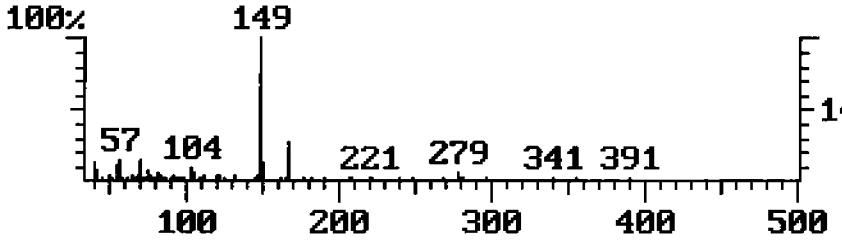
REFERENCE STANDARD SPECTRUM



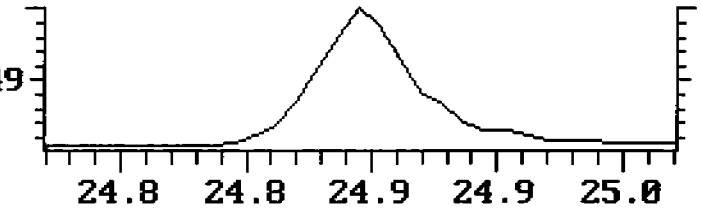
MASS 149 PLOT



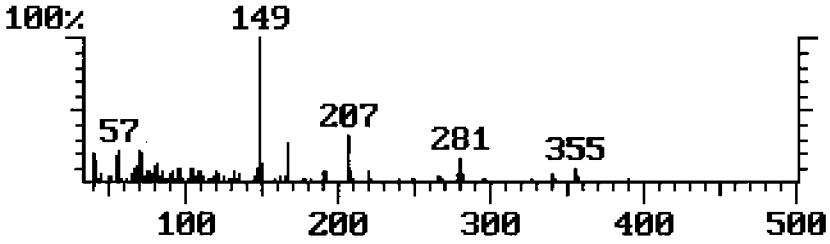
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



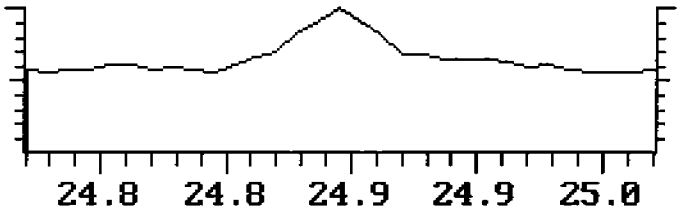
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
2DNS01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:27
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305336
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	**0.006**		0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	**0.001**	J	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.005**		0.001	0.002
91-57-6	2-Methylnaphthalene	**0.001**	J	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	**0.001**	J	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	**0.001**	J	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
2DNS01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:27
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305336
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.011**		0.002	0.005
84-66-2	Diethylphthalate	**0.037**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	**0.001**	J	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	**0.003**	J	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.044**	B	0.002	0.006
206-44-0	Fluoranthene	**0.002**	J	0.001	0.004
129-00-0	Pyrene	**0.002**	J	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.018**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.020**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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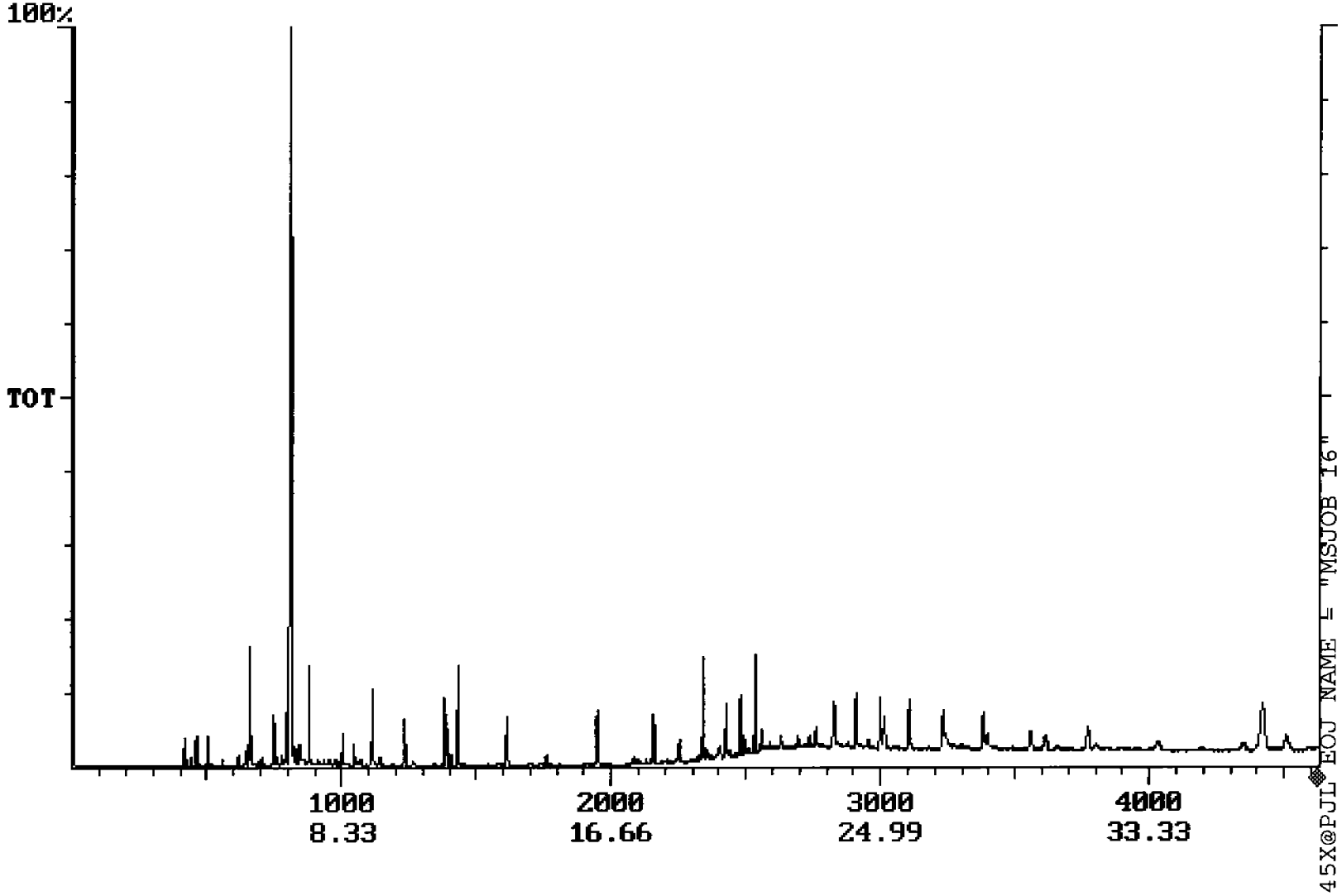
Chromatogram Plot C:\SATURN\DATA\305336 Date: 05/22/02 12:36:31
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4620 Range: 1 to 4620 100% = 16841637



Operator ID: DMC
Output File: 305336.1B2
Data File: 305336.MS
Name: 305336
Sample:

Quant Time: 05/23/02 06:40
Injected at: 05/22/02 12:36
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.27	1233	152	713787	5.00	ng/ul	980	1.000
2)	*IS:D8-Naphthalene	13.44	1613	136	2356482	5.00	ng/ul	973	1.000
3)	*IS:D10-Acenaphthene	17.97	2157	162	1449793	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.66	2479	188	2163975	5.00	ng/ul	944	1.000
5)	*IS:D12-Chrysene	25.12	3014	240	1976781	5.00	ng/ul	690	1.000
6)	*IS:D12-Perylene	30.09	3611	264	1994513	5.00	ng/ul	863	1.000
7)	ACSUR:2-Fluorophenol	7.34	881	112	2706471	12.05	ng/ul	993	1.574
8)	ACSUR:D6-Phenol	9.27	1113	99	3408969	12.54	ng/ul	856	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.51	2341	330	1238345	12.85	ng/ul	997	0.333
10)	BNSUR:D5-Nitrobenzene	11.60	1392	127	556681	7.10	ng/ul	956	0.167
11)	BNSUR:Decafluorobiphenyl	11.52	1383	334	2154253	6.26	ng/ul	954	0.731
12)	BNSUR:2-Fluorobiphenyl	16.24	1949	172	2416904	7.08	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.14	2537	230	1997474	7.15	ng/ul	993	0.708
14)	Pyridine	4.67	560	79	1191	0.01	ng/ul	696	1.031
15)	Phenol	9.31	1117	94	39809	0.16	ng/ul	409	1.701
16)	Aniline	9.51	1141	93	2333	0.01	ng/ul	369	1.852
17)	Bis(2-Chloroethyl)Ether	9.57	1148	92	0	0.00	ng/ul	0	0.862
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	695	0.000
19)	1,3-Dichlorobenzene	10.15	1218	146	3070	0.01	ng/ul	860	1.538
20)	1,4-Dichlorobenzene	10.34	1241	146	284	0.00	ng/ul	266	1.533
21)	Benzyl Alcohol	10.53	1264	108	33607	0.36	ng/ul	990	0.647
22)	1,2-Dichlorobenzene	10.67	1281	146	2663	0.01	ng/ul	803	1.426
23)	2-Methylphenol	10.68	1282	108	0	0.00	ng/ul	0	1.185
24)	Bis(2-Chloroisopropyl)Ether	10.76	1291	45	131	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.07	1328	108	0	0.00	ng/ul	554	1.306
26)	N-Nitrosodi-N-Propylamine	11.17	1341	70	0	0.00	ng/ul	634	0.786
27)	Hexachloroethane	11.51	1381	119	0	0.00	ng/ul	883	0.645
28)	Nitrobenzene	11.60	1392	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1465	82	0	Not Found	ng/ul	697	0.000
30)	2-Nitrophenol	0.00	1495	109	0	Not Found	ng/ul	455	0.000

* Compound is ISTD

Operator ID: DMC
Output File: 305336.1B2
Data File: 305336.MS
Name: 305336
Sample:

Quant Time: 05/23/02 06:40
Injected at: 05/22/02 12:36
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	486	0.000	
32)	Benzoic Acid	0.00	1513	105	0	Not Found	ng/ul	867	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1525	92	0	Not Found	ng/ul	725	0.000	
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	89	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1593	180	0	Not Found	ng/ul	380	0.000	
36)	Naphthalene	13.50	1620	128	10504	0.02	ng/ul	721	1.390	0.00058
37)	4-Chloroaniline	0.00	1638	127	0	Not Found	ng/ul	837	0.000	
38)	2,6-Dichlorophenol	0.00	1638	162	0	Not Found	ng/ul	805	0.000	
39)	Hexachlorobutadiene	13.75	1650	225	0	0.00	ng/ul	335	0.282	
40)	4-Chloro-3-Methylphenol	14.78	1774	107	41754	0.15	ng/ul	710	0.594	0.0051
41)	2-Methylnaphthalene	15.31	1837	142	6029	0.02	ng/ul	931	0.647	0.00068
42)	Hexachlorocyclopentadiene	15.55	1866	237	0	0.00	ng/ul	0	0.379	
43)	2,4,6-Trichlorophenol	0.00	1917	196	0	Not Found	ng/ul	127	0.000	
44)	2,4,5-Trichlorophenol	0.00	1932	196	0	Not Found	ng/ul	191	0.000	
45)	2-Chloronapthalene	0.00	1987	162	0	Not Found	ng/ul	523	0.000	
46)	2-Nitroaniline	16.82	2019	138	3974	0.03	ng/ul	855	0.447	0.0010
47)	Dimethyl Phthalate	17.26	2071	163	13009	0.02	ng/ul	867	1.884	
48)	2,6-Dinitrotoluene	17.46	2095	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	17.63	2116	152	0	0.00	ng/ul	0	1.644	
50)	3-Nitroaniline	17.82	2138	138	0	0.00	ng/ul	0	0.367	
51)	Acenaphthene	18.04	2165	152	6401	0.01	ng/ul	800	1.538	0.00031
52)	2,4-Dinitrophenol	18.07	2169	184	0	0.00	ng/ul	791	0.236	
53)	4-Nitrophenol	17.99	2159	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	18.42	2210	168	7501	0.02	ng/ul	848	1.693	
55)	2,4-Dinitrotoluene	18.32	2199	165	53436	0.32	ng/ul	962	0.578	0.011
56)	Benzo(b)Fluoranthene	28.42	3411	252	0	0.00	ng/ul	0	1.127	
57)	Diethyl Phthalate	18.77	2252	149	667212	1.08	ng/ul	828	2.124	0.037
58)	Fluorene	19.08	2290	166	7431	0.03	ng/ul	866	1.020	0.00088
59)	4-Chlorophenyl Phenyl Ether	0.00	2284	204	0	Not Found	ng/ul	243	0.000	
60)	4-Nitroaniline	19.10	2292	108	0	0.00	ng/ul	556	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305336.1B2
Data File: 305336.MS
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Quant Time: 05/23/02 06:40
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Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.11	2293	198	0	0.00	ng/ul	512	0.215	
62)	N-Nitrosodiphenylamine	0.00	2309	169	0	Not Found	ng/ul	662	0.000	
63)	1,2-Diphenylhydrazine	19.35	2322	77	52248	0.11	ng/ul	755	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	276	0.000	
65)	Hexachlorobenzene	0.00	2401	284	0	Not Found	ng/ul	180	0.000	
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	38	0.000	
67)	Phenanthrene	20.69	2483	178	41139	0.08	ng/ul	859	1.126	0.0029
68)	Anthracene	20.76	2491	178	1426	0.00	ng/ul	148	1.171	
69)	Carbazole	20.99	2519	167	0	0.00	ng/ul	219	1.065	
70)	Di-n-Butyl Phthalate	21.33	2559	149	1097292	1.30	ng/ul	899	1.944	0.044
71)	Fluoranthene	22.41	2689	202	23653	0.05	ng/ul	831	1.074	0.002
72)	Benzidine	0.00	2698	184	0	Not Found	ng/ul	180	0.000	
73)	Pyrene	22.77	2733	202	19845	0.05	ng/ul	803	1.091	0.0016
74)	Butyl Benzyl Phthalate	23.58	2830	149	246354	0.52	ng/ul	811	1.194	0.018
75)	3,3'-Dichlorobenzidine	0.00	2980	252	0	Not Found	ng/ul	82	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.63	2956	149	402830	0.60	ng/ul	835	1.695	0.020
77)	Benzo(a)Anthracene	25.12	3015	228	0	0.00	ng/ul	0	1.188	
78)	Chrysene	25.22	3027	228	0	0.00	ng/ul	0	1.675	
79)	Di-n-Octylphthalate	26.40	3168	149	18817	0.02	ng/ul	314	2.650	
80)	Benzo(k)Fluoranthene	28.53	3424	252	0	0.00	ng/ul	0	1.252	
81)	Benzo(a)Pyrene	29.87	3585	252	0	0.00	ng/ul	0	1.075	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	37.95	4554	276	13061	0.03	ng/ul	342	1.281	
85)	N-Nitrosodimethylamine	4.87	585	73	186	0.00	ng/ul	191	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	39	0.000	
87)	2-Chloroaniline	12.33	1479	127	0	0.00	ng/ul	0	0.535	
88)	2,4-Diaminotoluene	15.97	1917	121	0	0.00	ng/ul	0	0.453	
89)	2,3-Dinitrotoluene	18.24	2189	165	0	0.00	ng/ul	0	0.576	
90)	1-Naphthylamine	0.00	2233	143	0	Not Found	ng/ul	703	0.000	

* Compound is ISTD

Operator ID: DMC
Output File: 305336.1B2
Data File: 305336.MS
Name: 305336
Sample:

Quant Time: 05/23/02 06:40
Injected at: 05/22/02 12:36
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

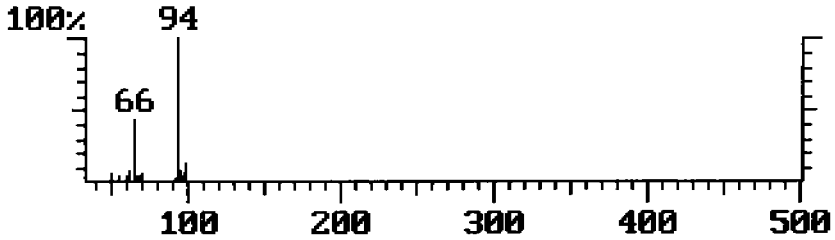
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2303	152	0	Not Found	ng/ul	430	0.000

* Compound is ISTD

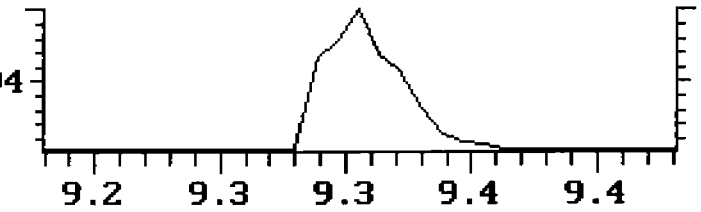
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 15 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Phenol SCAN#: 1117
AGC: 341

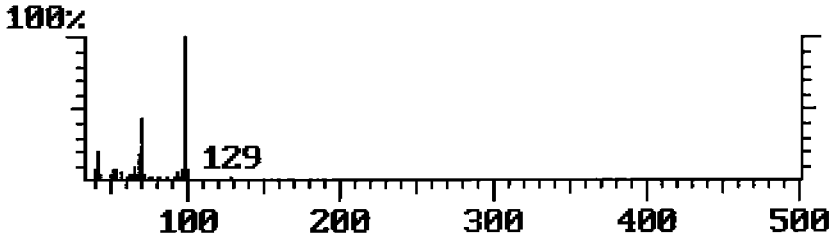
REFERENCE STANDARD SPECTRUM



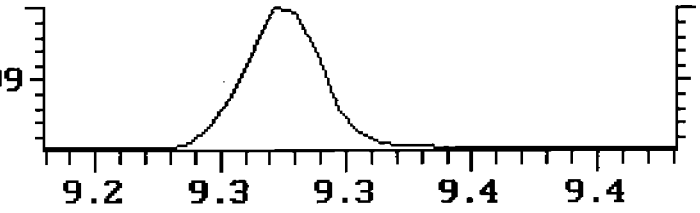
MASS 94 PLOT



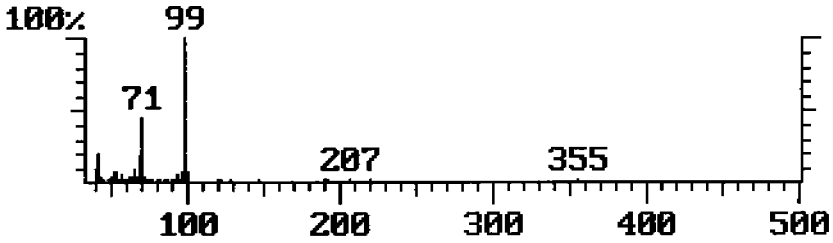
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



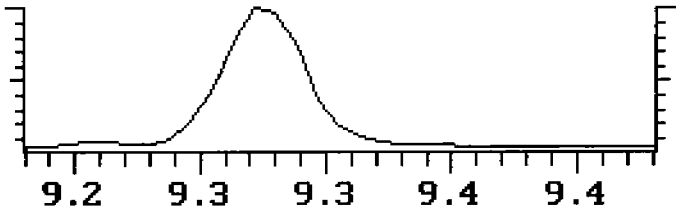
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

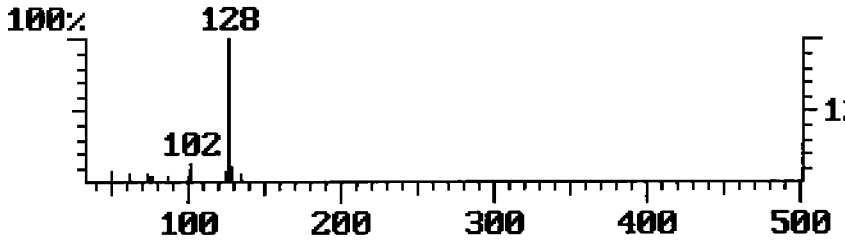


Approved_____ Date_____

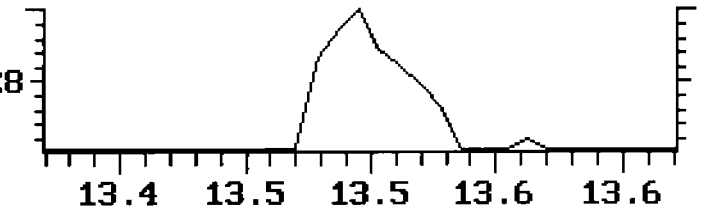
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 28 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Naphthalene SCAN#: 1620
AGC: 1579

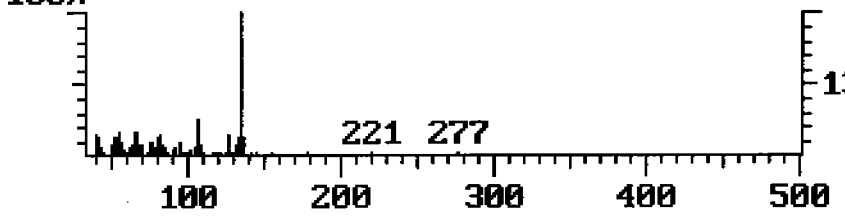
REFERENCE STANDARD SPECTRUM



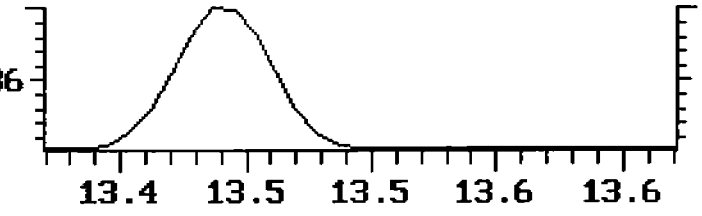
MASS 128 PLOT



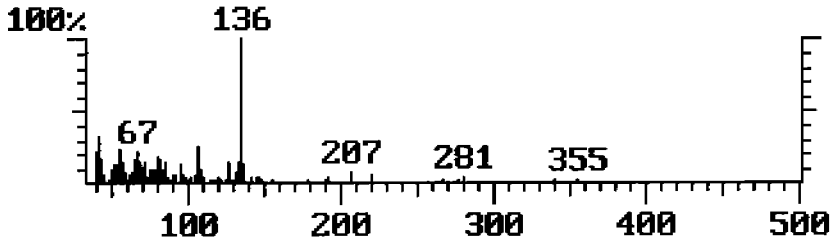
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



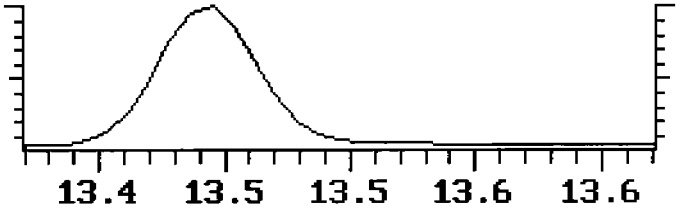
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

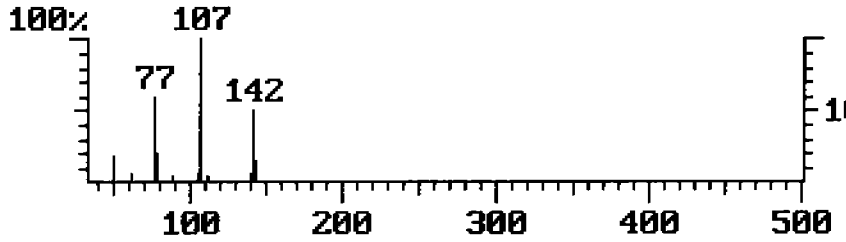


Approved_____ Date_____

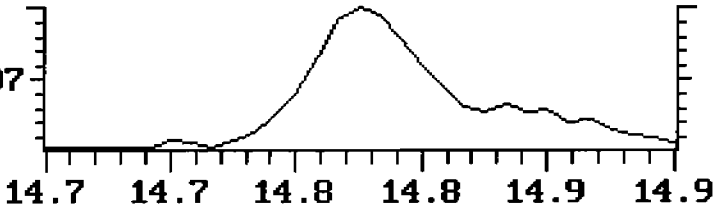
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 30 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1774
AGC: 1683

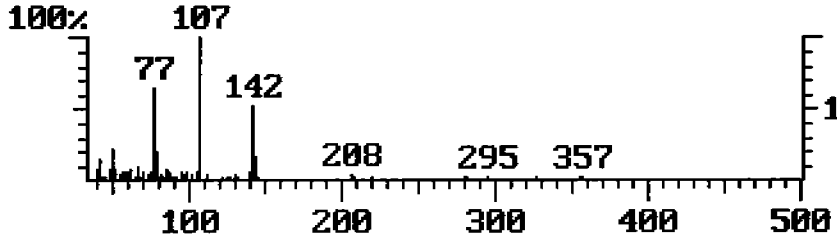
REFERENCE STANDARD SPECTRUM



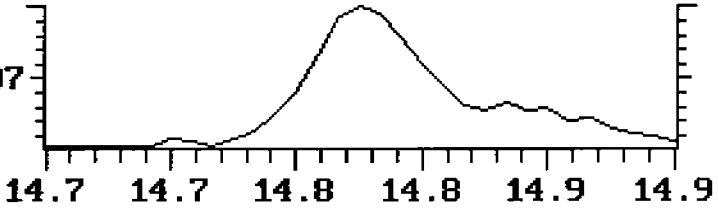
MASS 107 PLOT



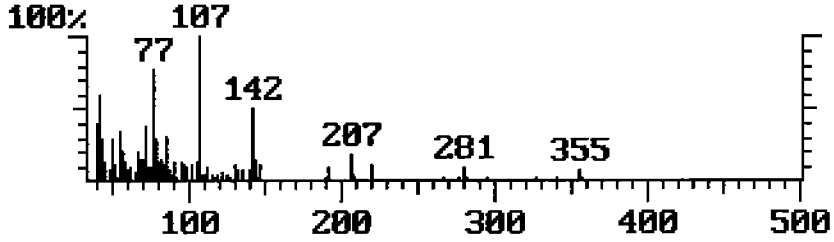
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



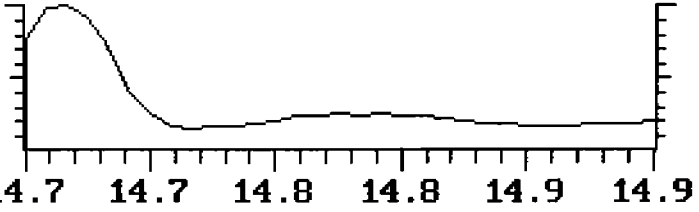
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

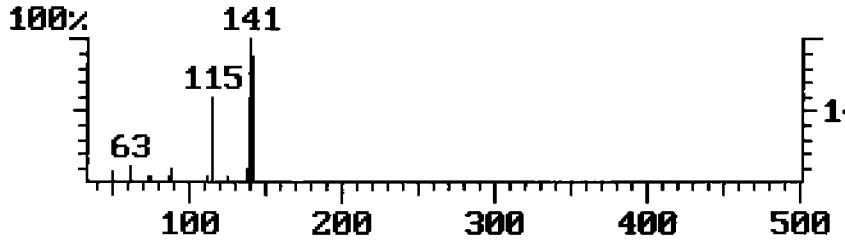


Approved_____ Date_____

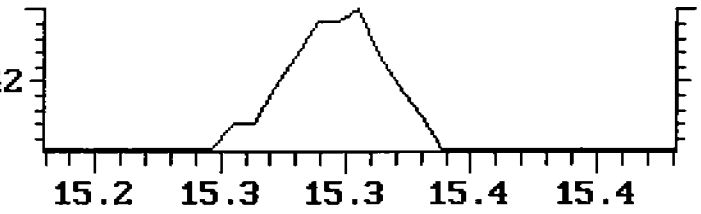
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 31 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2-Methylnaphthalene SCAN#: 1837
AGC: 2372

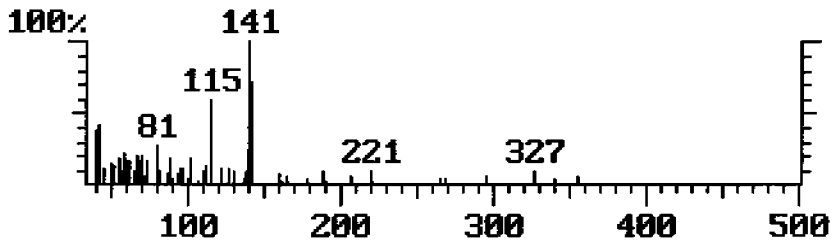
REFERENCE STANDARD SPECTRUM



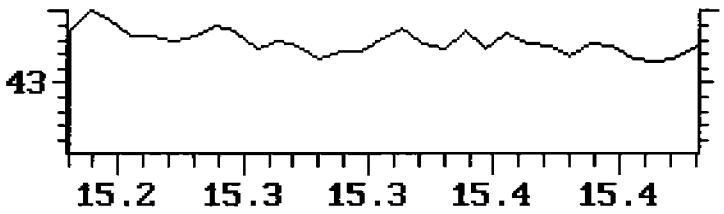
MASS 142 PLOT



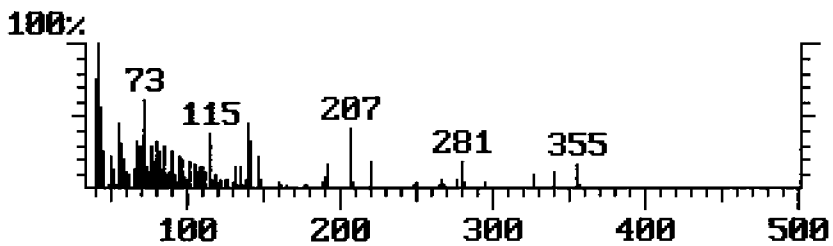
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



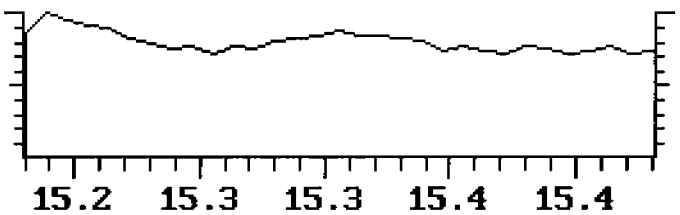
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

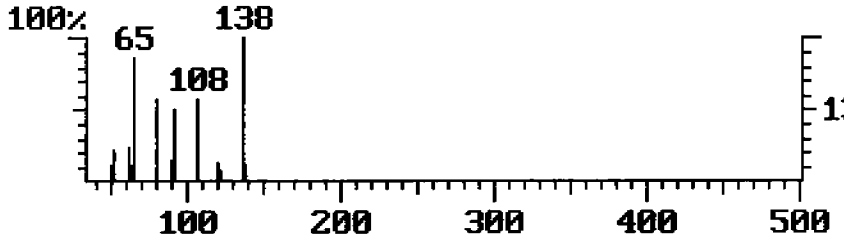


Approved_____ Date_____

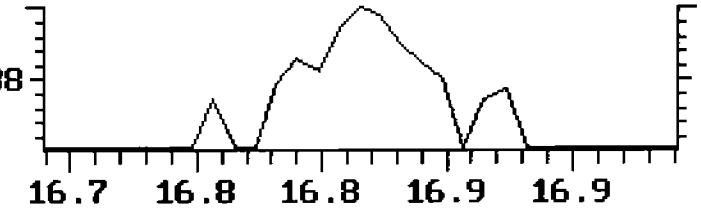
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 33 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2-Nitroaniline SCAN#: 2019
AGC: 2194

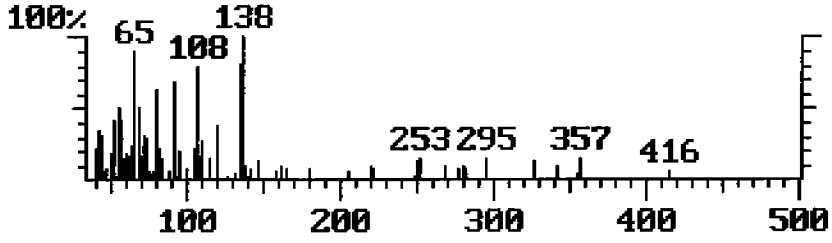
REFERENCE STANDARD SPECTRUM



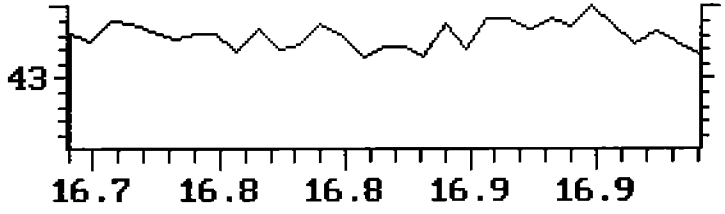
MASS 138 PLOT



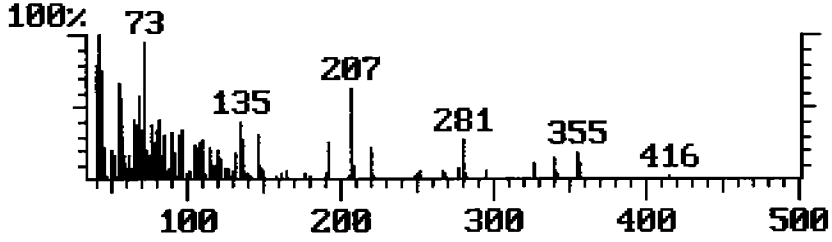
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



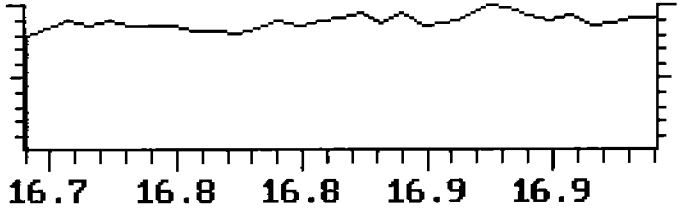
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

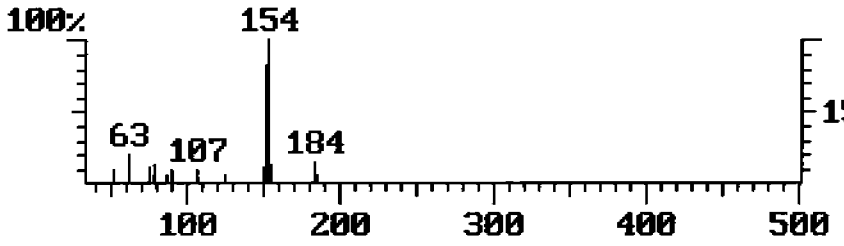


Approved_____ Date_____

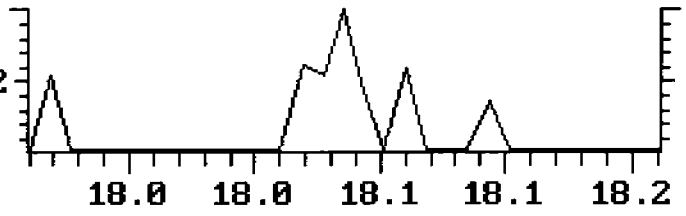
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Acenaphthene SCAN#: 2165
AGC: 1707

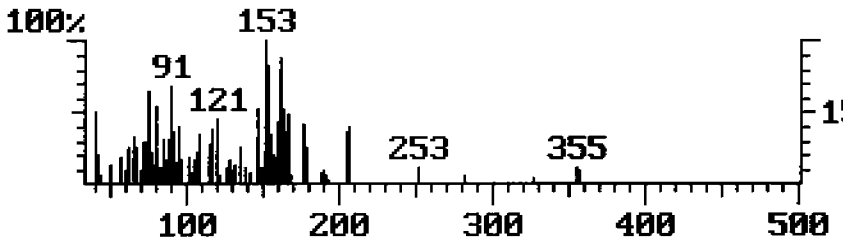
REFERENCE STANDARD SPECTRUM



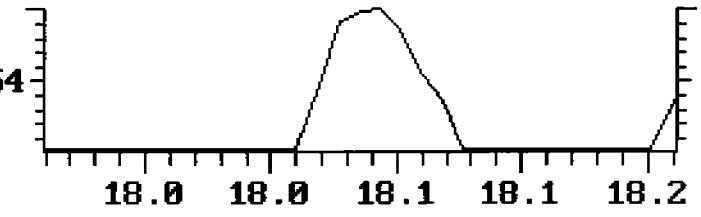
MASS 152 PLOT



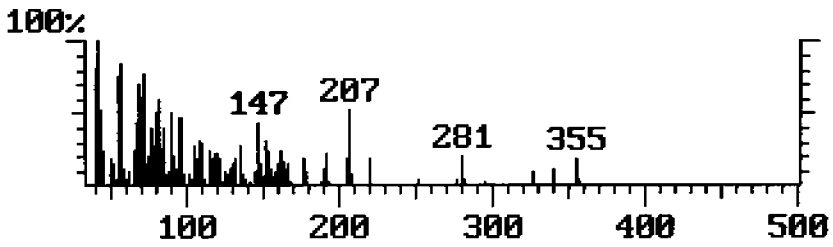
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



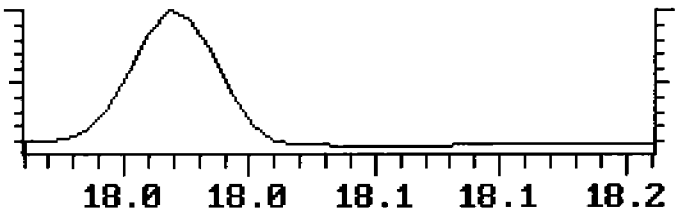
MASS 154 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

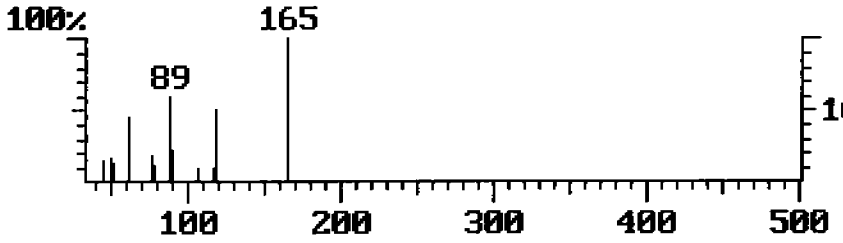


Approved_____ Date_____

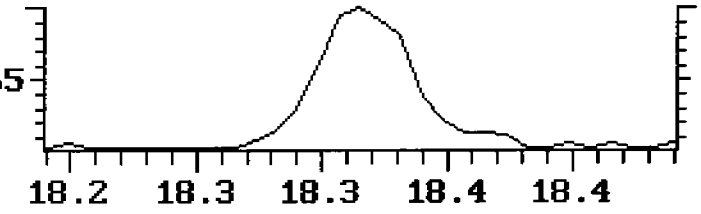
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 42 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2199
AGC: 852

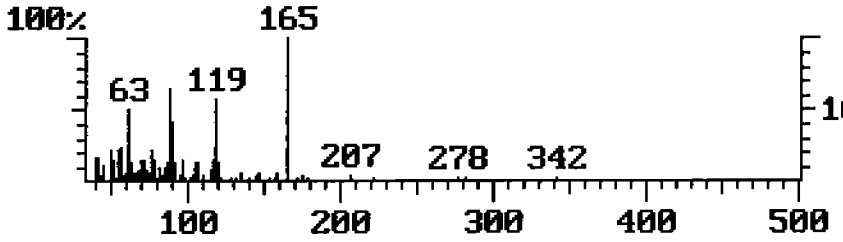
REFERENCE STANDARD SPECTRUM



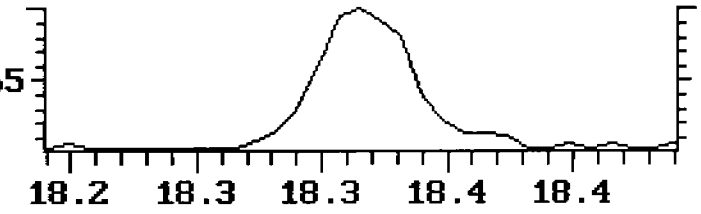
MASS 165 PLOT



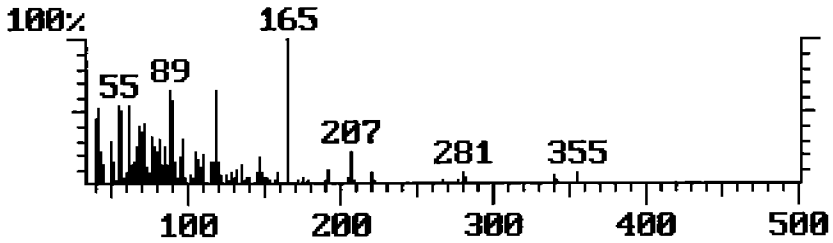
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



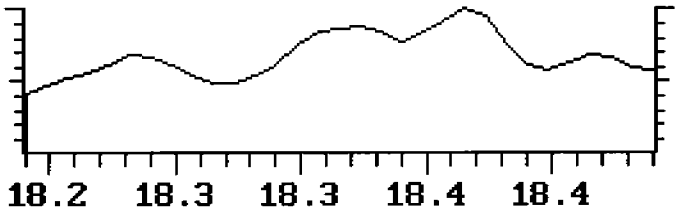
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

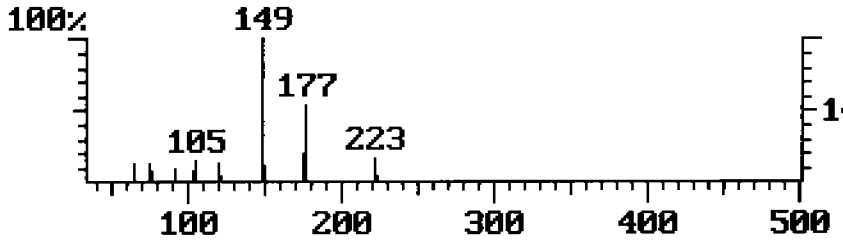


Approved_____ Date_____

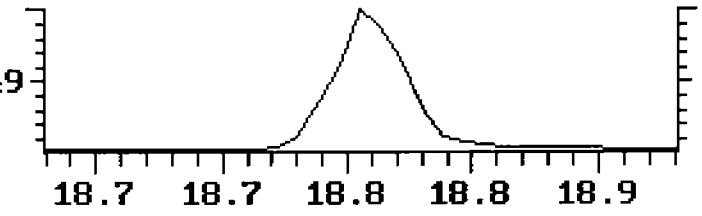
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2252
AGC: 207

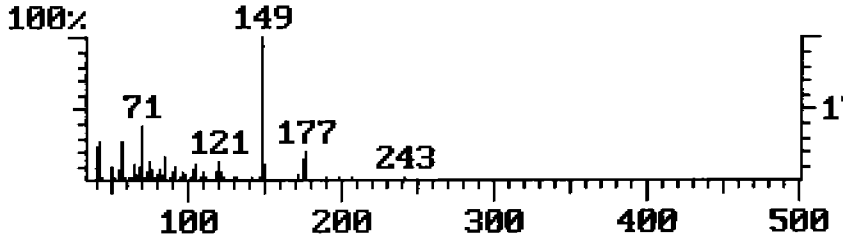
REFERENCE STANDARD SPECTRUM



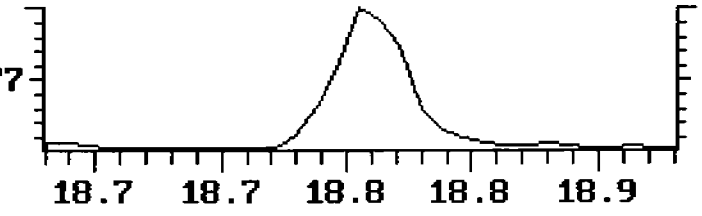
MASS 149 PLOT



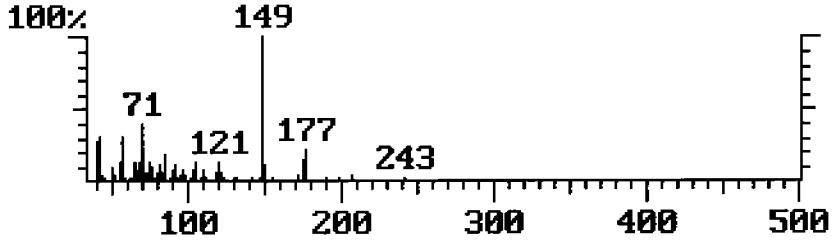
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



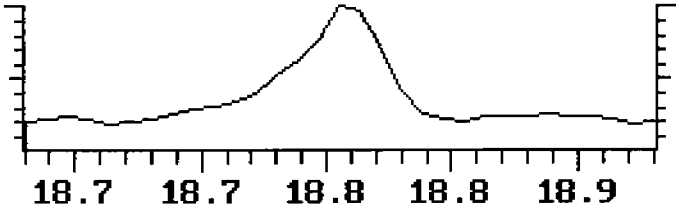
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

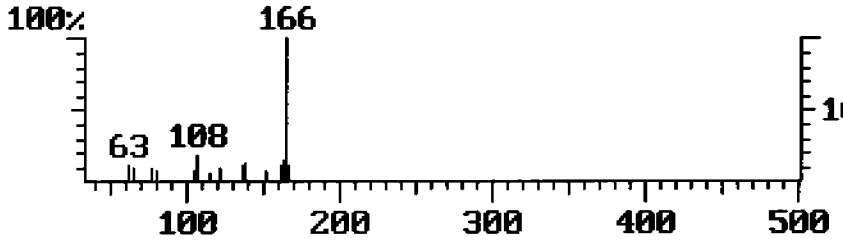


Approved_____ Date_____

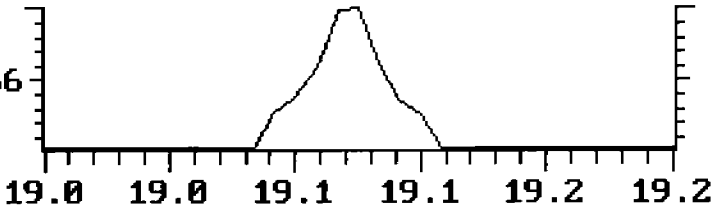
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Fluorene SCAN#: 2290
AGC: 908

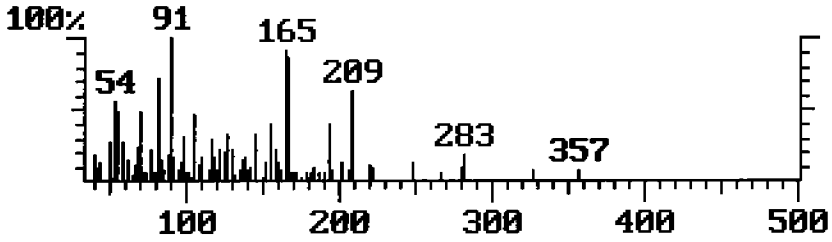
REFERENCE STANDARD SPECTRUM



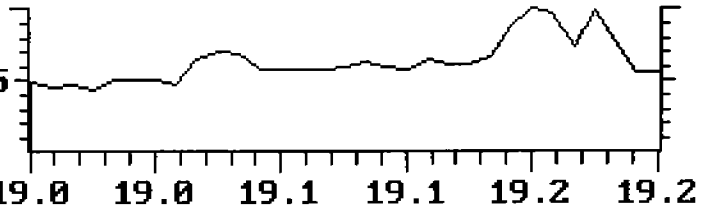
MASS 166 PLOT



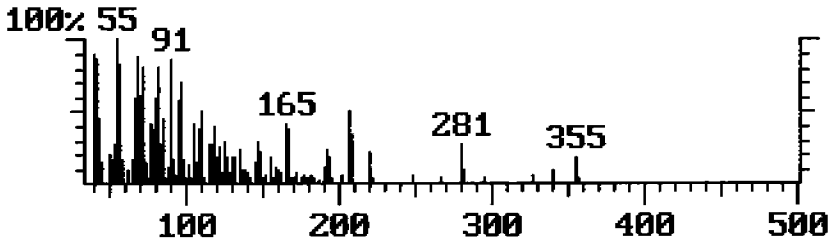
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



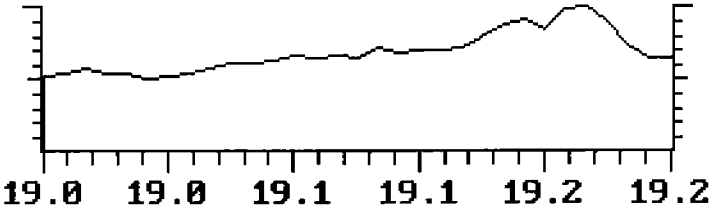
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

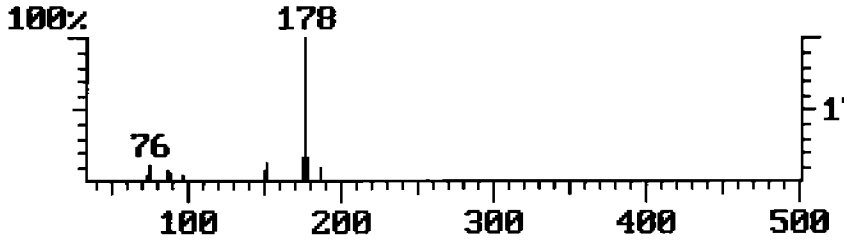


Approved_____ Date_____

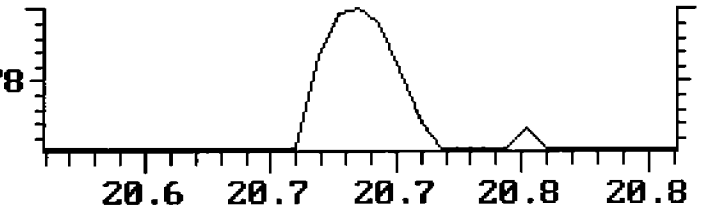
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Phenanthrene SCAN#: 2483
AGC: 309

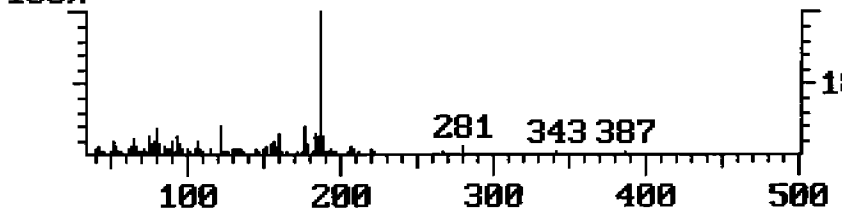
REFERENCE STANDARD SPECTRUM



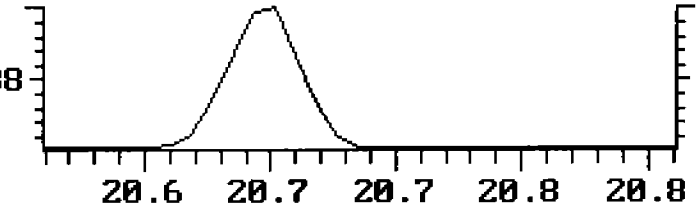
MASS 178 PLOT



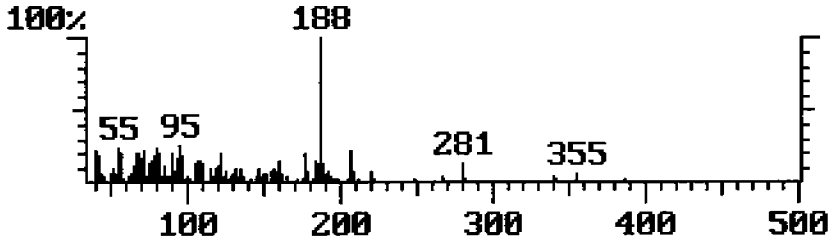
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



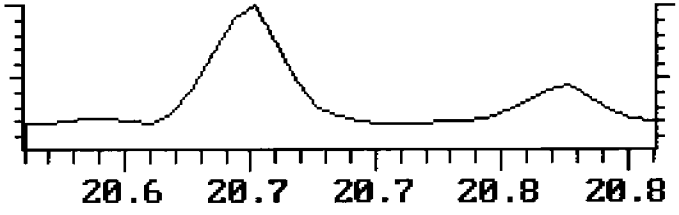
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

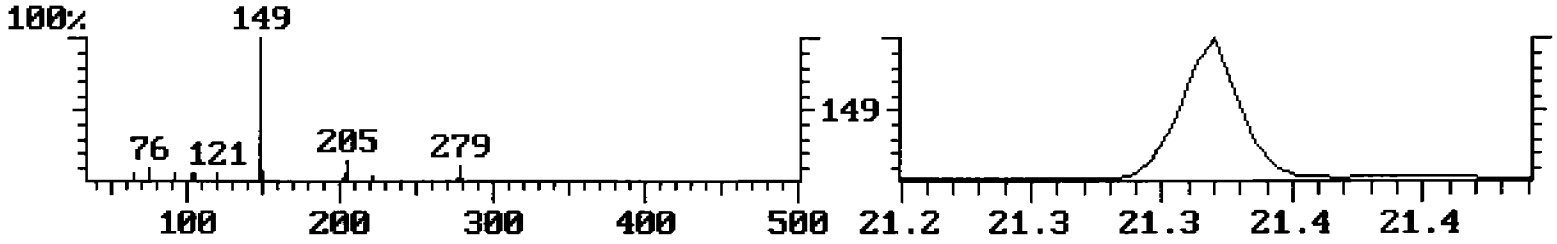


Approved_____ Date_____

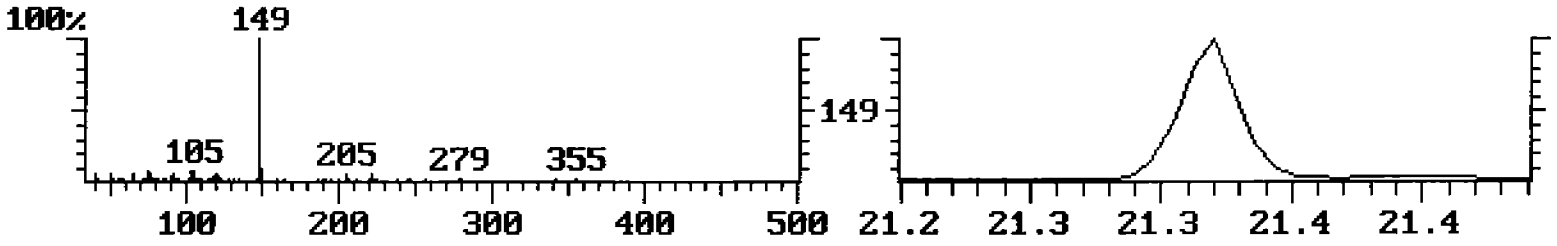
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 52 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2559
AGC: 136

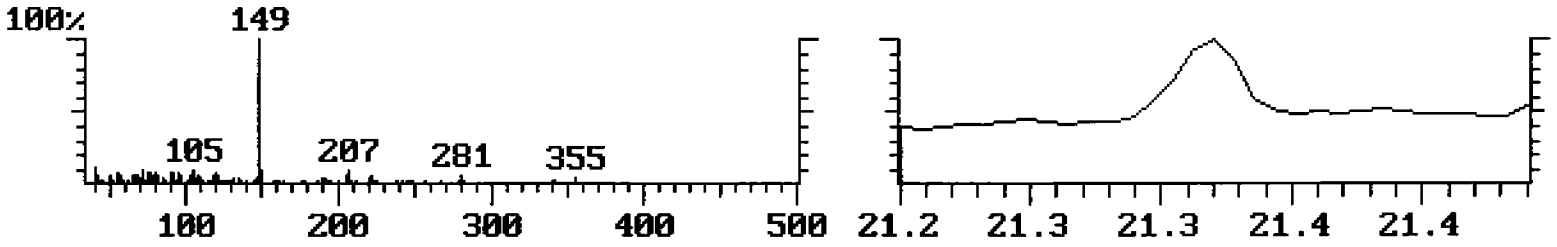
REFERENCE STANDARD SPECTRUM MASS 149 PLOT



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED) BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED) TOTAL ION PLOT



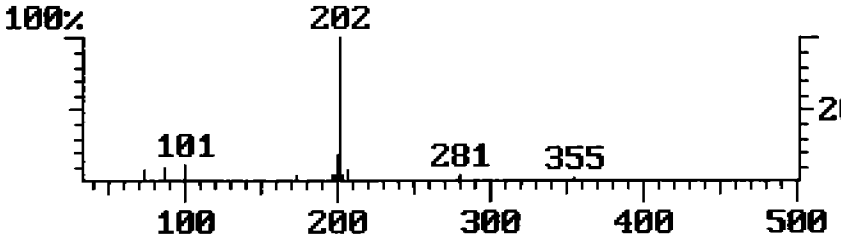
Approved_____ Date_____

000773

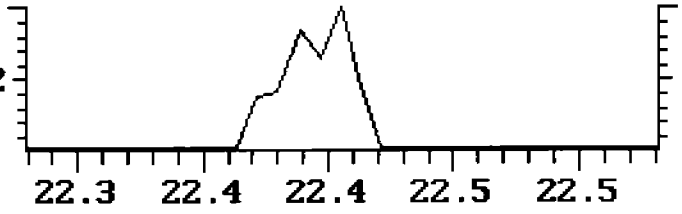
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 53 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Fluoranthene SCAN#: 2689
AGC: 250

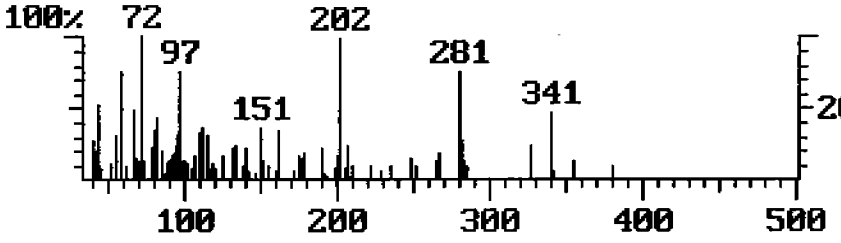
REFERENCE STANDARD SPECTRUM



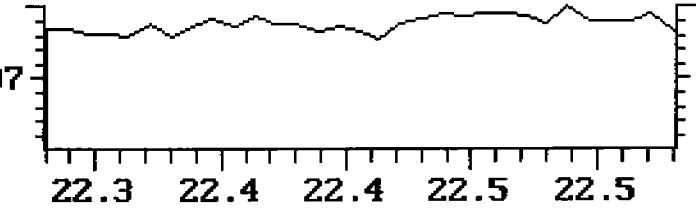
MASS 202 PLOT



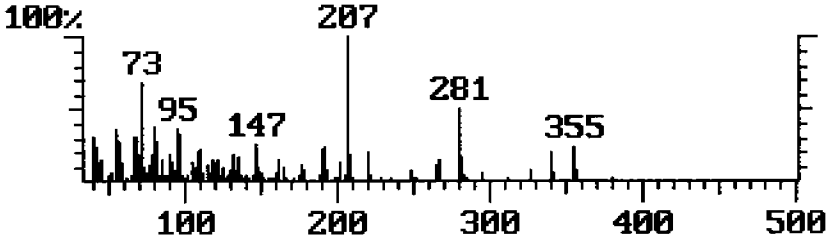
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



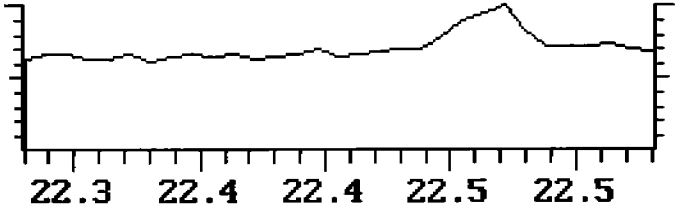
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

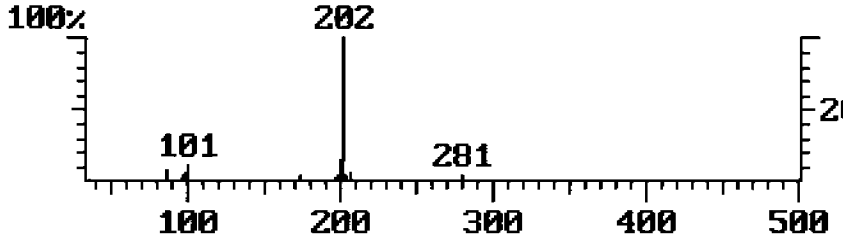


Approved_____ Date_____

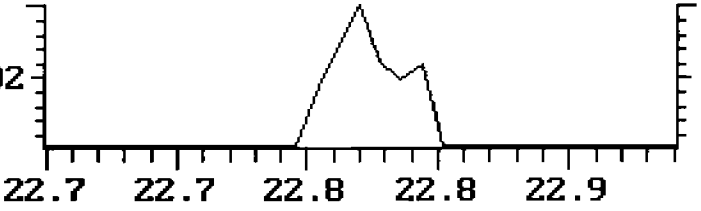
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 54 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Pyrene SCAN#: 2733
AGC: 198

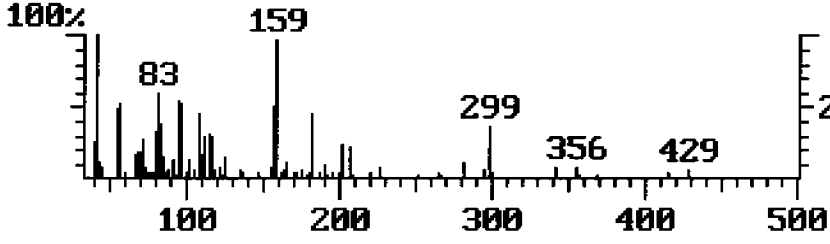
REFERENCE STANDARD SPECTRUM



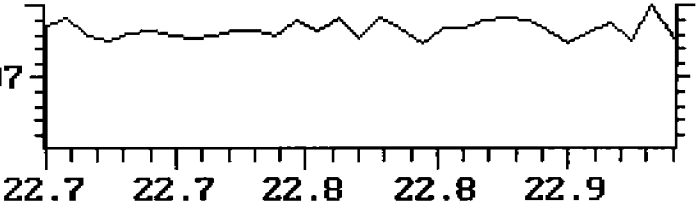
MASS 202 PLOT



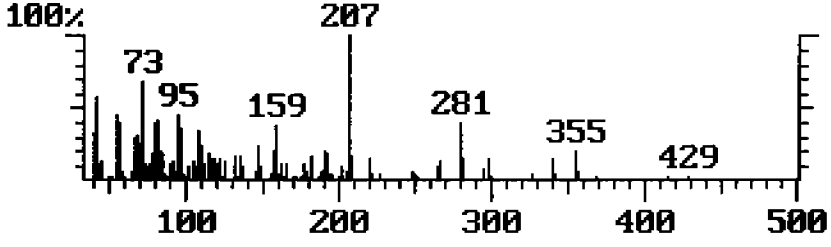
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



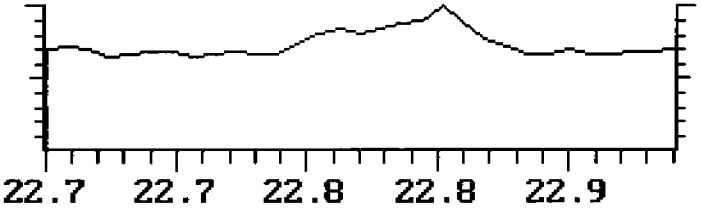
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

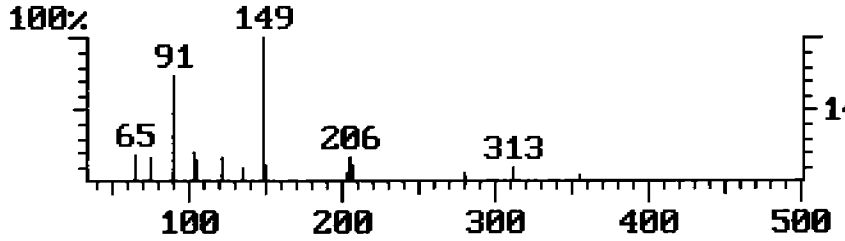


Approved_____ Date_____

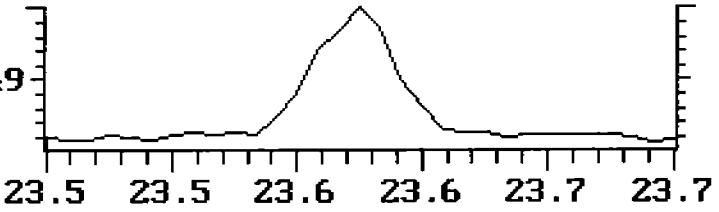
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 55 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2830
AGC: 81

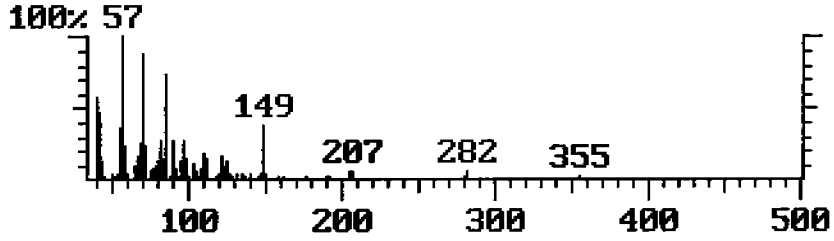
REFERENCE STANDARD SPECTRUM



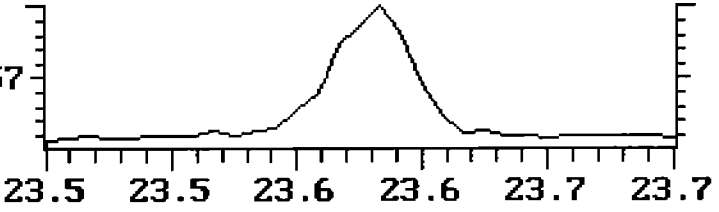
MASS 149 PLOT



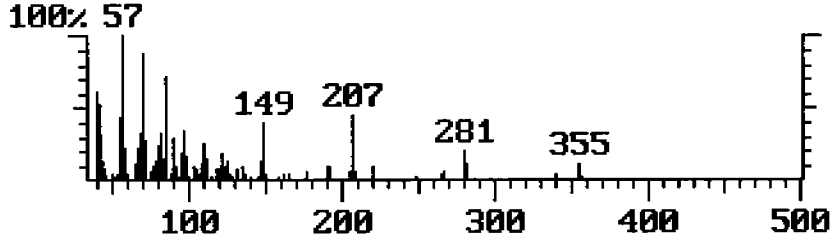
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



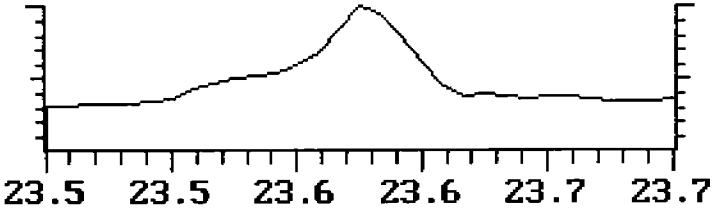
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

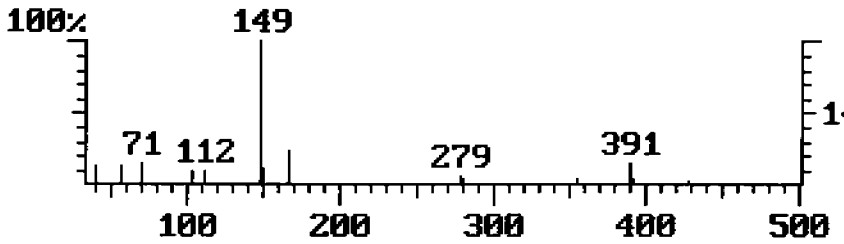


Approved_____ Date_____

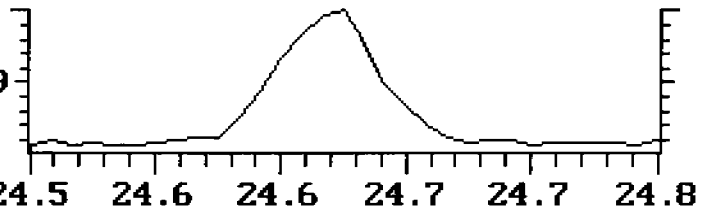
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 56 of 66
Data File: 305336 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 12:36 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2956
AGC: 212

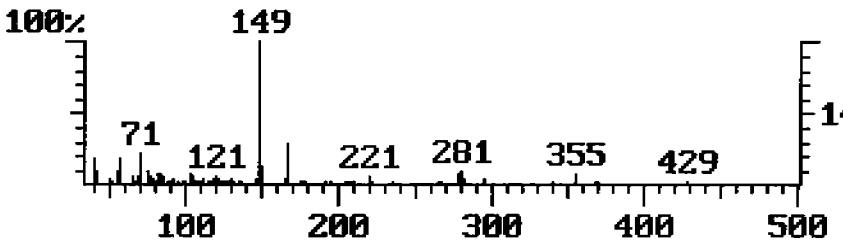
REFERENCE STANDARD SPECTRUM



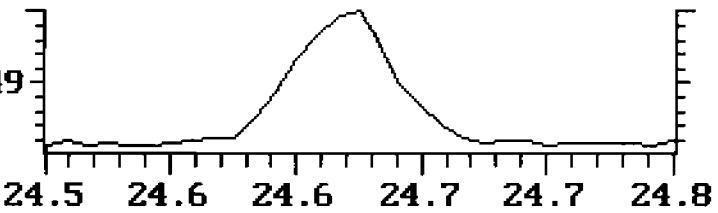
MASS 149 PLOT



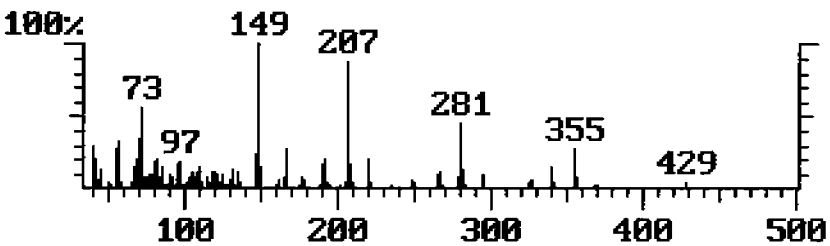
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



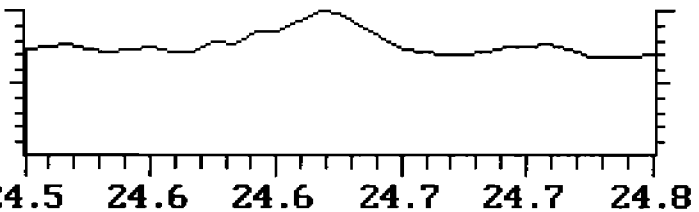
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

000777

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
1ENS01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:29
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305337
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.005**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
1ENS01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:29
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305337
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.002**	J	0.002	0.005
84-66-2	Diethylphthalate	**0.010**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.028**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	ND	U	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	ND	U	0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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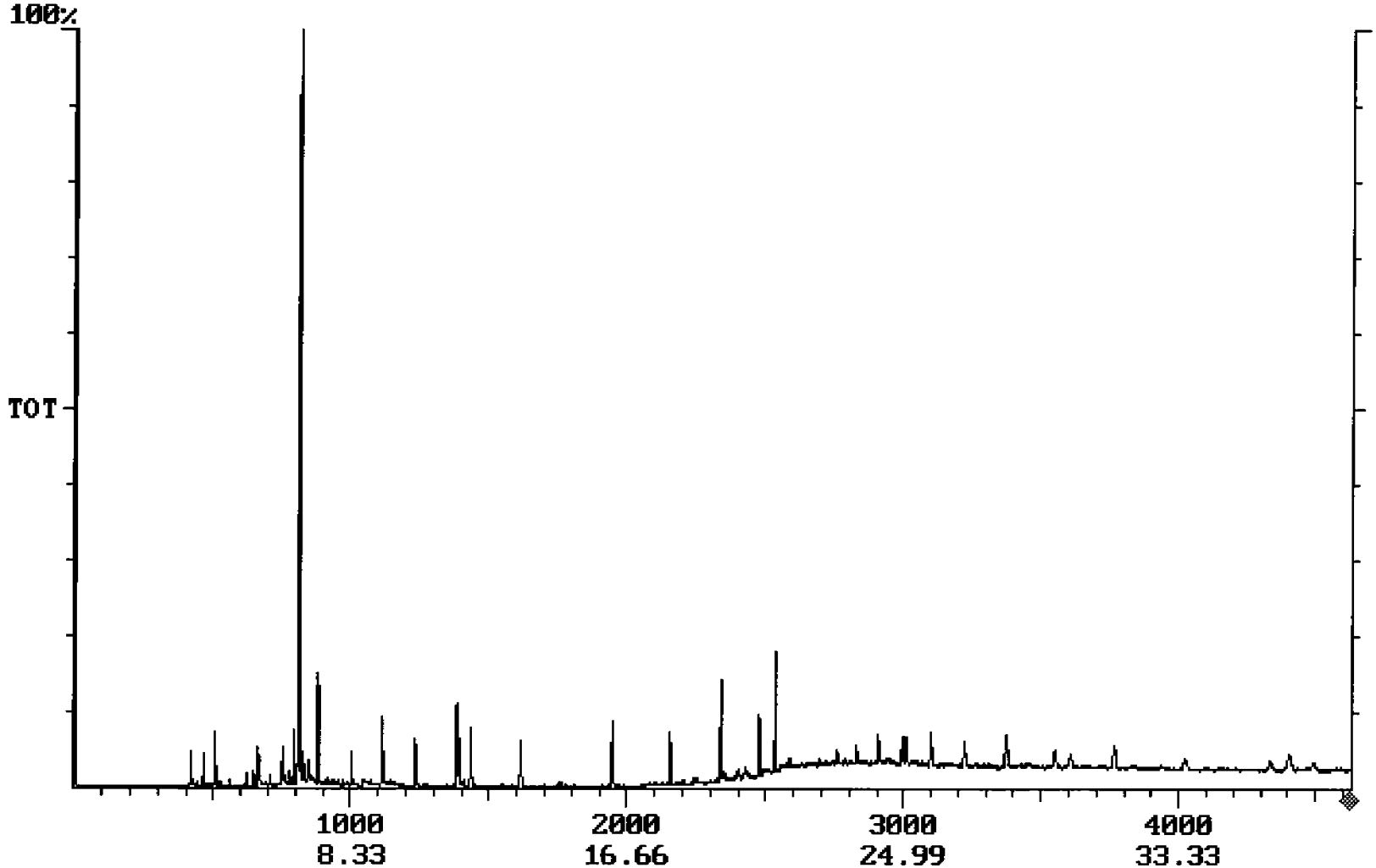
Chromatogram Plot C:\SATURN\DATA\305337 Date: 05/22/02 13:21:56
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4619 Range: 1 to 4619 100% = 16224030



000780

Operator ID: DMC
Output File: 305337.1B2
Data File: 305337.MS
Name: 305337
Sample:

Quant Time: 05/23/02 06:44
Injected at: 05/22/02 13:21
Dilution Factor: 1.00
Instrument ID: 138

30L -> 1L
99%

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.28	1234	152	705146	5.00	ng/ul	980	1.000
2)	*IS:D8-Naphthalene	13.45	1614	136	2237833	5.00	ng/ul	981	1.000
3)	*IS:D10-Acenaphthene	17.97	2157	162	1393188	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.64	2477	188	2041114	5.00	ng/ul	961	1.000
5)	*IS:D12-Chrysene	25.08	3010	240	1755036	5.00	ng/ul	689	1.000
6)	*IS:D12-Perylene	30.04	3605	264	1469450	5.00	ng/ul	887	1.000
7)	ACSUR:2-Fluorophenol	7.36	883	112	2963070	13.35	ng/ul	995	1.574
8)	ACSUR:D6-Phenol	9.30	1116	99	3535750	13.17	ng/ul	854	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.50	2340	330	1440112	15.48	ng/ul	998	0.334
10)	BNSUR:D5-Nitrobenzene	11.61	1393	127	591607	7.95	ng/ul	958	0.167
11)	BNSUR:Decafluorobiphenyl	11.54	1385	334	2467537	7.55	ng/ul	923	0.731
12)	BNSUR:2-Fluorobiphenyl	16.23	1948	172	2579741	7.86	ng/ul	996	1.178
13)	BNSUR:O-Terphenyl	21.12	2535	230	2275481	9.00	ng/ul	993	0.721
14)	Pyridine	4.72	567	79	1189	0.01	ng/ul	762	1.031
15)	Phenol	0.00	1118	94	0	Not Found	ng/ul	125	0.000
16)	Aniline	0.00	1137	93	0	Not Found	ng/ul	255	0.000
17)	Bis(2-Chloroethyl)Ether	0.00	1153	92	0	Not Found	ng/ul	258	0.000
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	574	0.000
19)	1,3-Dichlorobenzene	10.17	1220	146	3284	0.02	ng/ul	860	1.538
20)	1,4-Dichlorobenzene	10.33	1240	146	0	0.00	ng/ul	0	1.533
21)	Benzyl Alcohol	10.55	1266	108	11159	0.12	ng/ul	890	0.647
22)	1,2-Dichlorobenzene	10.69	1283	146	3112	0.02	ng/ul	714	1.426
23)	2-Methylphenol	10.74	1289	108	602	0.00	ng/ul	738	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1305	45	0	Not Found	ng/ul	212	0.000
25)	4-Methylphenol	11.11	1333	108	618	0.00	ng/ul	554	1.306
26)	N-Nitrosodi-N-Propylamine	11.18	1342	70	0	0.00	ng/ul	348	0.786
27)	Hexachloroethane	11.56	1387	119	0	0.00	ng/ul	879	0.645
28)	Nitrobenzene	11.62	1395	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1465	82	0	Not Found	ng/ul	445	0.000
30)	2-Nitrophenol	12.57	1509	109	0	0.00	ng/ul	0	0.374

* Compound is ISTD

Operator ID: DMC
Output File: 305337.1B2
Data File: 305337.MS
Name: 305337
Sample:

Quant Time: 05/23/02 06:44
Injected at: 05/22/02 13:21
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	495	0.000	
32)	Benzoic Acid	0.00	1513	105	0	Not Found	ng/ul	568	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1525	92	0	Not Found	ng/ul	737	0.000	
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	173	0.000	
35)	1,2,4-Trichlorobenzene	13.28	1594	180	1027	0.01	ng/ul	811	0.385	
36)	Naphthalene	0.00	1618	128	0	Not Found	ng/ul	546	0.000	
37)	4-Chloroaniline	13.65	1638	127	0	0.00	ng/ul	0	0.570	
38)	2,6-Dichlorophenol	0.00	1634	162	0	Not Found	ng/ul	831	0.000	
39)	Hexachlorobutadiene	13.91	1669	225	0	0.00	ng/ul	335	0.282	
40)	4-Chloro-3-Methylphenol	14.80	1776	107	37159	0.14	ng/ul	984	0.594	0.004?
41)	2-Methylnaphthalene	15.31	1837	142	2597	0.01	ng/ul	898	0.647	
42)	Hexachlorocyclopentadiene	15.65	1878	237	0	0.00	ng/ul	0	0.379	
43)	2,4,6-Trichlorophenol	0.00	1917	196	0	Not Found	ng/ul	81	0.000	
44)	2,4,5-Trichlorophenol	0.00	1932	196	0	Not Found	ng/ul	118	0.000	
45)	2-Chloronapthalene	0.00	1987	162	0	Not Found	ng/ul	583	0.000	
46)	2-Nitroaniline	16.92	2030	138	0	0.00	ng/ul	106	0.447	
47)	Dimethyl Phthalate	0.00	2073	163	0	Not Found	ng/ul	711	0.000	
48)	2,6-Dinitrotoluene	17.44	2093	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2118	152	0	Not Found	ng/ul	466	0.000	
50)	3-Nitroaniline	17.82	2139	138	0	0.00	ng/ul	456	0.367	
51)	Acenaphthene	18.04	2165	152	3151	0.01	ng/ul	828	1.538	
52)	2,4-Dinitrophenol	18.06	2167	184	0	0.00	ng/ul	765	0.236	
53)	4-Nitrophenol	18.07	2168	65	0	0.00	ng/ul	325	0.222	
54)	Dibenzofuran	18.41	2209	168	4555	0.01	ng/ul	837	1.693	
55)	2,4-Dinitrotoluene	18.34	2201	165	11233	0.07	ng/ul	702	0.578	0.004?
56)	Benzo(b)Fluoranthene	0.00	3407	252	0	Not Found	ng/ul	299	0.000	
57)	Diethyl Phthalate	18.81	2257	149	177555	0.30	ng/ul	766	2.124	0.010
58)	Fluorene	19.07	2288	166	4049	0.01	ng/ul	779	1.020	
59)	4-Chlorophenyl Phenyl Ether	0.00	2284	204	0	Not Found	ng/ul	283	0.000	
60)	4-Nitroaniline	19.06	2287	108	0	0.00	ng/ul	510	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305337.1B2
Data File: 305337.MS
Name: 305337
Sample:

Quant Time: 05/23/02 06:44
Injected at: 05/22/02 13:21
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.10	2292	198	0	0.00	ng/ul	568	0.215	
62)	N-Nitrosodiphenylamine	0.00	2309	169	0	Not Found	ng/ul	443	0.000	
63)	1,2-Diphenylhydrazine	19.35	2322	77	31126	0.07	ng/ul	813	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	283	0.000	
65)	Hexachlorobenzene	0.00	2401	284	0	Not Found	ng/ul	135	0.000	
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.68	2482	178	12287	0.03	ng/ul	668	1.126	
68)	Anthracene	20.75	2490	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	21.02	2523	167	0	0.00	ng/ul	0	1.065	
70)	Di-n-Butyl Phthalate	21.33	2560	149	666026	0.82	ng/ul	778	1.997	0.028
71)	Fluoranthene	22.25	2670	202	0	0.00	ng/ul	0	1.074	
72)	Benzidine	0.00	2698	184	0	Not Found	ng/ul	98	0.000	
73)	Pyrene	0.00	2732	202	0	Not Found	ng/ul	110	0.000	
74)	Butyl Benzyl Phthalate	23.57	2828	149	0	0.00	ng/ul	11	1.194	
75)	3,3'-Dichlorobenzidine	0.00	2980	252	0	Not Found	ng/ul	321	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	0.00	2949	149	0	Not Found	ng/ul	786	0.000	
77)	Benzo(a)Anthracene	0.00	3006	228	0	Not Found	ng/ul	33	0.000	
78)	Chrysene	0.00	3019	228	0	Not Found	ng/ul	112	0.000	
79)	Di-n-Octylphthalate	0.00	3158	149	0	Not Found	ng/ul	481	0.000	
80)	Benzo(k)Fluoranthene	0.00	3423	252	0	Not Found	ng/ul	120	0.000	
81)	Benzo(a)Pyrene	0.00	3578	252	0	Not Found	ng/ul	670	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4545	276	0	Not Found	ng/ul	217	0.000	
85)	N-Nitrosodimethylamine	4.83	580	73	0	0.00	ng/ul	0	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	0	0.000	
87)	2-Chloroaniline	12.47	1497	127	0	0.00	ng/ul	0	0.535	
88)	2,4-Diaminotoluene	15.94	1913	121	460	0.00	ng/ul	131	0.453	
89)	2,3-Dinitrotoluene	18.04	2165	165	673	0.00	ng/ul	683	0.576	
90)	1-Naphthylamine	18.58	2230	143	577	0.00	ng/ul	642	0.724	

* Compound is ISTD

Operator ID: DMC Quant Time: 05/23/02 06:44
Output File: 305337.1B2 Injected at: 05/22/02 13:21
Data File: 305337.MS Dilution Factor: 1.00
Name: 305337 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

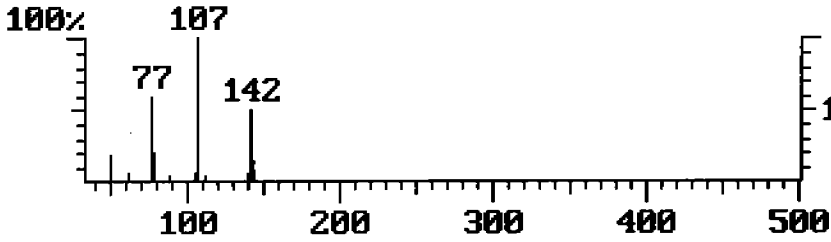
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.05	2286	152	401	0.00	ng/ul	584	0.425

* Compound is ISTD

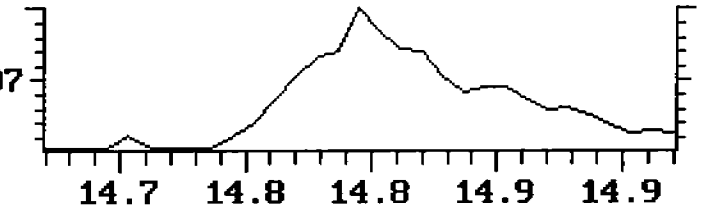
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 28 of 55
Data File: 305337 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 1:21 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1776
AGC: 1872

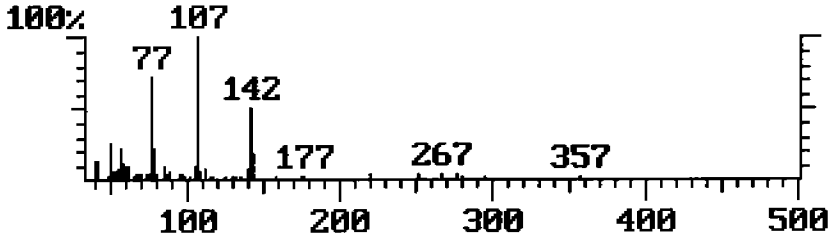
REFERENCE STANDARD SPECTRUM



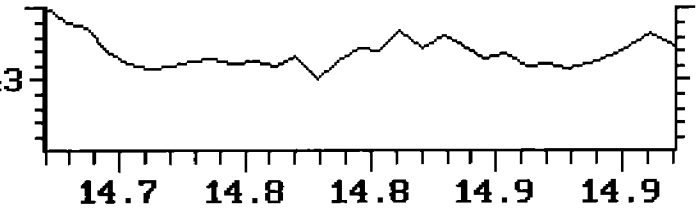
MASS 107 PLOT



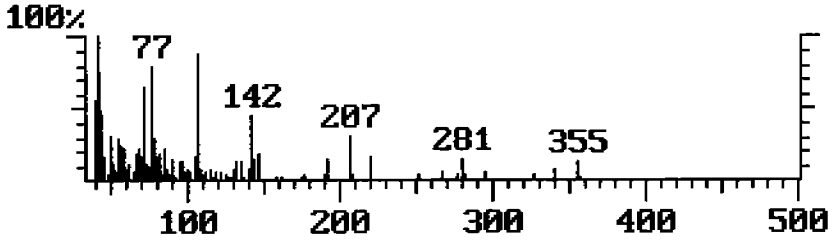
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



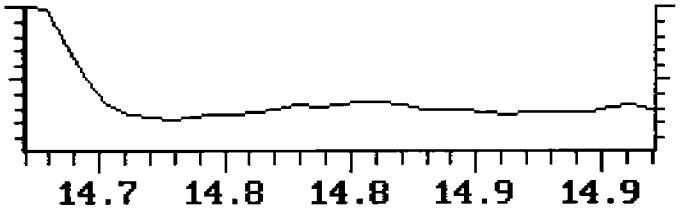
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

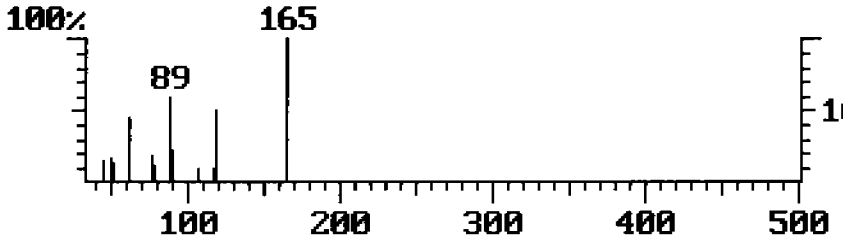


Approved_____ Date_____

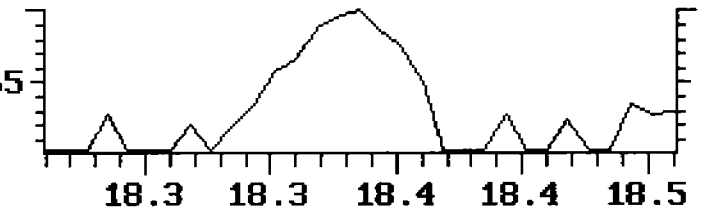
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 55
Data File: 305337 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 1:21 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2201
AGC: 1188

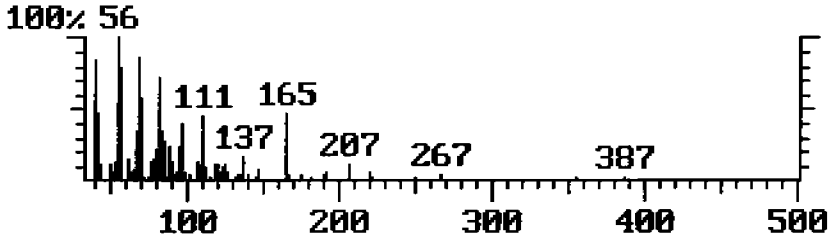
REFERENCE STANDARD SPECTRUM



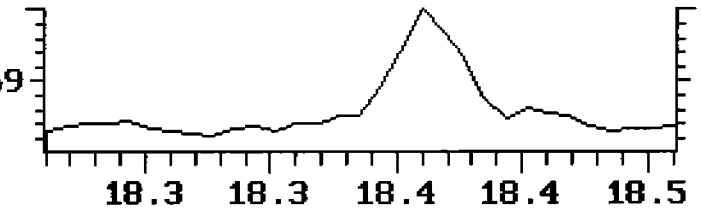
MASS 165 PLOT



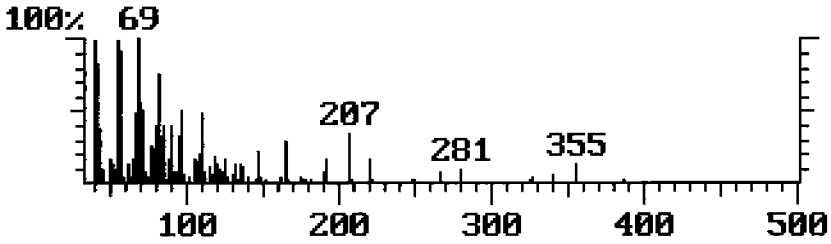
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



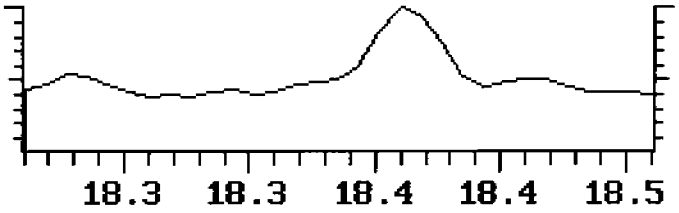
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

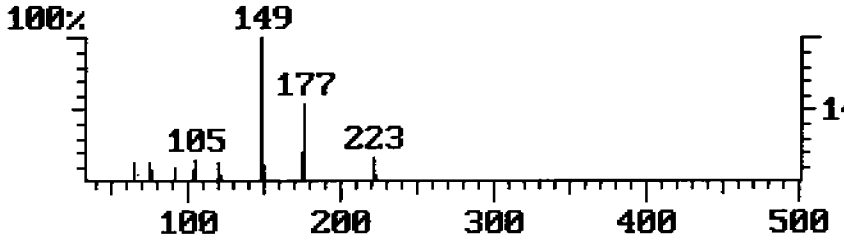


Approved_____ Date_____

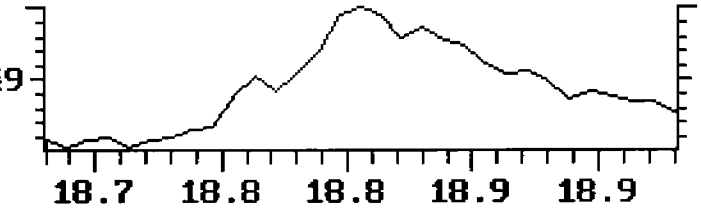
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 55
Data File: 305337 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 1:21 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2257
AGC: 968

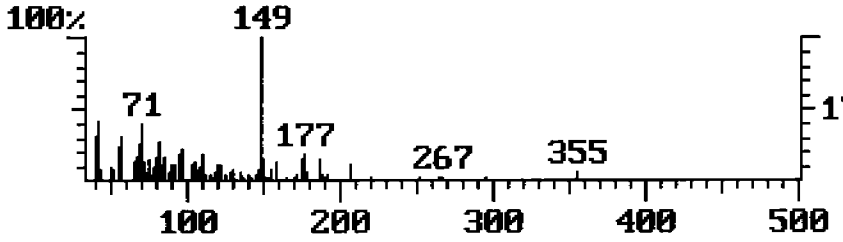
REFERENCE STANDARD SPECTRUM



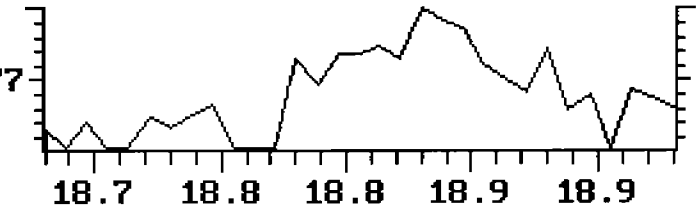
MASS 149 PLOT



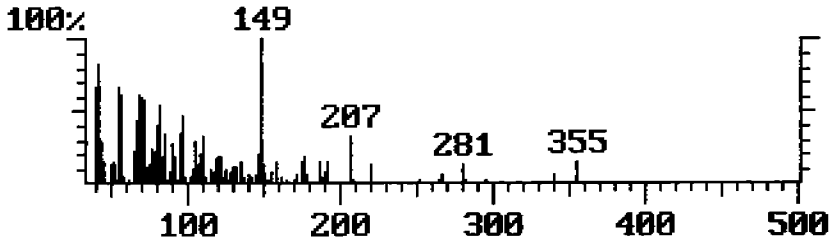
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



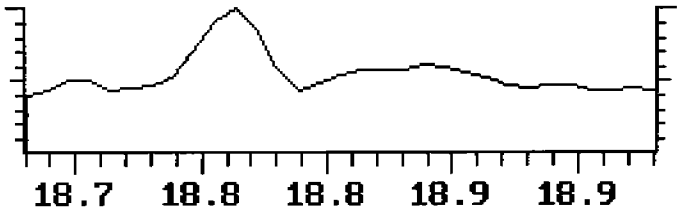
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

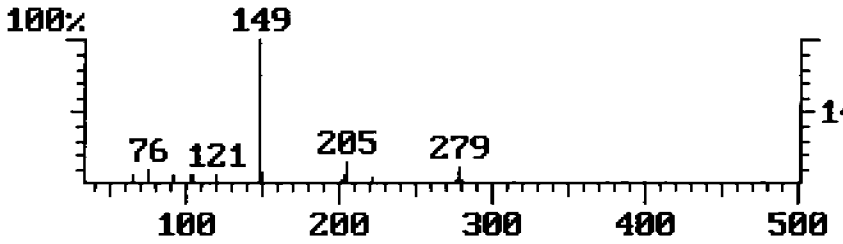


Approved_____ Date_____

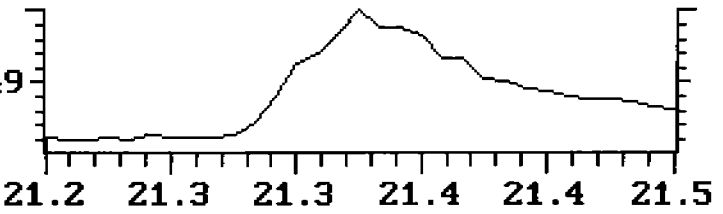
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 55
Data File: 305337 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 1:21 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2560
AGC: 244

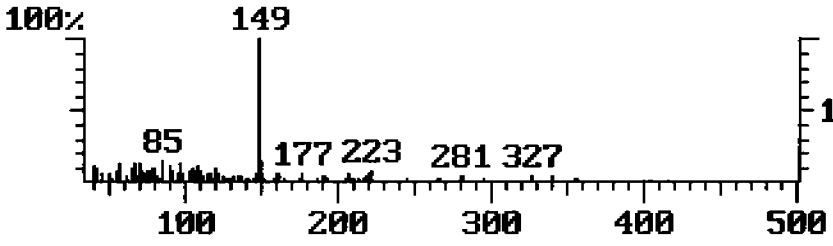
REFERENCE STANDARD SPECTRUM



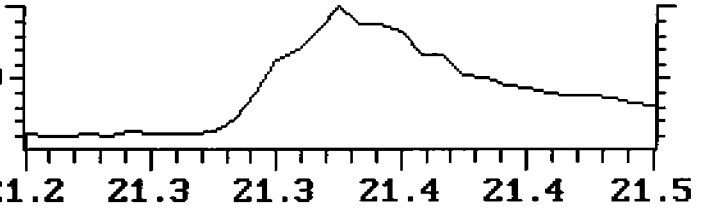
MASS 149 PLOT



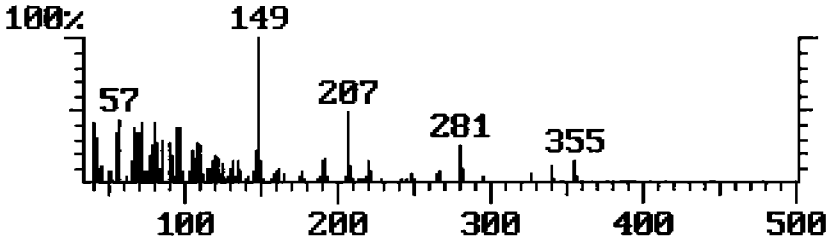
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



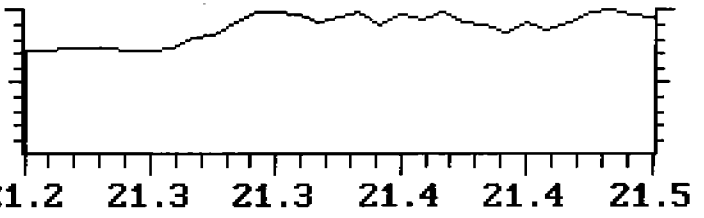
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
1CNP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:48
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305338
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.005**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
1CNP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:48
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305338
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.002**	J	0.002	0.005
84-66-2	Diethylphthalate	**0.009**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.036**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.005**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.011**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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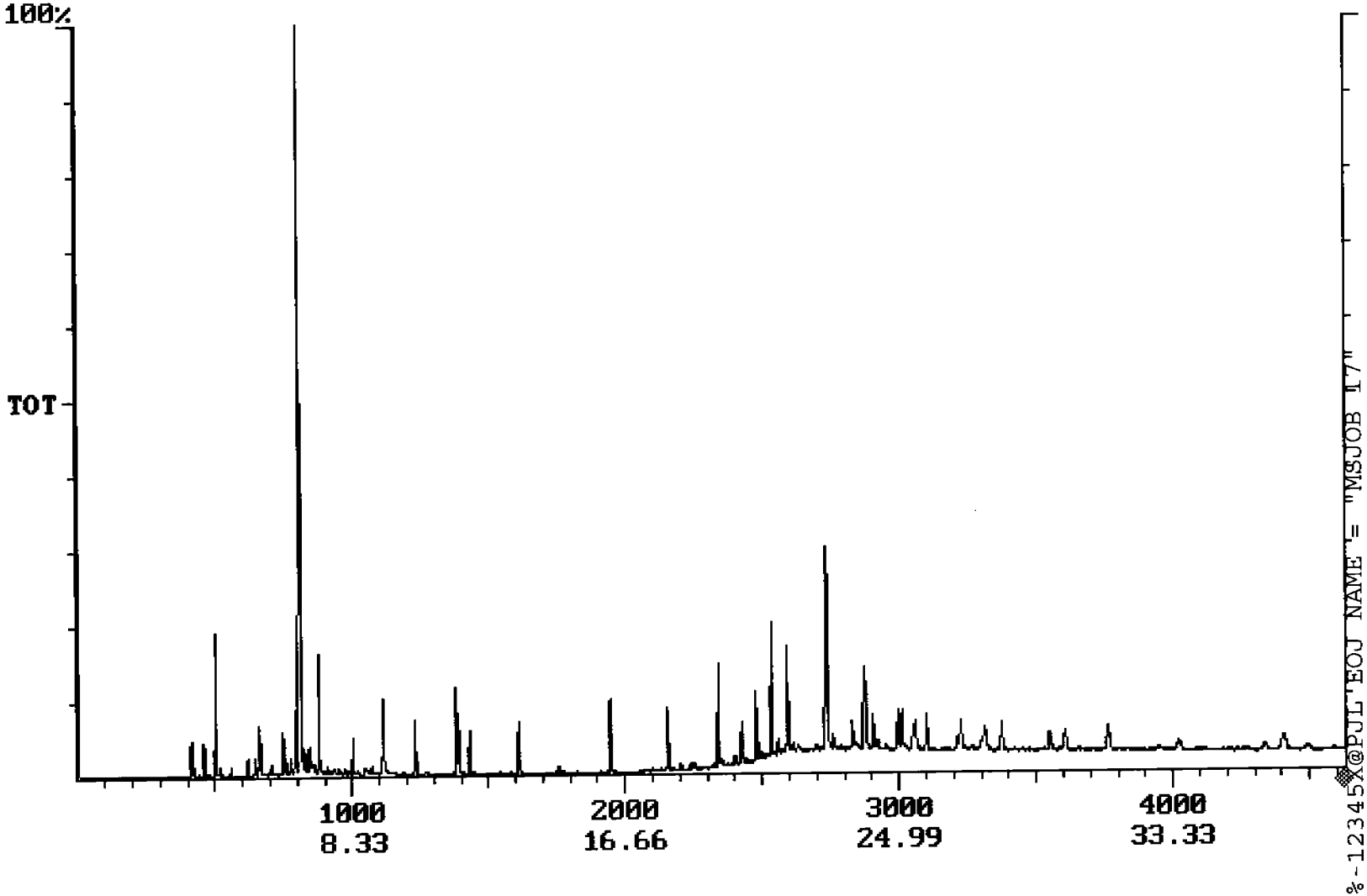
Chromatogram Plot C:\SATURN\DATA\305338 Date: 05/22/02 14:07:40
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4620 Range: 1 to 4620 100% = 14724328



Operator ID: DMC
Output File: 305338.1B2
Data File: 305338.MS
Name: 305338
Sample:

Quant Time: 05/23/02 06:48
Injected at: 05/22/02 14:07
Dilution Factor: 1.00
Instrument ID: 138

30 → 1 ml
95%

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.27	1233	152	709608	5.00	ng/ul	978	1.000
2)	*IS:D8-Naphthalene	13.44	1613	136	2332989	5.00	ng/ul	987	1.000
3)	*IS:D10-Acenaphthene	17.97	2156	162	1443425	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.64	2477	188	2201789	5.00	ng/ul	926	1.000
5)	*IS:D12-Chrysene	25.08	3010	240	1953614	5.00	ng/ul	667	1.000
6)	*IS:D12-Perylene	30.05	3606	264	2092100	5.00	ng/ul	881	1.000
7)	ACSUR:2-Fluorophenol	7.34	881	112	2880703	12.90	ng/ul	996	1.574
8)	ACSUR:D6-Phenol	9.28	1114	99	3390832	12.55	ng/ul	799	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.50	2340	330	1281544	13.35	ng/ul	998	0.333
10)	BNSUR:D5-Nitrobenzene	11.60	1392	127	591911	7.63	ng/ul	939	0.167
11)	BNSUR:Decafluorobiphenyl	11.52	1383	334	2379289	6.98	ng/ul	922	0.731
12)	BNSUR:2-Fluorobiphenyl	16.23	1948	172	2497327	7.35	ng/ul	997	1.178
13)	BNSUR:O-Terphenyl	21.12	2535	230	2123435	7.65	ng/ul	991	0.711
14)	Pyridine	4.88	586	79	902	0.01	ng/ul	353	1.031
15)	Phenol	0.00	1118	94	0	Not Found	ng/ul	145	0.000
16)	Aniline	9.52	1143	93	1823	0.01	ng/ul	474	1.852
17)	Bis(2-Chloroethyl)Ether	0.00	1153	92	0	Not Found	ng/ul	276	0.000
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	648	0.000
19)	1,3-Dichlorobenzene	10.15	1218	146	3360	0.02	ng/ul	842	1.538
20)	1,4-Dichlorobenzene	10.32	1238	146	989	0.00	ng/ul	160	1.533
21)	Benzyl Alcohol	10.53	1264	108	2358	0.03	ng/ul	856	0.647
22)	1,2-Dichlorobenzene	10.69	1283	146	2312	0.01	ng/ul	825	1.426
23)	2-Methylphenol	10.78	1294	108	174	0.00	ng/ul	655	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1305	45	0	Not Found	ng/ul	162	0.000
25)	4-Methylphenol	11.07	1329	108	0	0.00	ng/ul	679	1.306
26)	N-Nitrosodi-N-Propylamine	11.17	1340	70	0	0.00	ng/ul	654	0.786
27)	Hexachloroethane	11.57	1389	119	0	0.00	ng/ul	888	0.645
28)	Nitrobenzene	11.63	1396	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1465	82	0	Not Found	ng/ul	631	0.000
30)	2-Nitrophenol	0.00	1495	109	0	Not Found	ng/ul	422	0.000

* Compound is ISTD

Operator ID: DMC
Output File: 305338.1B2
Data File: 305338.MS
Name: 305338
Sample:

Quant Time: 05/23/02 06:48
Injected at: 05/22/02 14:07
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	246	0.000	
32)	Benzoic Acid	0.00	1513	105	0	Not Found	ng/ul	673	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1525	92	0	Not Found	ng/ul	720	0.000	
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	90	0.000	
35)	1,2,4-Trichlorobenzene	13.27	1593	180	990	0.01	ng/ul	760	0.385	
36)	Naphthalene	0.00	1618	128	0	Not Found	ng/ul	284	0.000	
37)	4-Chloroaniline	0.00	1630	127	0	Not Found	ng/ul	612	0.000	
38)	2,6-Dichlorophenol	0.00	1637	162	0	Not Found	ng/ul	853	0.000	
39)	Hexachlorobutadiene	13.76	1651	225	0	0.00	ng/ul	335	0.282	
40)	4-Chloro-3-Methylphenol	14.79	1775	107	41251	0.15	ng/ul	949	0.594	0.0050
41)	2-Methylnaphthalene	15.31	1837	142	1565	0.01	ng/ul	897	0.647	
42)	Hexachlorocyclopentadiene	0.00	1882	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	0.00	1918	196	0	Not Found	ng/ul	104	0.000	
44)	2,4,5-Trichlorophenol	0.00	1932	196	0	Not Found	ng/ul	65	0.000	
45)	2-Chloronapthalene	0.00	1987	162	0	Not Found	ng/ul	603	0.000	
46)	2-Nitroaniline	16.83	2020	138	1890	0.01	ng/ul	885	0.447	
47)	Dimethyl Phthalate	17.21	2065	163	0	0.00	ng/ul	0	1.884	
48)	2,6-Dinitrotoluene	17.40	2088	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2118	152	0	Not Found	ng/ul	203	0.000	
50)	3-Nitroaniline	17.82	2138	138	0	0.00	ng/ul	0	0.367	
51)	Acenaphthene	0.00	2164	152	0	Not Found	ng/ul	284	0.000	
52)	2,4-Dinitrophenol	0.00	2165	184	0	Not Found	ng/ul	237	0.000	
53)	4-Nitrophenol	18.17	2181	65	0	0.00	ng/ul	289	0.222	
54)	Dibenzofuran	0.00	2209	168	0	Not Found	ng/ul	623	0.000	
55)	2,4-Dinitrotoluene	18.32	2199	165	11872	0.07	ng/ul	881	0.578	0.0024
56)	Benzo(b)Fluoranthene	28.47	3417	252	0	0.00	ng/ul	0	1.127	
57)	Diethyl Phthalate	18.78	2253	149	159091	0.26	ng/ul	830	2.124	0.0068
58)	Fluorene	19.08	2290	166	0	0.00	ng/ul	369	1.020	
59)	4-Chlorophenyl Phenyl Ether	0.00	2284	204	0	Not Found	ng/ul	155	0.000	
60)	4-Nitroaniline	19.09	2291	108	0	0.00	ng/ul	731	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305338.1B2
Data File: 305338.MS
Name: 305338
Sample:

Quant Time: 05/23/02 06:48
Injected at: 05/22/02 14:07
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.13	2296	198	0	0.00	ng/ul	334	0.215	
62)	N-Nitrosodiphenylamine	0.00	2309	169	0	Not Found	ng/ul	615	0.000	
63)	1,2-Diphenylhydrazine	19.34	2321	77	33422	0.07	ng/ul	764	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	379	0.000	
65)	Hexachlorobenzene	19.92	2391	284	0	0.00	ng/ul	0	0.276	
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.56	2467	178	0	0.00	ng/ul	98	1.126	
68)	Anthracene	20.73	2488	178	0	0.00	ng/ul	3	1.171	
69)	Carbazole	0.00	2516	167	0	Not Found	ng/ul	699	0.000	
70)	Di-n-Butyl Phthalate	21.32	2558	149	914924	1.05	ng/ul	831	1.971	0.03C
71)	Fluoranthene	0.00	2687	202	0	Not Found	ng/ul	0	0.000	
72)	Benzidine	22.52	2703	184	0	0.00	ng/ul	98	0.875	
73)	Pyrene	0.00	2733	202	0	Not Found	ng/ul	7	0.000	
74)	Butyl Benzyl Phthalate	23.56	2827	149	63564	0.14	ng/ul	854	1.194	0.004C
75)	3,3'-Dichlorobenzidine	0.00	2980	252	0	Not Found	ng/ul	82	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.60	2952	149	218007	0.33	ng/ul	769	1.695	0.01
77)	Benzo(a)Anthracene	0.00	3007	228	0	Not Found	ng/ul	46	0.000	
78)	Chrysene	0.00	3019	228	0	Not Found	ng/ul	37	0.000	
79)	Di-n-Octylphthalate	26.46	3175	149	0	0.00	ng/ul	0	2.650	
80)	Benzo(k)Fluoranthene	28.40	3408	252	0	0.00	ng/ul	0	1.252	
81)	Benzo(a)Pyrene	29.68	3561	252	0	0.00	ng/ul	0	1.075	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	38	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4545	276	0	Not Found	ng/ul	0	0.000	
85)	N-Nitrosodimethylamine	4.78	574	73	0	0.00	ng/ul	0	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	39	0.000	
87)	2-Chloroaniline	12.44	1493	127	0	0.00	ng/ul	0	0.535	
88)	2,4-Diaminotoluene	16.00	1920	121	0	0.00	ng/ul	0	0.453	
89)	2,3-Dinitrotoluene	18.23	2188	165	0	0.00	ng/ul	0	0.576	
90)	1-Naphthylamine	18.46	2215	143	0	0.00	ng/ul	179	0.724	

* Compound is ISTD

Operator ID: DMC Quant Time: 05/23/02 06:48
Output File: 305338.1B2 Injected at: 05/22/02 14:07
Data File: 305338.MS Dilution Factor: 1.00
Name: 305338 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

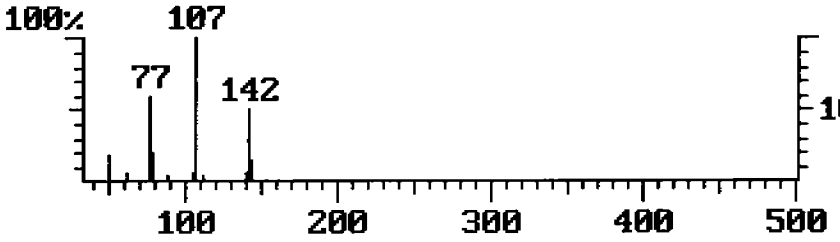
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2295	152	0	Not Found	ng/ul	680	0.000

* Compound is ISTD

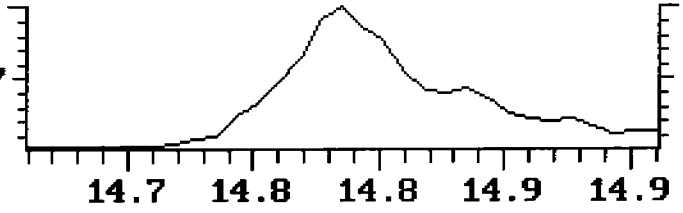
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 27 of 55
Data File: 305338 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:07 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1775
AGC: 2119

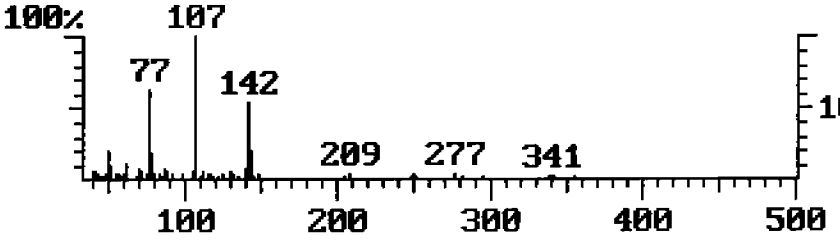
REFERENCE STANDARD SPECTRUM



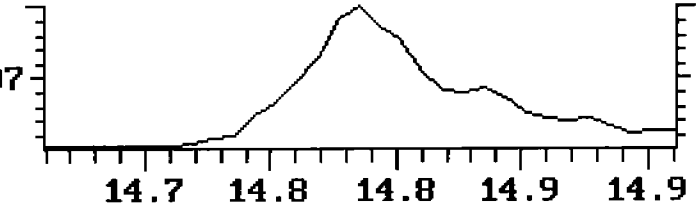
MASS 107 PLOT



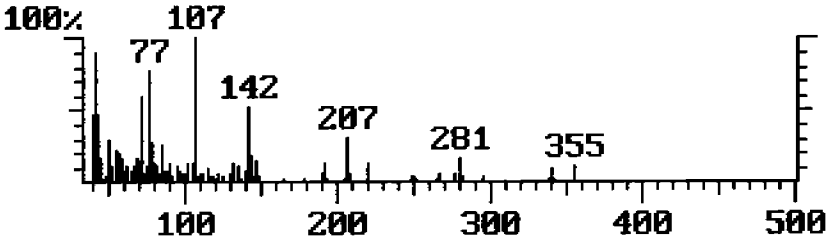
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



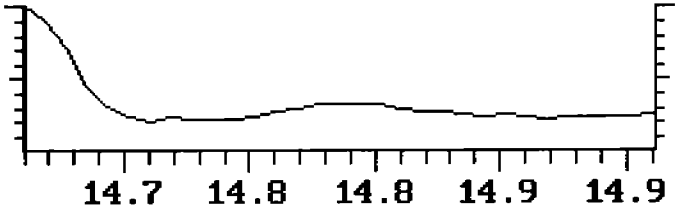
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

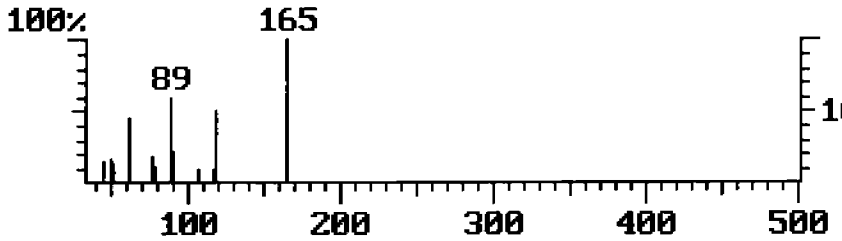


Approved_____ Date_____

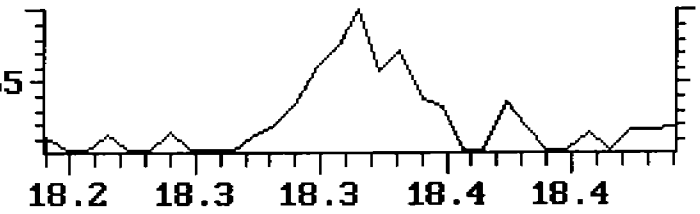
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 34 of 55
Data File: 305338 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:07 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2199
AGC: 1522

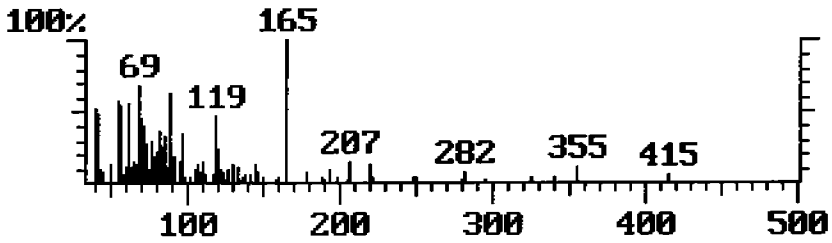
REFERENCE STANDARD SPECTRUM



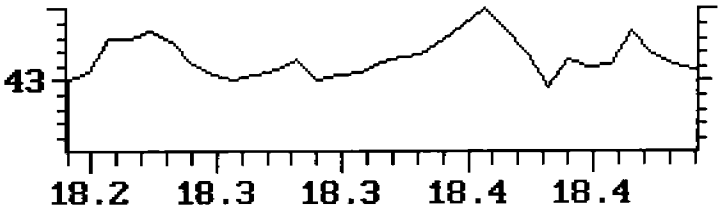
MASS 165 PLOT



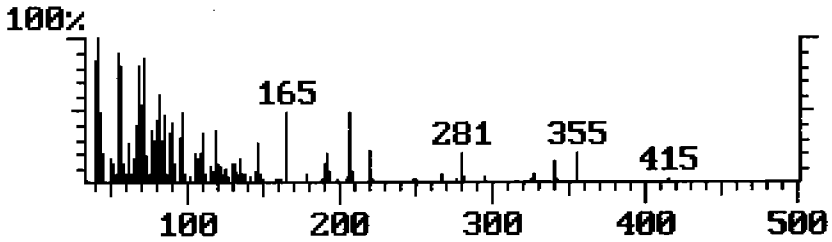
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



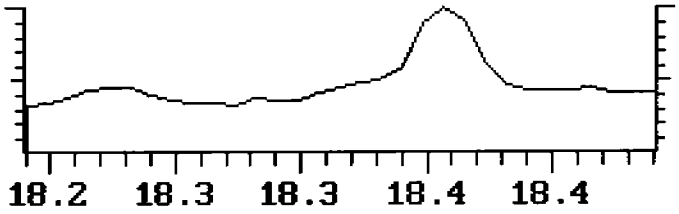
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

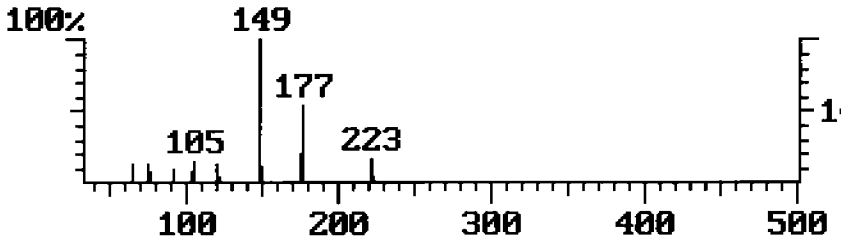


Approved_____ Date_____

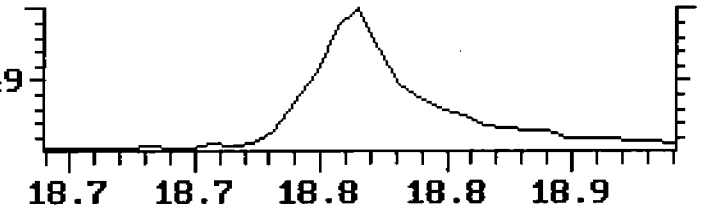
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 36 of 55
Data File: 305338 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:07 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2253
AGC: 704

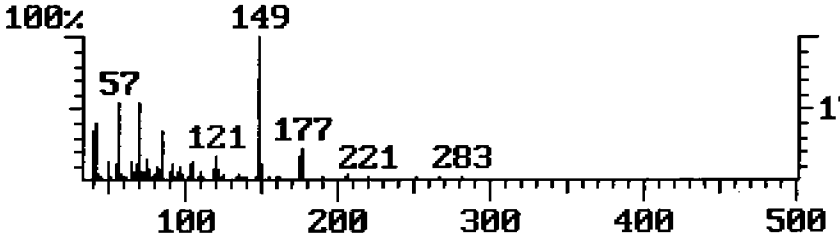
REFERENCE STANDARD SPECTRUM



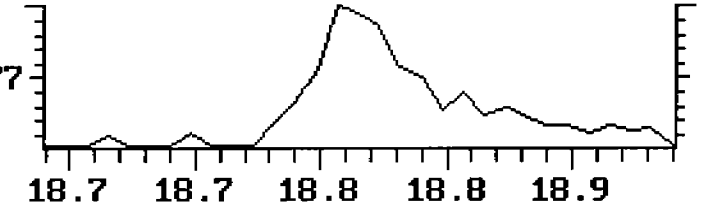
MASS 149 PLOT



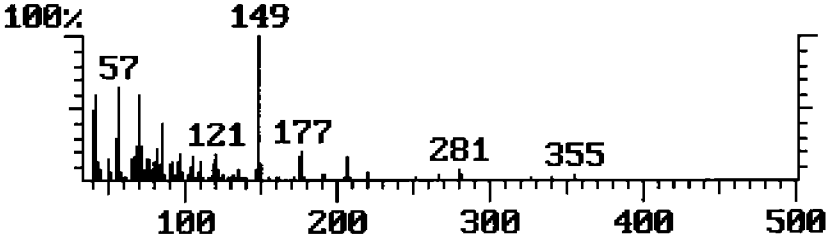
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



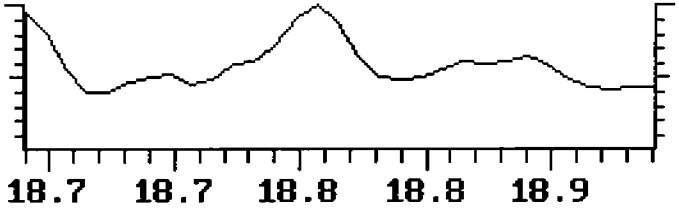
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

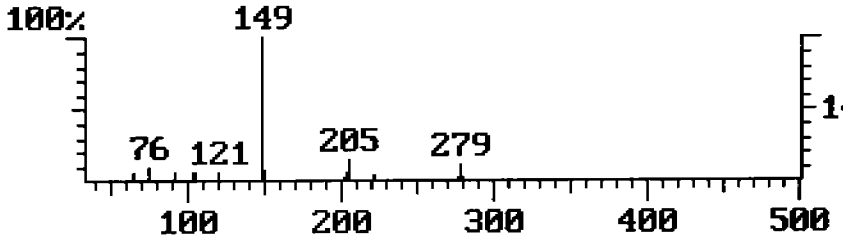


Approved_____ Date_____

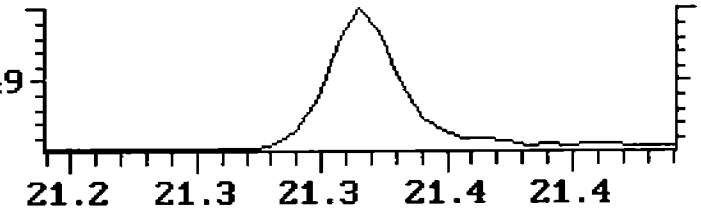
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 44 of 55
Data File: 305338 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:07 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2558
AGC: 175

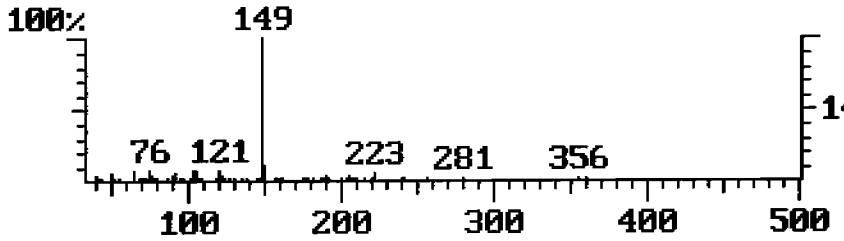
REFERENCE STANDARD SPECTRUM



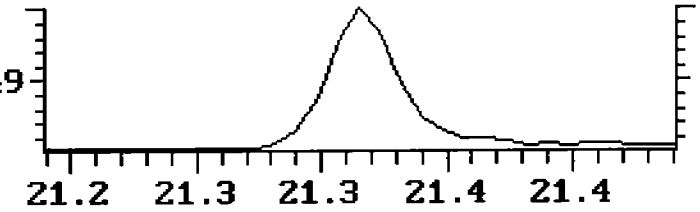
MASS 149 PLOT



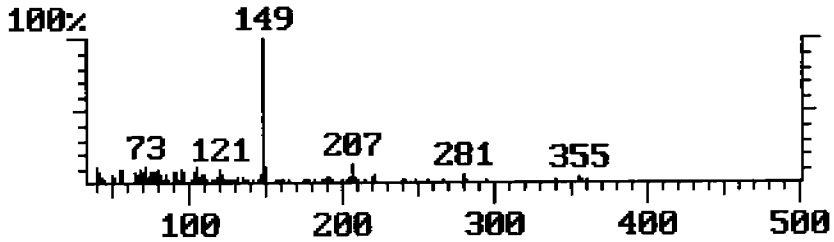
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



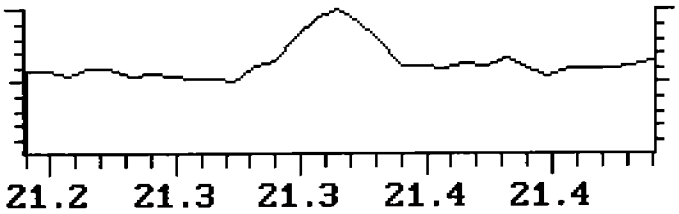
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

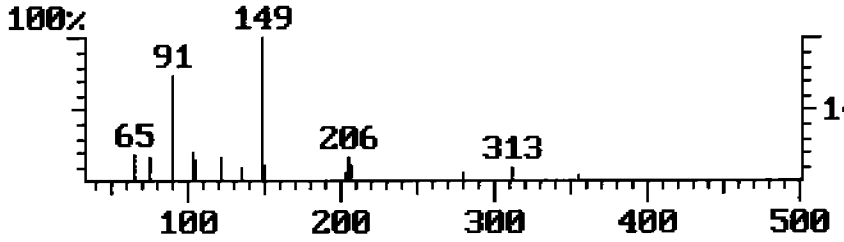


Approved_____ Date_____

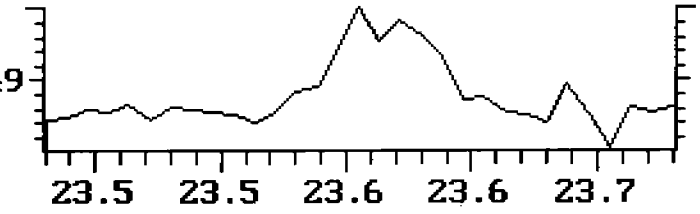
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 55
Data File: 305338 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:07 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2827
AGC: 136

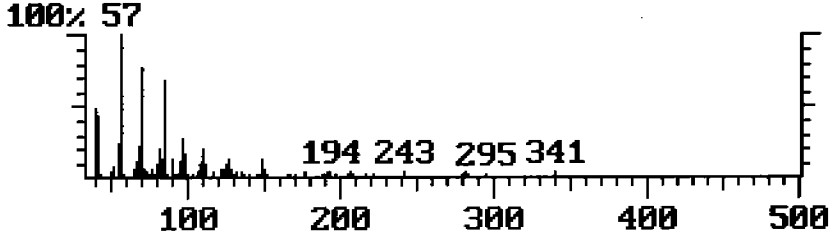
REFERENCE STANDARD SPECTRUM



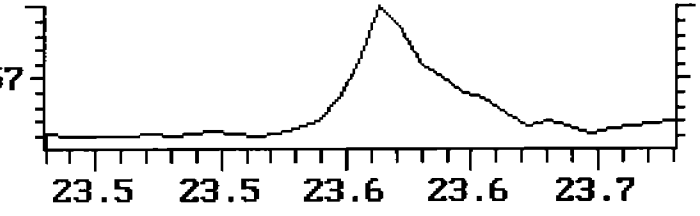
MASS 149 PLOT



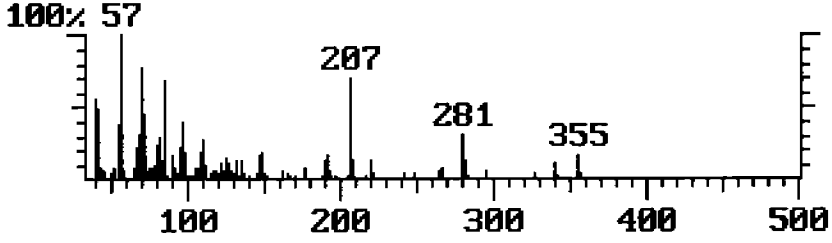
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



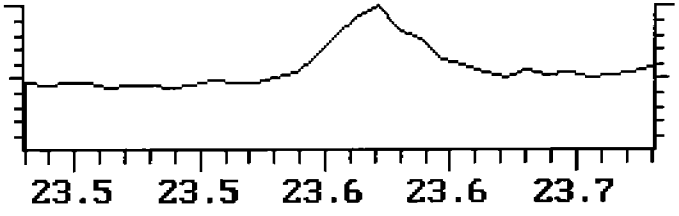
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

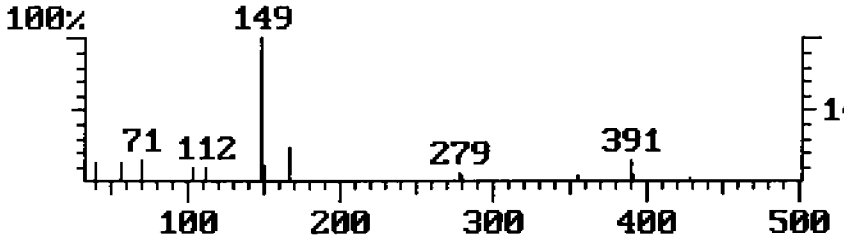


Approved_____ Date_____

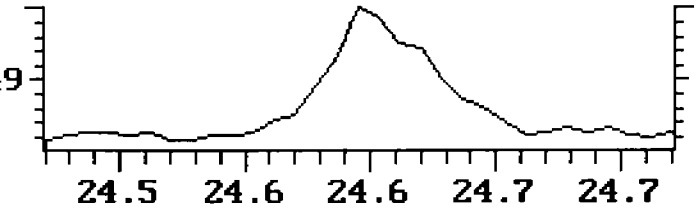
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 55
Data File: 305338 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:07 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2952
AGC: 233

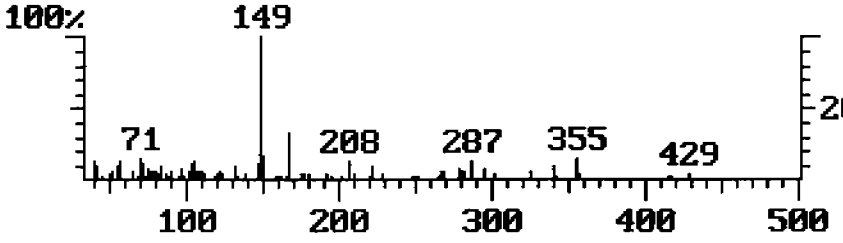
REFERENCE STANDARD SPECTRUM



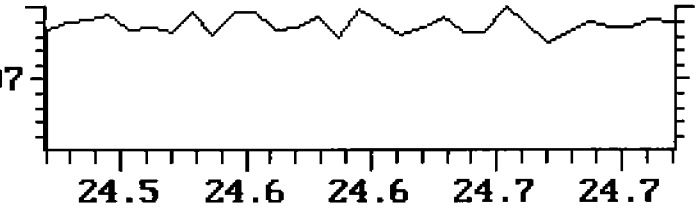
MASS 149 PLOT



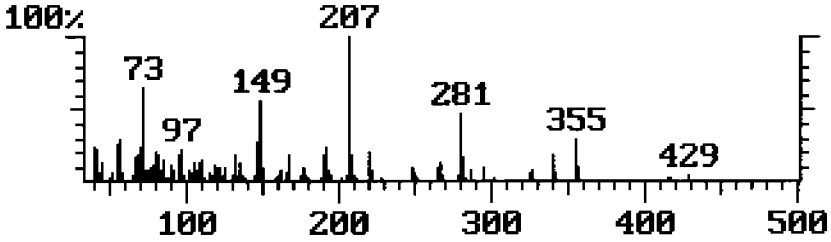
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



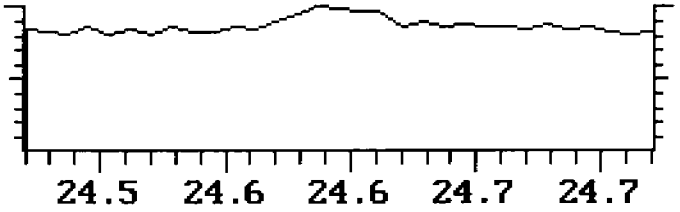
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
1CANP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:52
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305339
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.005**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
1CANP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:52
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305339
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.004**	J	0.002	0.005
84-66-2	Diethylphthalate	**0.012**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.038**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.007**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.016**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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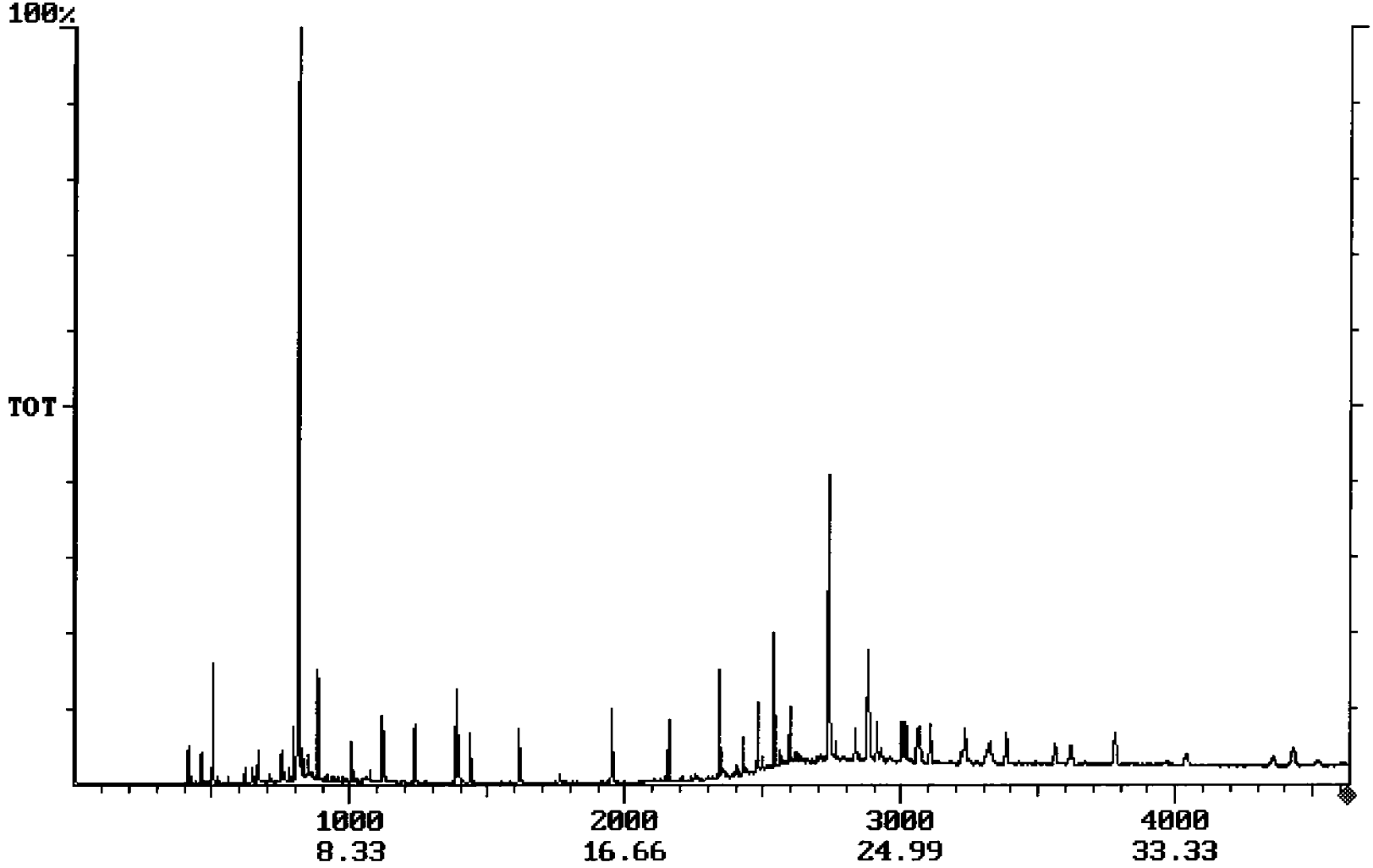
Chromatogram Plot C:\SATURN\DATA\305339 Date: 05/22/02 14:53:19
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4619 Range: 1 to 4619 100% = 14881113



Operator ID: DMC
Output File: 305339.1B2
Data File: 305339.MS
Name: 305339
Sample:

Quant Time: 05/23/02 06:53
Injected at: 05/22/02 14:53
Dilution Factor: 1.00
Instrument ID: 138

30 → 1 ✓
486

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.30	1236	152	736052	5.00	ng/ul	980	1.000
2)	*IS:D8-Naphthalene	13.47	1617	136	2368235	5.00	ng/ul	994	1.000
3)	*IS:D10-Acenaphthene	18.00	2160	162	1431117	5.00	ng/ul	996	1.000
4)	*IS:D10-Phenanthrene	20.67	2481	188	2125265	5.00	ng/ul	922	1.000
5)	*IS:D12-Chrysene	25.13	3016	240	1978487	5.00	ng/ul	925	1.000
6)	*IS:D12-Perylene	30.14	3617	264	1986850	5.00	ng/ul	909	1.000
7)	ACSUR:2-Fluorophenol	7.36	883	112	2805529	12.11	ng/ul	997	1.574
8)	ACSUR:D6-Phenol	9.31	1117	99	3468681	12.38	ng/ul	827	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.52	2343	330	1286199	13.51	ng/ul	996	0.333
10)	BNSUR:D5-Nitrobenzene	11.62	1395	127	572771	7.27	ng/ul	947	0.167
11)	BNSUR:Decafluorobiphenyl	11.55	1386	334	2335181	6.75	ng/ul	924	0.731
12)	BNSUR:2-Fluorobiphenyl	16.27	1952	172	2528306	7.50	ng/ul	996	1.178
13)	BNSUR:O-Terphenyl	21.15	2538	230	2194689	7.79	ng/ul	995	0.712
14)	Pyridine	5.01	601	79	216	0.00	ng/ul	510	1.031
15)	Phenol	0.00	1118	94	0	Not Found	ng/ul	71	0.000
16)	Aniline	0.00	1137	93	0	Not Found	ng/ul	242	0.000
17)	Bis(2-Chloroethyl)Ether	9.77	1172	92	0	0.00	ng/ul	0	0.862
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	276	0.000
19)	1,3-Dichlorobenzene	10.17	1221	146	2905	0.01	ng/ul	821	1.538
20)	1,4-Dichlorobenzene	10.36	1243	146	347	0.00	ng/ul	268	1.533
21)	Benzyl Alcohol	10.56	1267	108	504	0.01	ng/ul	864	0.647
22)	1,2-Dichlorobenzene	10.72	1286	146	3512	0.02	ng/ul	805	1.426
23)	2-Methylphenol	10.67	1280	108	0	0.00	ng/ul	90	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1305	45	0	Not Found	ng/ul	290	0.000
25)	4-Methylphenol	11.16	1339	108	0	0.00	ng/ul	391	1.306
26)	N-Nitrosodi-N-Propylamine	11.19	1343	70	0	0.00	ng/ul	282	0.786
27)	Hexachloroethane	11.53	1384	119	0	0.00	ng/ul	888	0.645
28)	Nitrobenzene	11.62	1395	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1465	82	0	Not Found	ng/ul	420	0.000
30)	2-Nitrophenol	0.00	1495	109	0	Not Found	ng/ul	622	0.000

* Compound is ISTD

Operator ID: DMC
Output File: 305339.1B2
Data File: 305339.MS
Name: 305339
Sample:

Quant Time: 05/23/02 06:53
Injected at: 05/22/02 14:53
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	437	0.000	
32)	Benzoic Acid	0.00	1513	105	0	Not Found	ng/ul	782	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1525	92	0	Not Found	ng/ul	723	0.000	
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	106	0.000	
35)	1,2,4-Trichlorobenzene	13.31	1597	180	781	0.00	ng/ul	743	0.385	
36)	Naphthalene	0.00	1618	128	0	Not Found	ng/ul	443	0.000	
37)	4-Chloroaniline	13.64	1637	127	0	0.00	ng/ul	0	0.570	
38)	2,6-Dichlorophenol	0.00	1640	162	0	Not Found	ng/ul	803	0.000	
39)	Hexachlorobutadiene	13.70	1644	225	0	0.00	ng/ul	335	0.282	
40)	4-Chloro-3-Methylphenol	14.83	1780	107	38366	0.14	ng/ul	949	0.594	0.004?
41)	2-Methylnaphthalene	15.33	1840	142	1421	0.00	ng/ul	883	0.647	
42)	Hexachlorocyclopentadiene	0.00	1881	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	16.03	1924	196	0	0.00	ng/ul	310	0.453	
44)	2,4,5-Trichlorophenol	16.03	1924	196	0	0.00	ng/ul	372	0.489	
45)	2-Chloronapthalene	0.00	1987	162	0	Not Found	ng/ul	632	0.000	
46)	2-Nitroaniline	16.82	2019	138	0	0.00	ng/ul	0	0.447	
47)	Dimethyl Phthalate	17.27	2073	163	0	0.00	ng/ul	0	1.884	
48)	2,6-Dinitrotoluene	17.42	2090	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2118	152	0	Not Found	ng/ul	408	0.000	
50)	3-Nitroaniline	17.92	2150	138	0	0.00	ng/ul	0	0.367	
51)	Acenaphthene	0.00	2164	152	0	Not Found	ng/ul	663	0.000	
52)	2,4-Dinitrophenol	18.09	2171	184	0	0.00	ng/ul	650	0.236	
53)	4-Nitrophenol	18.12	2174	65	0	0.00	ng/ul	253	0.222	
54)	Dibenzofuran	0.00	2209	168	0	Not Found	ng/ul	188	0.000	
55)	2,4-Dinitrotoluene	18.37	2204	165	18036	0.11	ng/ul	889	0.578	0.003?
56)	Benzo(b)Fluoranthene	0.00	3407	252	0	Not Found	ng/ul	185	0.000	
57)	Diethyl Phthalate	18.81	2257	149	210709	0.35	ng/ul	817	2.124	0.01?
58)	Fluorene	19.22	2307	166	0	0.00	ng/ul	521	1.020	
59)	4-Chlorophenyl Phenyl Ether	0.00	2284	204	0	Not Found	ng/ul	177	0.000	
60)	4-Nitroaniline	19.00	2280	108	0	0.00	ng/ul	0	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305339.1B2
Data File: 305339.MS
Name: 305339
Sample:

Quant Time: 05/23/02 06:53
Injected at: 05/22/02 14:53
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.07	2288	198	0	0.00	ng/ul	229	0.215	
62)	N-Nitrosodiphenylamine	0.00	2309	169	0	Not Found	ng/ul	610	0.000	
63)	1,2-Diphenylhydrazine	19.38	2326	77	22263	0.05	ng/ul	831	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	249	0.000	
65)	Hexachlorobenzene	0.00	2383	284	0	Not Found	ng/ul	304	0.000	
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.76	2491	178	0	0.00	ng/ul	0	1.126	
68)	Anthracene	20.77	2492	178	0	0.00	ng/ul	101	1.171	
69)	Carbazole	20.84	2501	167	0	0.00	ng/ul	0	1.065	
70)	Di-n-Butyl Phthalate	21.35	2562	149	933444	1.12	ng/ul	899	1.964	0.038
71)	Fluoranthene	0.00	2687	202	0	Not Found	ng/ul	2	0.000	
72)	Benzidine	0.00	2698	184	0	Not Found	ng/ul	202	0.000	
73)	Pyrene	0.00	2732	202	0	Not Found	ng/ul	204	0.000	
74)	Butyl Benzyl Phthalate	23.61	2833	149	93661	0.20	ng/ul	756	1.194	0.0068
75)	3,3'-Dichlorobenzidine	24.98	2998	252	0	0.00	ng/ul	209	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.66	2959	149	323625	0.48	ng/ul	815	1.695	0.016
77)	Benzo(a)Anthracene	0.00	3006	228	0	Not Found	ng/ul	47	0.000	
78)	Chrysene	0.00	3019	228	0	Not Found	ng/ul	210	0.000	
79)	Di-n-Octylphthalate	26.50	3180	149	0	0.00	ng/ul	0	2.650	
80)	Benzo(k)Fluoranthene	0.00	3423	252	0	Not Found	ng/ul	163	0.000	
81)	Benzo(a)Pyrene	29.91	3589	252	0	0.00	ng/ul	0	1.075	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4545	276	0	Not Found	ng/ul	40	0.000	
85)	N-Nitrosodimethylamine	4.89	587	73	81	0.00	ng/ul	0	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	39	0.000	
87)	2-Chloroaniline	12.39	1487	127	0	0.00	ng/ul	0	0.535	
88)	2,4-Diaminotoluene	15.97	1917	121	315	0.00	ng/ul	196	0.453	
89)	2,3-Dinitrotoluene	18.08	2170	165	962	0.01	ng/ul	717	0.576	
90)	1-Naphthylamine	18.60	2232	143	308	0.00	ng/ul	498	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305339.1B2
Data File: 305339.MS
Name: 305339
Sample:

Quant Time: 05/23/02 06:53
Injected at: 05/22/02 14:53
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.10	2292	152	819	0.01	ng/ul	300	0.425

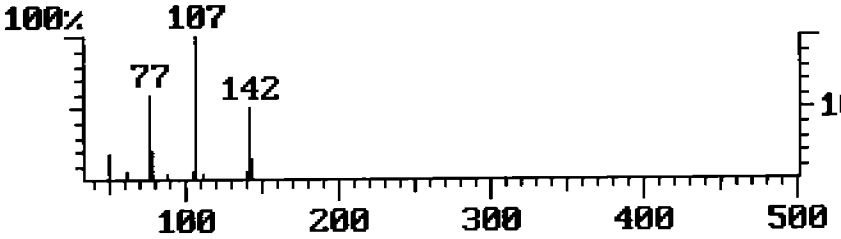
* Compound is ISTD

Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 28 of 58
Data File: 305339 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:53 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

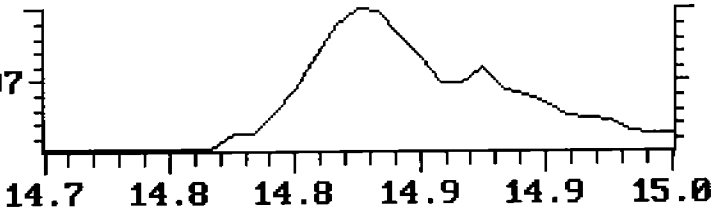
4-Chloro-3-Methylphenol

SCAN#: 1780
AGC: 2218

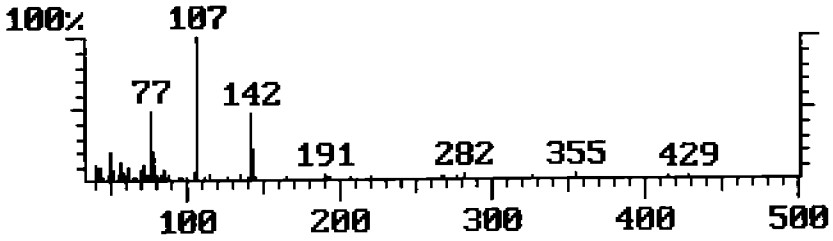
REFERENCE STANDARD SPECTRUM



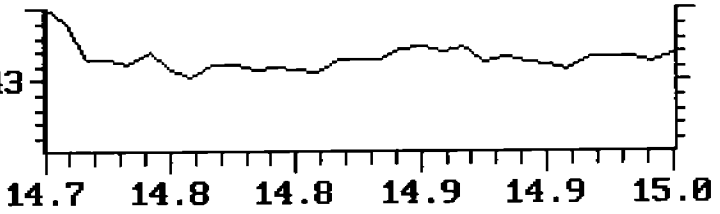
MASS 107 PLOT



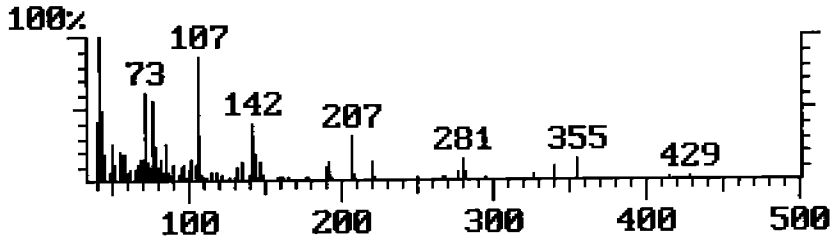
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



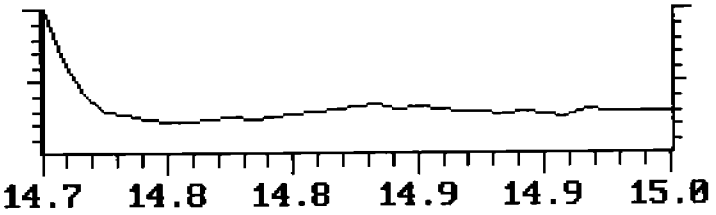
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

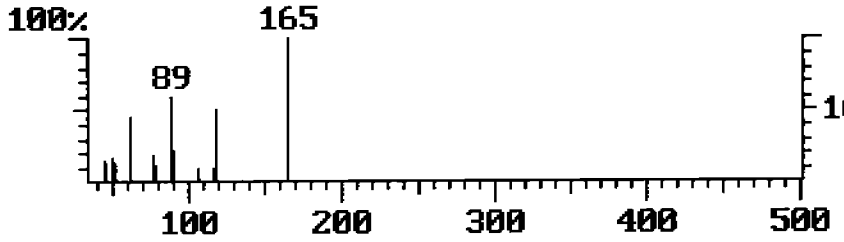


Approved_____ Date_____

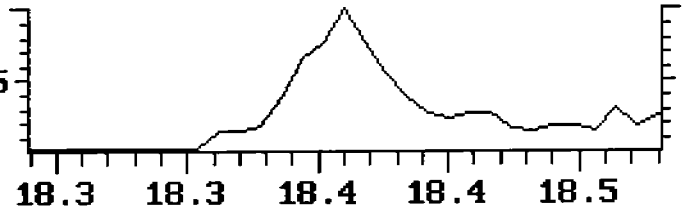
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 58
Data File: 305339 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:53 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2204
AGC: 1280

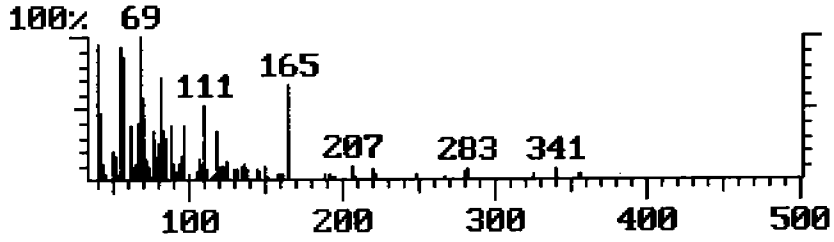
REFERENCE STANDARD SPECTRUM



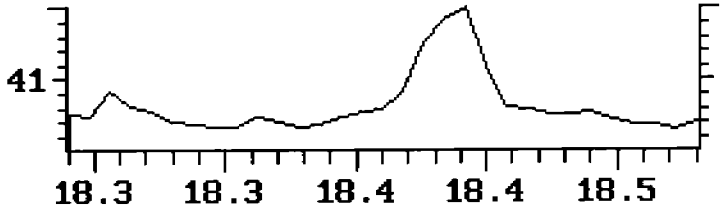
MASS 165 PLOT



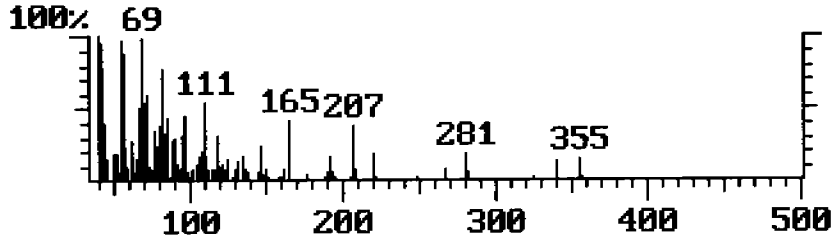
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



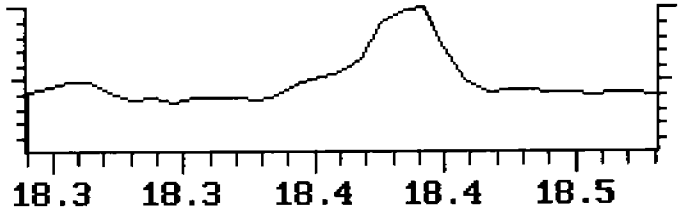
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

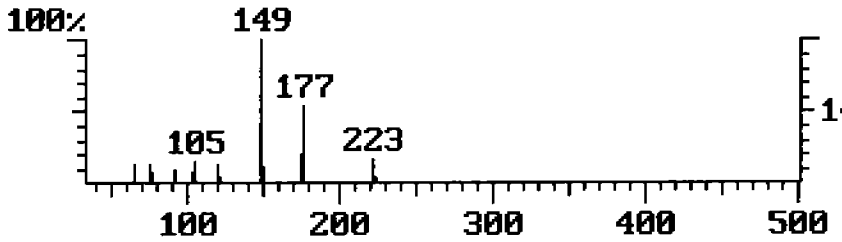


Approved_____ Date_____

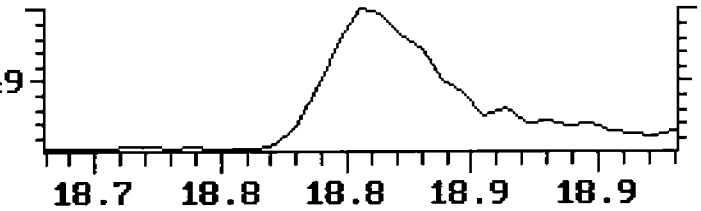
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 58
Data File: 305339 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:53 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2257
AGC: 748

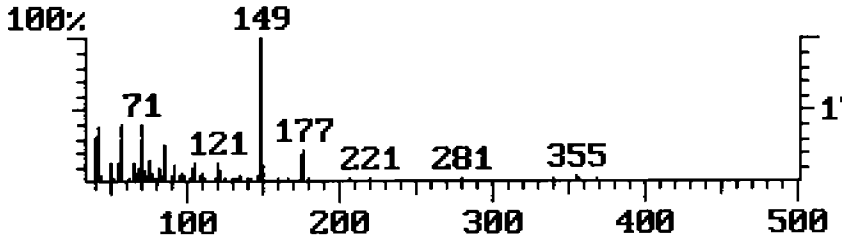
REFERENCE STANDARD SPECTRUM



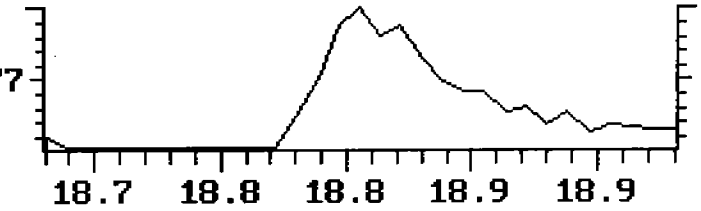
MASS 149 PLOT



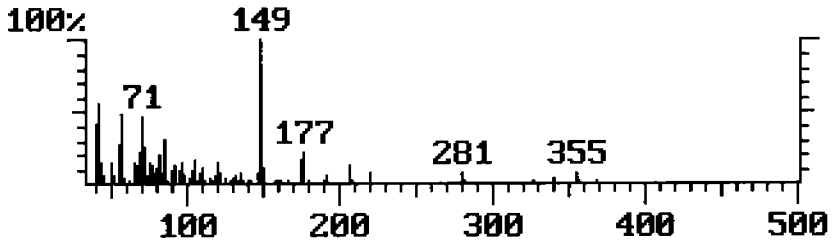
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



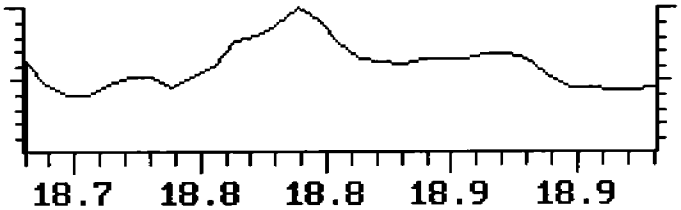
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

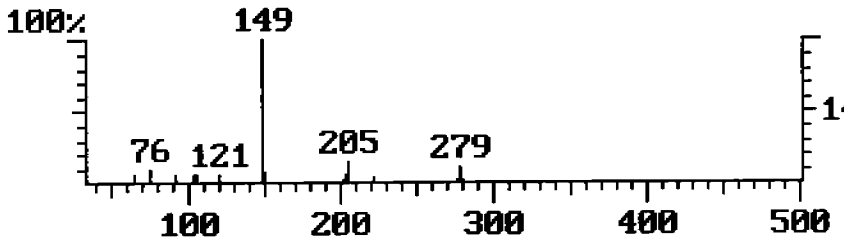


Approved_____ Date_____

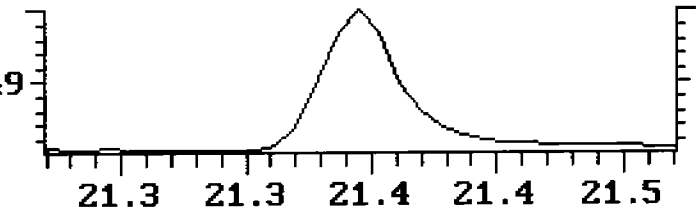
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 58
Data File: 305339 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:53 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2562
AGC: 182

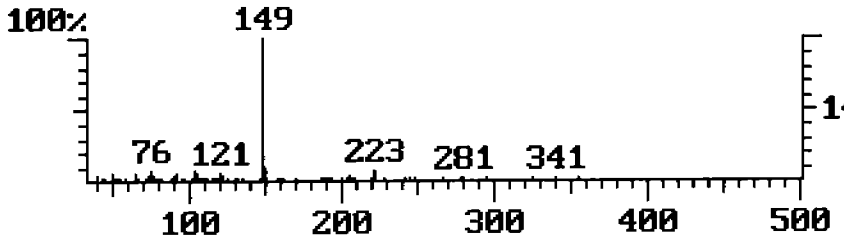
REFERENCE STANDARD SPECTRUM



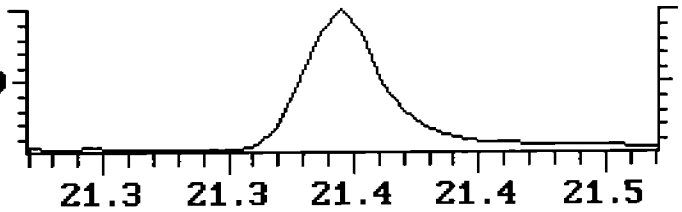
MASS 149 PLOT



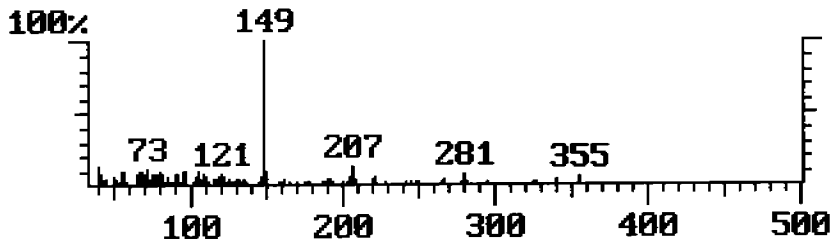
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



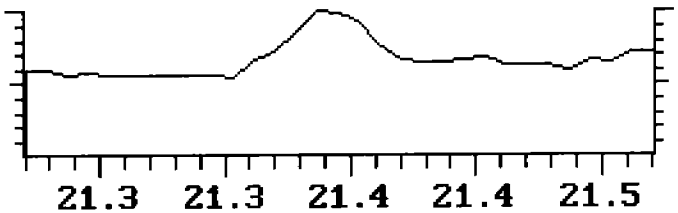
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

Data File: 305339 TRIMATRIX Calibration File: CCC8270

Date: 05/22/02 2:53 pm Calibration Date: 05/22/02

Sample: Operator: DMC

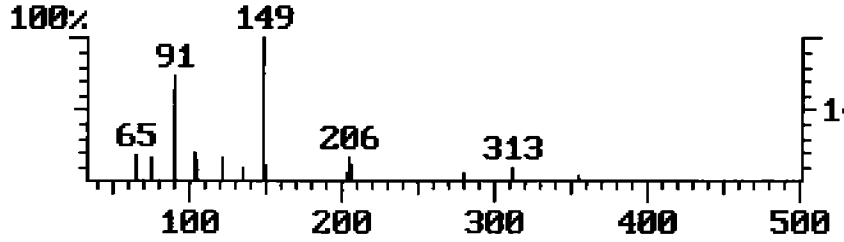
Comments: INSTRUMENT 138

Dilution Factor: 1.00

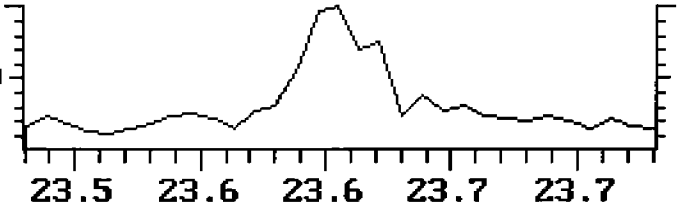
Butyl Benzyl Phthalate SCAN#: 2833

AGC: 105

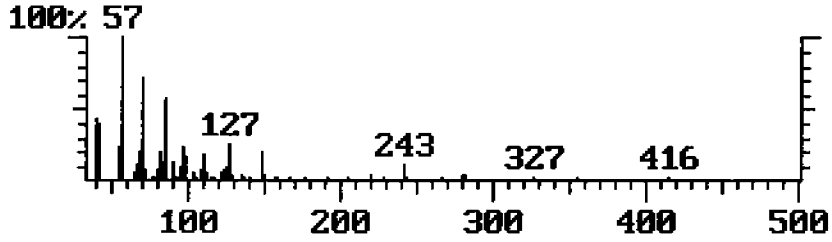
REFERENCE STANDARD SPECTRUM



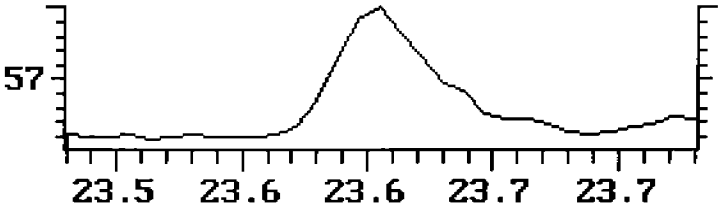
MASS 149 PLOT



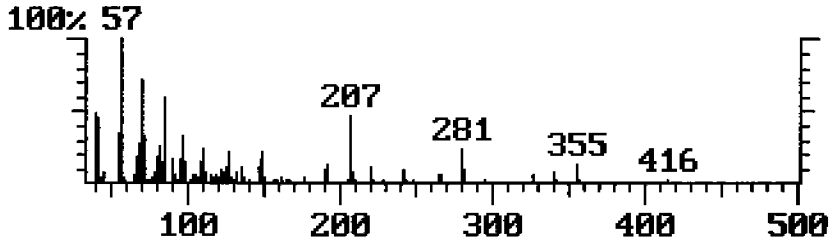
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



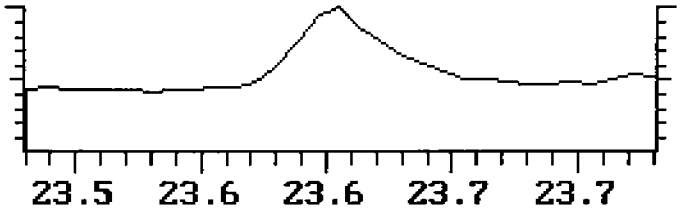
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



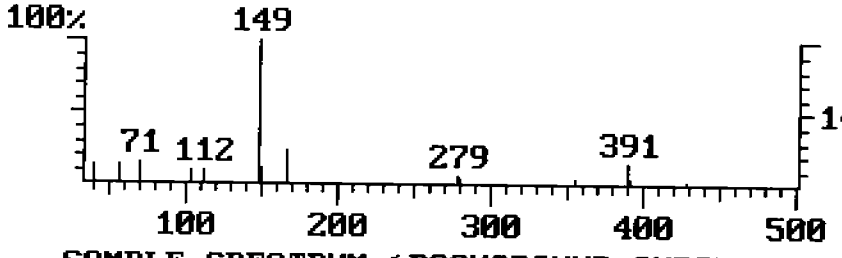
Approved_____ Date_____

000813

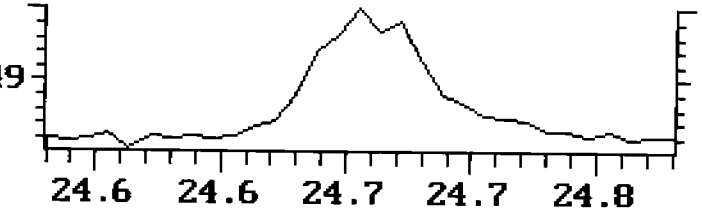
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 58
Data File: 305339 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 2:53 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2959
AGC: 220

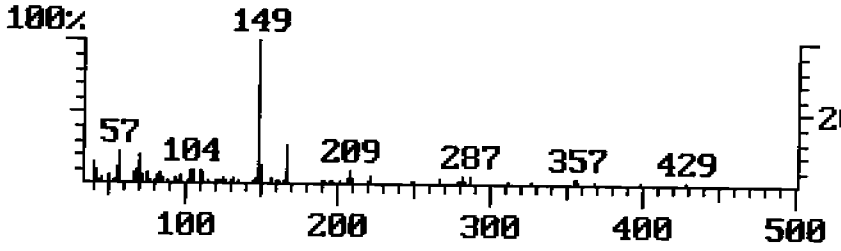
REFERENCE STANDARD SPECTRUM



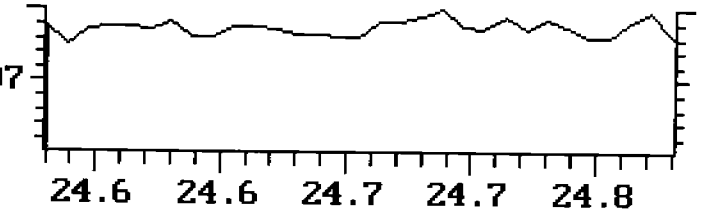
MASS 149 PLOT



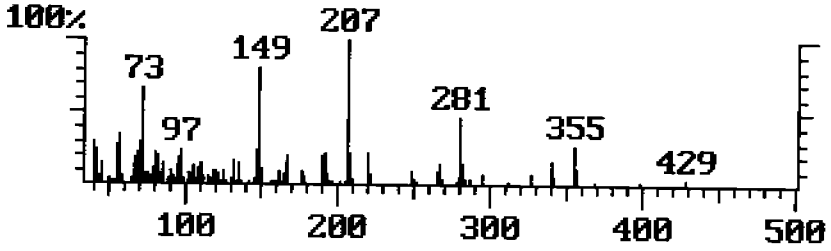
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



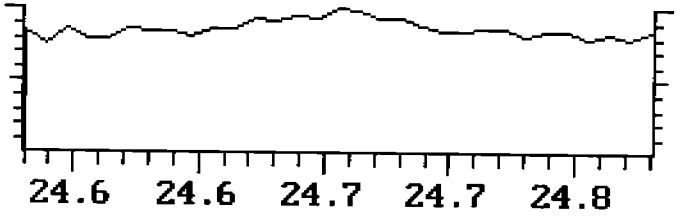
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

000814

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
2DNP01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:59
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/23/02
Lab Sample No: 305340
Batch No: 186138

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.075	0.25
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.075	0.25
95-57-8	2-Chlorophenol	ND	U	0.060	0.20
541-73-1	1,3-Dichlorobenzene	ND	U	0.045	0.15
106-46-7	1,4-Dichlorobenzene	ND	U	0.045	0.15
95-50-1	1,2-Dichlorobenzene	ND	U	0.045	0.15
95-48-7	2-Methylphenol	ND	U	0.075	0.25
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.075	0.25
106-44-5	4-Methylphenol	ND	U	0.075	0.25
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.090	0.30
67-72-1	Hexachloroethane	ND	U	0.12	0.40
98-95-3	Nitrobenzene	ND	U	0.14	0.45
78-59-1	Isophorone	ND	U	0.045	0.15
88-75-5	2-Nitrophenol	ND	U	0.090	0.30
105-67-9	2,4-Dimethylphenol	ND	U	0.21	0.70
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.030	0.10
120-83-2	2,4-Dichlorophenol	ND	U	0.030	0.10
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.045	0.15
91-20-3	Naphthalene	ND	U	0.030	0.10
106-47-8	4-Chloroaniline	ND	U	0.12	0.40
87-68-3	Hexachlorobutadiene	ND	U	0.045	0.15
59-50-7	4-Chloro-3-Methylphenol	ND	U	0.030	0.10
91-57-6	2-Methylnaphthalene	ND	U	0.030	0.10
77-47-4	Hexachlorocyclopentadiene	ND	U	0.090	0.30
88-06-2	2,4,6-Trichlorophenol	ND	U	0.075	0.25
95-95-4	2,4,5-Trichlorophenol	ND	U	0.060	0.20
91-58-7	2-Chloronaphthalene	ND	U	0.030	0.10
88-74-4	2-Nitroaniline	**1.1**		0.045	0.15
131-11-3	Dimethylphthalate	ND	U	0.045	0.15
208-96-8	Acenaphthylene	ND	U	0.045	0.15
606-20-2	2,6-Dinitrotoluene	ND	U	0.090	0.30
99-09-2	3-Nitroaniline	ND	U	0.045	0.15
83-32-9	Acenaphthene	ND	U	0.030	0.10

000815

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
2DNP01002

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 12:59
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/23/02
Lab Sample No: 305340
Batch No: 186138

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.060	0.20
100-02-7	4-Nitrophenol	ND	U	0.14	0.45
132-64-9	Dibenzofuran	ND	U	0.045	0.15
121-14-2	2,4-Dinitrotoluene	ND	U	0.075	0.25
84-66-2	Diethylphthalate	**40**		0.060	0.20
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.060	0.20
86-73-7	Fluorene	ND	U	0.045	0.15
100-01-6	4-Nitroaniline	ND	U	0.060	0.20
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.060	0.20
86-30-6	N-Nitroso-di-Phenylamine	**0.22**		0.045	0.15
101-55-3	4-Bromophenyl Phenylether	ND	U	0.030	0.10
118-74-1	Hexachlorobenzene	ND	U	0.045	0.15
87-86-5	Pentachlorophenol	ND	U	0.14	0.45
85-01-8	Phenanthrene	ND	U	0.060	0.20
120-12-7	Anthracene	ND	U	0.045	0.15
86-74-8	Carbazole	ND	U	0.12	0.40
84-74-2	Di-n-Butylphthalate	ND	U	0.090	0.30
206-44-0	Fluoranthene	ND	U	0.060	0.20
129-00-0	Pyrene	ND	U	0.045	0.15
85-68-7	Butyl Benzyl Phthalate	ND	U	0.060	0.20
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.030	0.10
56-55-3	Benzo (a) Anthracene	ND	U	0.11	0.35
218-01-9	Chrysene	ND	U	0.060	0.20
117-81-7	Bis (2-ethylhexyl)-Phthalate	ND	U	0.16	0.55
117-84-0	Di-n-Octylphthalate	ND	U	0.075	0.25
205-99-2	Benzo (b) Fluoranthene	ND	U	0.14	0.45
207-08-9	Benzo (k) Fluoranthene	ND	U	0.075	0.25
50-32-8	Benzo (a) Pyrene	ND	U	0.090	0.30
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.045	0.15
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.15	0.50
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.12	0.40

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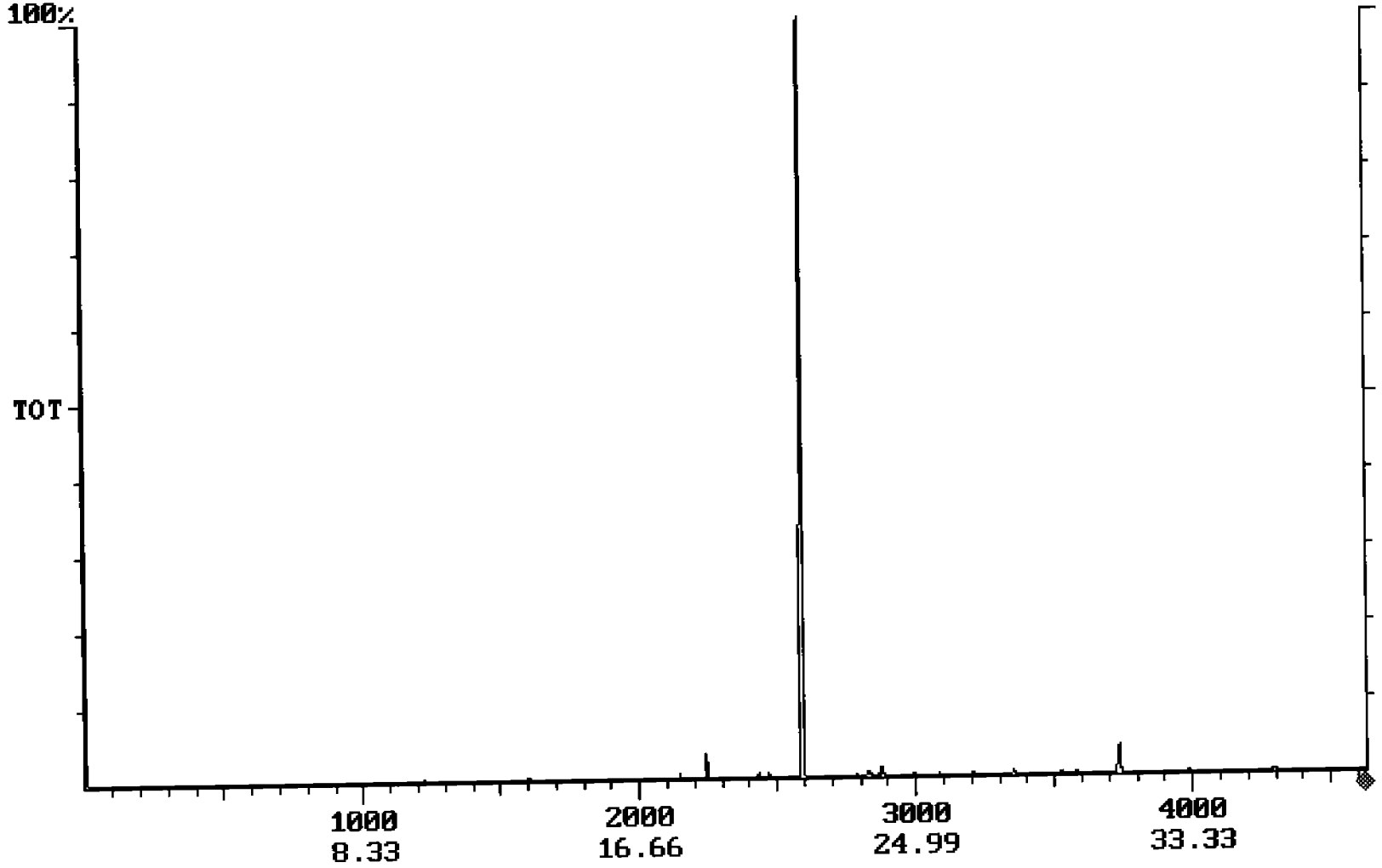
Chromatogram Plot C:\SATURN\DATA\305340R Date: 05/23/02 10:52:18
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4620 Range: 1 to 4620 100% = 233573339



QUANT REPORT

Operator ID: DMC
Output File: 305340R.1B2
Data File: 305340R.MS
Name: 305340R
Sample:

Quant Time: 05/23/02 11:37
Injected at: 05/23/02 10:52
Dilution Factor: 50.00
Instrument ID: 138

30g → 1l
50x 99%

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.21	1225	152	659062	5.00	ng/ul	965	1.000
2)	*IS:D8-Naphthalene	13.37	1604	136	2244403	5.00	ng/ul	975	1.000
3)	*IS:D10-Acenaphthene	17.89	2147	162	1366626	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.57	2469	188	2032322	5.00	ng/ul	921	1.000
5)	*IS:D12-Chrysene	24.97	2996	240	1735484	5.00	ng/ul	937	1.000
6)	*IS:D12-Perylene	29.84	3581	264	1927396	5.00	ng/ul	867	1.000
7)	ACSUR:2-Fluorophenol	7.28	874	112	19711	4.80	ng/ul	935	1.574
8)	ACSUR:D6-Phenol	9.26	1111	99	25870	5.20	ng/ul	806	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.43	2331	330	11588	6.45	ng/ul	896	0.331
10)	BNSUR:D5-Nitrobenzene	11.54	1385	127	3538	2.40	ng/ul	824	0.167
11)	BNSUR:Decafluorobiphenyl	11.46	1375	334	15953	2.45	ng/ul	927	0.731
12)	BNSUR:2-Fluorobiphenyl	16.15	1938	172	16613	2.60	ng/ul	934	1.178
13)	BNSUR:O-Terphenyl	21.06	2528	230	16680	3.65	ng/ul	894	0.661
14)	Pyridine	4.74	569	79	784	0.30	ng/ul	326	1.031
15)	Phenol	0.00	1112	94	0	Not Found	ng/ul	0	0.000
16)	Aniline	9.58	1150	93	541	0.15	ng/ul	576	1.852
17)	Bis(2-Chloroethyl)Ether	9.70	1164	92	0	0.05	ng/ul	215	0.862
18)	2-Chlorophenol	0.00	1165	128	0	Not Found	ng/ul	356	0.000
19)	1,3-Dichlorobenzene	0.00	1212	146	0	Not Found	ng/ul	261	0.000
20)	1,4-Dichlorobenzene	0.00	1234	146	0	Not Found	ng/ul	125	0.000
21)	Benzyl Alcohol	0.00	1261	108	0	Not Found	ng/ul	298	0.000
22)	1,2-Dichlorobenzene	0.00	1277	146	0	Not Found	ng/ul	250	0.000
23)	2-Methylphenol	10.60	1272	108	0	0.05	ng/ul	173	1.185
24)	Bis(2-Chloroisopropyl)Ether	10.77	1293	45	0	0.05	ng/ul	0	1.041
25)	4-Methylphenol	11.11	1333	108	0	0.05	ng/ul	488	1.306
26)	N-Nitrosodi-N-Propylamine	11.11	1333	70	0	0.05	ng/ul	418	0.786
27)	Hexachloroethane	11.47	1376	119	0	0.05	ng/ul	861	0.645
28)	Nitrobenzene	11.67	1400	77	0	0.05	ng/ul	0	0.547
29)	Isophorone	0.00	1460	82	0	Not Found	ng/ul	220	0.000
30)	2-Nitrophenol	12.30	1476	109	0	0.05	ng/ul	395	0.374

* Compound is ISTD

Operator ID: DMC Quant Time: 05/23/02 11:37
Output File: 305340R.1B2 Injected at: 05/23/02 10:52
Data File: 305340R.MS Dilution Factor: 50.00
Name: 305340R Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1487	107	0	Not Found	ng/ul	337	0.000	
32)	Benzoic Acid	12.75	1530	105	0	0.05	ng/ul	0	0.318	
33)	Bis(2-Chloroethoxy)Methane	12.63	1516	92	0	0.05	ng/ul	0	0.473	
34)	2,4-Dichlorophenol	0.00	1554	162	0	Not Found	ng/ul	294	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1584	180	0	Not Found	ng/ul	31	0.000	
36)	Naphthalene	0.00	1609	128	0	Not Found	ng/ul	94	0.000	
37)	4-Chloroaniline	0.00	1622	127	0	Not Found	ng/ul	0	0.000	
38)	2,6-Dichlorophenol	0.00	1623	162	0	Not Found	ng/ul	2	0.000	
39)	Hexachlorobutadiene	13.56	1627	225	0	0.05	ng/ul	321	0.282	
40)	4-Chloro-3-Methylphenol	0.00	1767	107	0	Not Found	ng/ul	594	0.000	
41)	2-Methylnaphthalene	0.00	1826	142	0	Not Found	ng/ul	338	0.000	
42)	Hexachlorocyclopentadiene	15.66	1879	237	0	0.05	ng/ul	2	0.379	
43)	2,4,6-Trichlorophenol	0.00	1909	196	0	Not Found	ng/ul	206	0.000	
44)	2,4,5-Trichlorophenol	0.00	1922	196	0	Not Found	ng/ul	219	0.000	
45)	2-Chloronapthalene	0.00	1980	162	0	Not Found	ng/ul	0	0.000	
46)	2-Nitroaniline	16.74	2009	138	82839	34.00	ng/ul	978	0.447	1.1
47)	Dimethyl Phthalate	0.00	2060	163	0	Not Found	ng/ul	517	0.000	
48)	2,6-Dinitrotoluene	17.32	2078	165	0	0.05	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2108	152	0	Not Found	ng/ul	207	0.000	
50)	3-Nitroaniline	0.00	2128	138	0	Not Found	ng/ul	134	0.000	
51)	Acenaphthene	0.00	2155	152	0	Not Found	ng/ul	311	0.000	
52)	2,4-Dinitrophenol	18.14	2177	184	0	0.05	ng/ul	377	0.236	
53)	4-Nitrophenol	18.07	2168	65	0	0.05	ng/ul	190	0.222	
54)	Dibenzofuran	0.00	2199	168	0	Not Found	ng/ul	165	0.000	
55)	2,4-Dinitrotoluene	18.34	2201	165	0	0.05	ng/ul	0	0.578	
56)	Benzo(b)Fluoranthene	28.07	3368	252	0	0.05	ng/ul	0	1.127	
57)	Diethyl Phthalate	18.69	2243	149	13725918	1182.35	ng/ul	995	2.124	90
58)	Fluorene	19.12	2295	166	0	0.05	ng/ul	343	1.020	
59)	4-Chlorophenyl Phenyl Ether	19.13	2296	204	0	0.05	ng/ul	383	0.773	
60)	4-Nitroaniline	18.95	2274	108	0	0.05	ng/ul	0	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305340R.1B2
Data File: 305340R.MS
Name: 305340R
Sample:

Quant Time: 05/23/02 11:37
Injected at: 05/23/02 10:52
Dilution Factor: 50.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2283	198	0	Not Found	ng/ul	261	0.000	
62)	N-Nitrosodiphenylamine	19.17	2300	169	26612	6.65	ng/ul	938	0.495	0.22
63)	1,2-Diphenylhydrazine	19.26	2311	77	38142	4.25	ng/ul	904	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2378	248	0	Not Found	ng/ul	214	0.000	
65)	Hexachlorobenzene	0.00	2390	284	0	Not Found	ng/ul	312	0.000	
66)	Pentachlorophenol	20.12	2415	266	0	0.05	ng/ul	2	0.224	
67)	Phenanthrene	20.67	2481	178	0	0.05	ng/ul	0	1.126	
68)	Anthracene	20.83	2499	178	0	0.05	ng/ul	0	1.171	
69)	Carbazole	20.78	2494	167	0	0.05	ng/ul	0	1.065	
70)	Di-n-Butyl Phthalate	21.20	2544	149	2278	0.15	ng/ul	50	2.100	
71)	Fluoranthene	22.32	2678	202	0	0.05	ng/ul	0	1.074	
72)	Benzidine	0.00	2688	184	0	Not Found	ng/ul	28	0.000	
73)	Pyrene	22.78	2734	202	0	0.05	ng/ul	0	1.089	
74)	Butyl Benzyl Phthalate	23.54	2825	149	0	0.05	ng/ul	128	1.194	
75)	3,3'-Dichlorobenzidine	24.60	2952	252	0	0.05	ng/ul	0	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	0.00	2938	149	0	Not Found	ng/ul	283	0.000	
77)	Benzo(a)Anthracene	0.00	2991	228	0	Not Found	ng/ul	49	0.000	
78)	Chrysene	0.00	3002	228	0	Not Found	ng/ul	2	0.000	
79)	Di-n-Octylphthalate	26.27	3152	149	0	0.05	ng/ul	0	2.650	
80)	Benzo(k)Fluoranthene	28.46	3415	252	0	0.05	ng/ul	0	1.252	
81)	Benzo(a)Pyrene	0.00	3550	252	0	Not Found	ng/ul	0	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4272	276	0	Not Found	ng/ul	32	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4280	278	0	Not Found	ng/ul	2	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4498	276	0	Not Found	ng/ul	0	0.000	
85)	N-Nitrosodimethylamine	4.86	583	73	0	0.05	ng/ul	922	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2225	232	0	Not Found	ng/ul	2	0.000	
87)	2-Chloroaniline	12.32	1478	127	294	0.10	ng/ul	845	0.535	
88)	2,4-Diaminotoluene	0.00	1958	121	0	Not Found	ng/ul	697	0.000	
89)	2,3-Dinitrotoluene	18.02	2163	165	0	0.05	ng/ul	0	0.576	
90)	1-Naphthylamine	18.42	2211	143	241	0.10	ng/ul	743	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305340R.1B2
Data File: 305340R.MS
Name: 305340R
Sample:

Quant Time: 05/23/02 11:37
Injected at: 05/23/02 10:52
Dilution Factor: 50.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

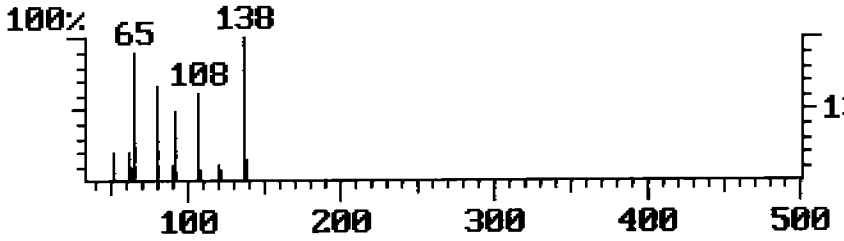
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	18.86	2263	152	178	0.10	ng/ul	600	0.425

* Compound is ISTD

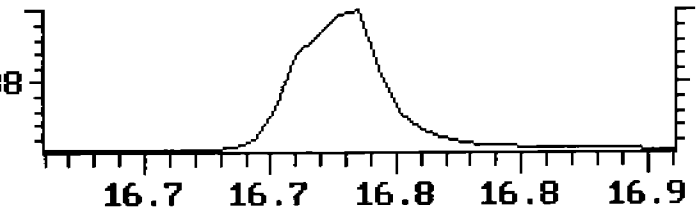
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 28 of 55
Data File: 305340R TRIMATRIX Calibration File: CCC8270
Date: 05/23/02 10:52 am Calibration Date: 05/23/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 50.00

2-Nitroaniline SCAN#: 2009
AGC: 990

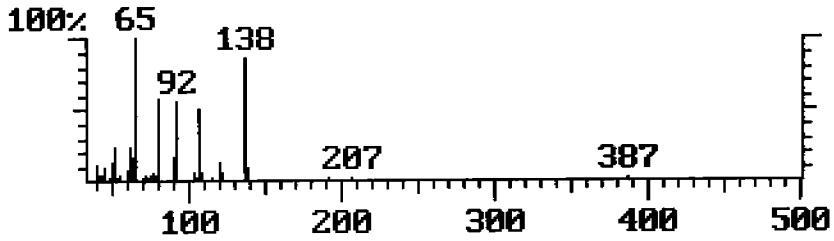
REFERENCE STANDARD SPECTRUM



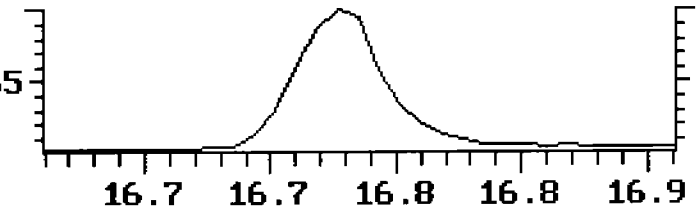
MASS 138 PLOT



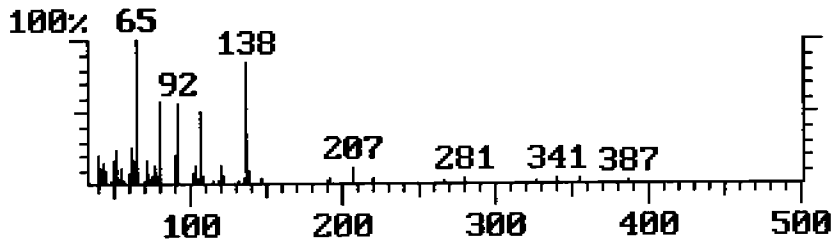
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



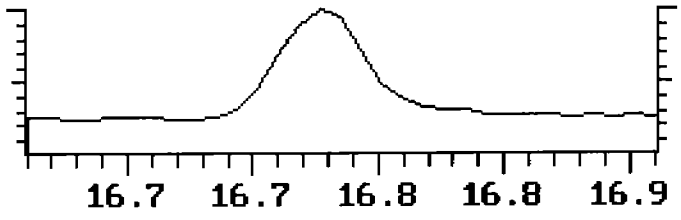
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

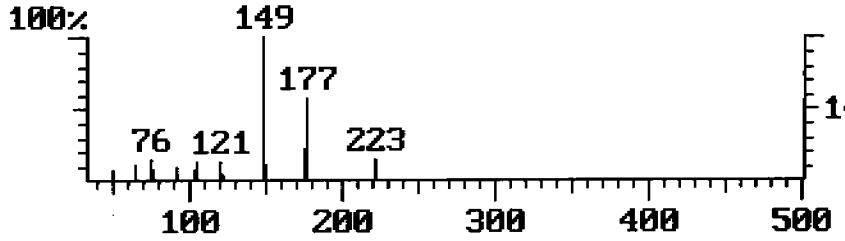


Approved_____ Date_____

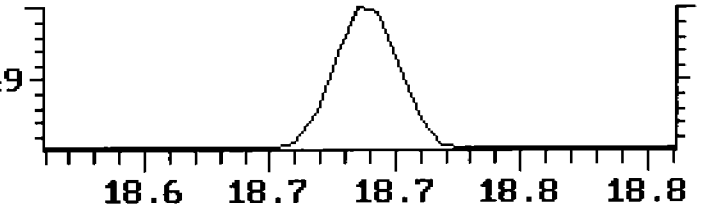
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 34 of 55
Data File: 305340R TRIMATRIX Calibration File: CCC8270
Date: 05/23/02 10:52 am Calibration Date: 05/23/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 50.00

Diethyl Phthalate SCAN#: 2243
AGC: 21

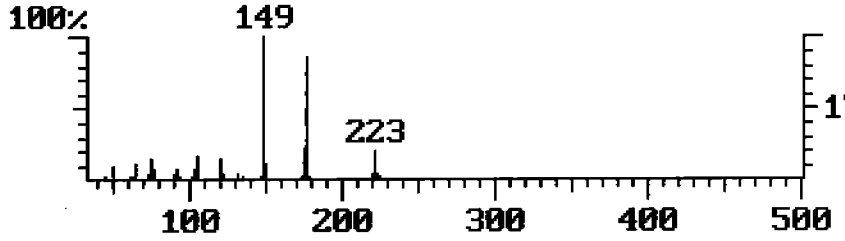
REFERENCE STANDARD SPECTRUM



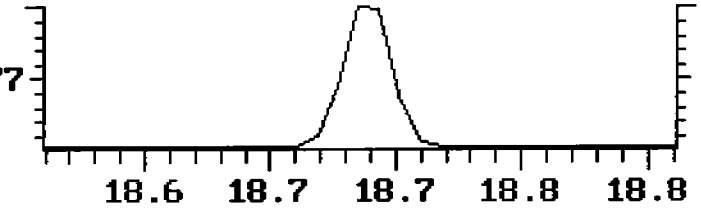
MASS 149 PLOT



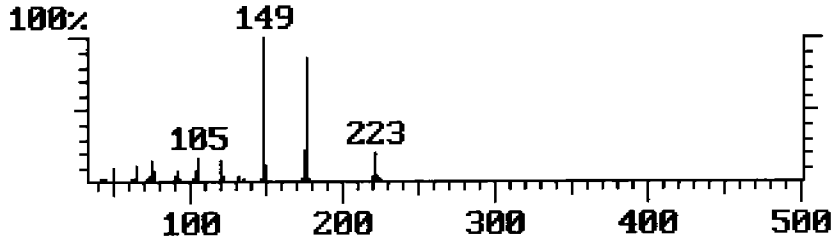
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



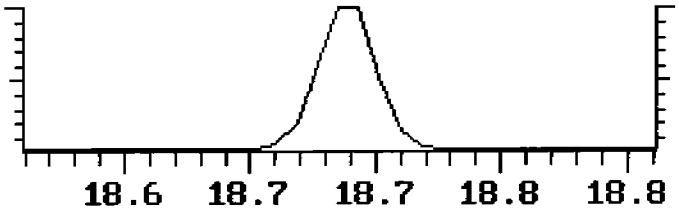
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

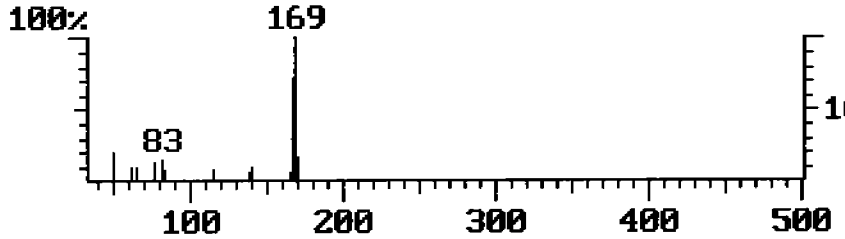


Approved_____ Date_____

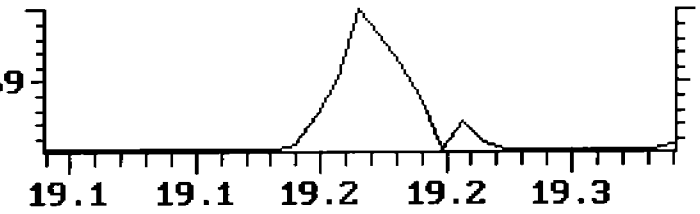
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 55
Data File: 305340R TRIMATRIX Calibration File: CCC8270
Date: 05/23/02 10:52 am Calibration Date: 05/23/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 50.00

N-Nitrosodiphenylamine SCAN#: 2300
AGC: 1237

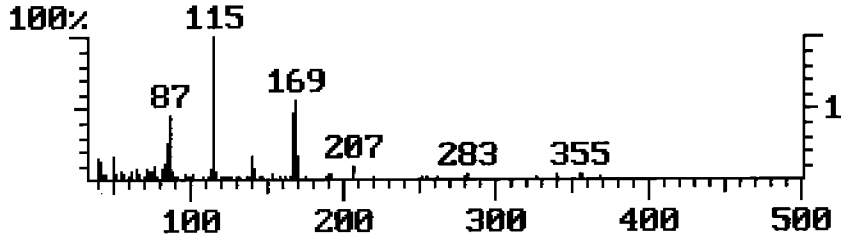
REFERENCE STANDARD SPECTRUM



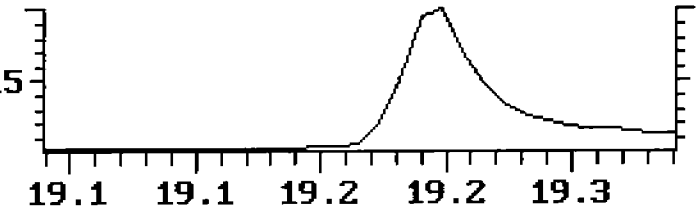
MASS 169 PLOT



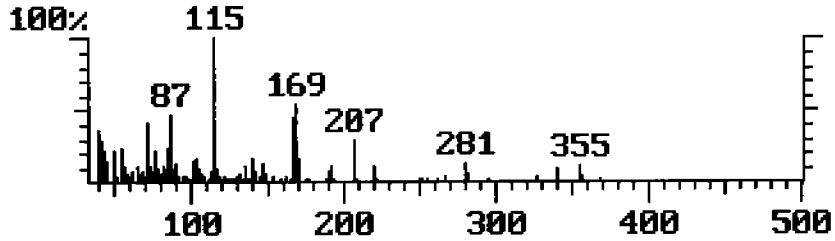
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



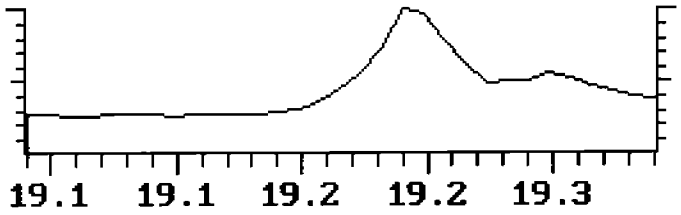
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
2ANP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:10
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305341
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.005**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	**0.002**	J	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
2ANP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:10
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305341
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.002**	J	0.002	0.005
84-66-2	Diethylphthalate	**0.016**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.24**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.004**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.019**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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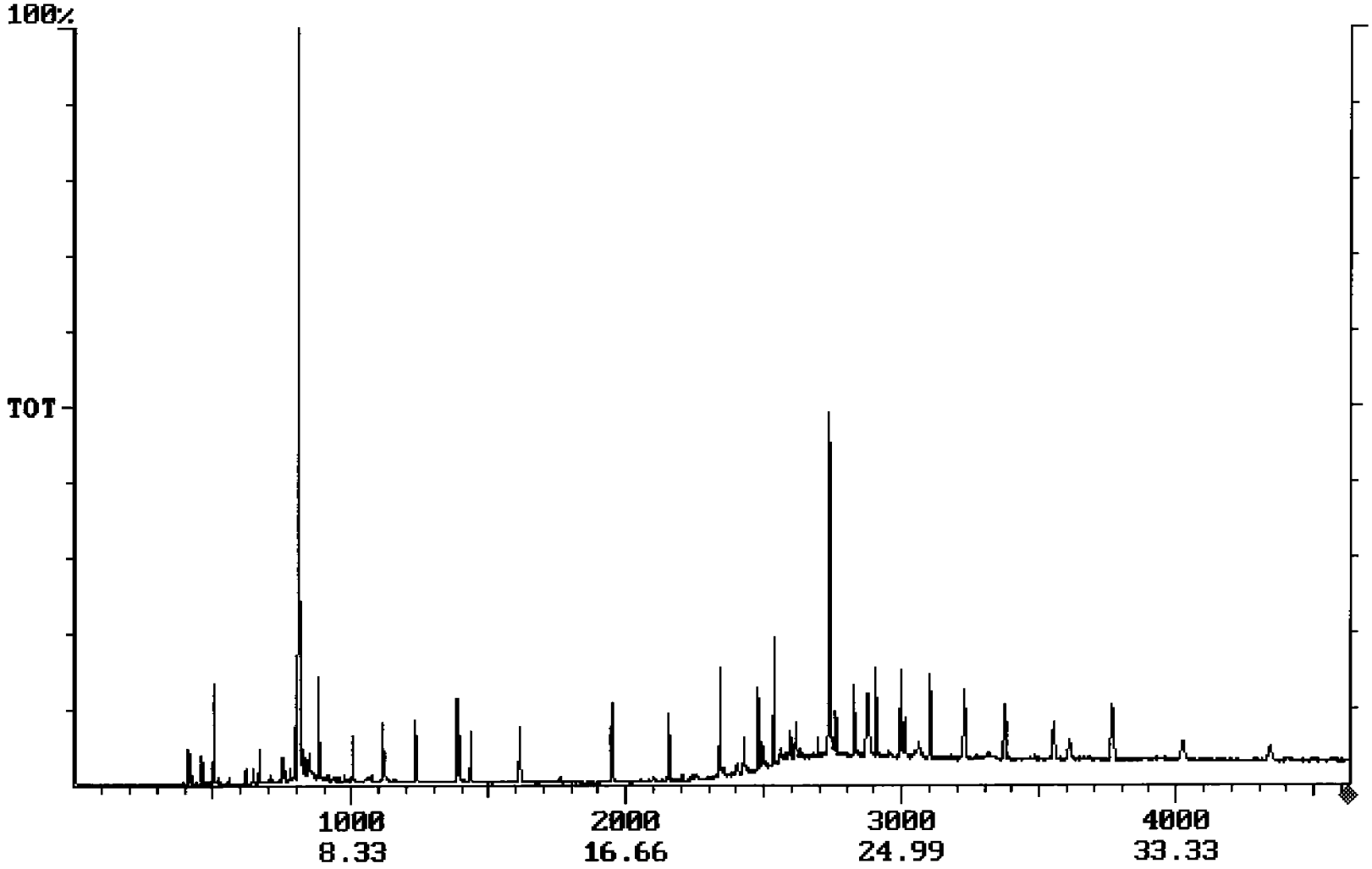
Chromatogram Plot C:\SATURN\DATA\305341 Date: 05/22/02 15:38:46
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4620 Range: 1 to 4620 100% = 11552234



Operator ID: DMC
Output File: 305341.1B2
Data File: 305341.MS
Name: 305341
Sample:

Quant Time: 05/23/02 06:57
Injected at: 05/22/02 15:38
Dilution Factor: 1.00
Instrument ID: 138

3g → 1ml
100%

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.28	1234	152	595144	5.00	ng/ul	979	1.000
2)	*IS:D8-Naphthalene	13.45	1614	136	1956911	5.00	ng/ul	992	1.000
3)	*IS:D10-Acenaphthene	17.97	2157	162	1178430	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.65	2478	188	1865681	5.00	ng/ul	935	1.000
5)	*IS:D12-Chrysene	25.09	3011	240	1523530	5.00	ng/ul	927	1.000
6)	*IS:D12-Perylene	30.07	3609	264	1605889	5.00	ng/ul	812	1.000
7)	ACSUR:2-Fluorophenol	7.35	882	112	1921930	10.26	ng/ul	993	1.574
8)	ACSUR:D6-Phenol	9.30	1116	99	2493675	11.01	ng/ul	852	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.50	2340	330	837467	10.73	ng/ul	997	0.332
10)	BNSUR:D5-Nitrobenzene	11.61	1393	127	450922	6.93	ng/ul	919	0.167
11)	BNSUR:Decafluorobiphenyl	11.54	1385	334	1775776	6.21	ng/ul	954	0.731
12)	BNSUR:2-Fluorobiphenyl	16.24	1949	172	1926038	6.94	ng/ul	997	1.178
13)	BNSUR:O-Terphenyl	21.13	2536	230	1624769	7.51	ng/ul	990	0.710
14)	Pyridine	0.00	583	79	0	Not Found	ng/ul	248	0.000
15)	Phenol	0.00	1118	94	0	Not Found	ng/ul	106	0.000
16)	Aniline	9.58	1150	93	0	0.00	ng/ul	0	1.852
17)	Bis(2-Chloroethyl)Ether	9.45	1134	92	272	0.00	ng/ul	313	0.862
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	305	0.000
19)	1,3-Dichlorobenzene	10.16	1219	146	2890	0.02	ng/ul	873	1.538
20)	1,4-Dichlorobenzene	10.27	1232	146	0	0.00	ng/ul	0	1.533
21)	Benzyl Alcohol	10.63	1275	108	1537	0.02	ng/ul	791	0.647
22)	1,2-Dichlorobenzene	10.68	1282	146	2474	0.01	ng/ul	790	1.426
23)	2-Methylphenol	10.66	1279	108	0	0.00	ng/ul	198	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1305	45	0	Not Found	ng/ul	22	0.000
25)	4-Methylphenol	11.09	1331	108	0	0.00	ng/ul	410	1.306
26)	N-Nitrosodi-N-Propylamine	11.19	1343	70	0	0.00	ng/ul	744	0.786
27)	Hexachloroethane	11.61	1393	119	0	0.00	ng/ul	944	0.645
28)	Nitrobenzene	11.62	1394	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1465	82	0	Not Found	ng/ul	598	0.000
30)	2-Nitrophenol	12.59	1511	109	0	0.00	ng/ul	357	0.374

* Compound is ISTD

Operator ID: DMC
Output File: 305341.1B2
Data File: 305341.MS
Name: 305341
Sample:

Quant Time: 05/23/02 06:57
Injected at: 05/22/02 15:38
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	507	0.000	
32)	Benzoic Acid	12.90	1548	105	0	0.00	ng/ul	276	0.318	
33)	Bis(2-Chloroethoxy)Methane	12.61	1513	92	0	0.00	ng/ul	59	0.473	
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	191	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1593	180	0	Not Found	ng/ul	561	0.000	
36)	Naphthalene	0.00	1618	128	0	Not Found	ng/ul	447	0.000	
37)	4-Chloroaniline	13.68	1642	127	0	0.00	ng/ul	0	0.570	
38)	2,6-Dichlorophenol	0.00	1644	162	0	Not Found	ng/ul	853	0.000	
39)	Hexachlorobutadiene	13.78	1654	225	0	0.00	ng/ul	335	0.282	
40)	4-Chloro-3-Methylphenol	14.83	1780	107	34175	0.15	ng/ul	931	0.594	0.0049
41)	2-Methylnaphthalene	15.31	1837	142	1652	0.01	ng/ul	888	0.647	
42)	Hexachlorocyclopentadiene	0.00	1881	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	0.00	1917	196	0	Not Found	ng/ul	0	0.000	
44)	2,4,5-Trichlorophenol	0.00	1932	196	0	Not Found	ng/ul	7	0.000	
45)	2-Chloronapthalene	0.00	1987	162	0	Not Found	ng/ul	609	0.000	
46)	2-Nitroaniline	16.87	2025	138	5025	0.05	ng/ul	808	0.447	0.001C
47)	Dimethyl Phthalate	0.00	2068	163	0	Not Found	ng/ul	667	0.000	
48)	2,6-Dinitrotoluene	17.41	2089	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2110	152	0	Not Found	ng/ul	493	0.000	
50)	3-Nitroaniline	17.84	2141	138	0	0.00	ng/ul	0	0.367	
51)	Acenaphthene	0.00	2164	152	0	Not Found	ng/ul	280	0.000	
52)	2,4-Dinitrophenol	0.00	2165	184	0	Not Found	ng/ul	233	0.000	
53)	4-Nitrophenol	18.13	2175	65	0	0.00	ng/ul	52	0.222	
54)	Dibenzofuran	0.00	2209	168	0	Not Found	ng/ul	611	0.000	
55)	2,4-Dinitrotoluene	18.36	2203	165	6952	0.05	ng/ul	844	0.578	0.001C
56)	Benzo(b)Fluoranthene	28.24	3389	252	0	0.00	ng/ul	0	1.127	
57)	Diethyl Phthalate	18.80	2256	149	243885	0.49	ng/ul	849	2.124	0.01C
58)	Fluorene	19.07	2288	166	0	0.00	ng/ul	0	1.020	
59)	4-Chlorophenyl Phenyl Ether	0.00	2284	204	0	Not Found	ng/ul	294	0.000	
60)	4-Nitroaniline	19.11	2293	108	0	0.00	ng/ul	242	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305341.1B2
Data File: 305341.MS
Name: 305341
Sample:

Quant Time: 05/23/02 06:57
Injected at: 05/22/02 15:38
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.10	2292	198	0	0.00	ng/ul	330	0.215	
62)	N-Nitrosodiphenylamine	0.00	2309	169	0	Not Found	ng/ul	585	0.000	
63)	1,2-Diphenylhydrazine	19.35	2322	77	11773	0.03	ng/ul	817	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	241	0.000	
65)	Hexachlorobenzene	0.00	2401	284	0	Not Found	ng/ul	169	0.000	
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	63	0.000	
67)	Phenanthrene	20.72	2487	178	0	0.00	ng/ul	47	1.126	
68)	Anthracene	20.71	2485	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	0.00	2516	167	0	Not Found	ng/ul	489	0.000	
70)	Di-n-Butyl Phthalate	21.33	2560	149	530134	0.71	ng/ul	829	2.010	0.024
71)	Fluoranthene	0.00	2687	202	0	Not Found	ng/ul	0	0.000	
72)	Benzidine	0.00	2698	184	0	Not Found	ng/ul	180	0.000	
73)	Pyrene	0.00	2732	202	0	Not Found	ng/ul	204	0.000	
74)	Butyl Benzyl Phthalate	23.58	2830	149	42879	0.12	ng/ul	607	1.194	0.0039
75)	3,3'-Dichlorobenzidine	25.00	3000	252	0	0.00	ng/ul	0	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.62	2954	149	291157	0.56	ng/ul	813	1.695	0.019
77)	Benzo(a)Anthracene	0.00	3006	228	0	Not Found	ng/ul	46	0.000	
78)	Chrysene	0.00	3019	228	0	Not Found	ng/ul	55	0.000	
79)	Di-n-Octylphthalate	26.66	3199	149	0	0.00	ng/ul	0	2.650	
80)	Benzo(k)Fluoranthene	0.00	3423	252	0	Not Found	ng/ul	155	0.000	
81)	Benzo(a)Pyrene	0.00	3578	252	0	Not Found	ng/ul	339	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4545	276	0	Not Found	ng/ul	51	0.000	
85)	N-Nitrosodimethylamine	4.83	579	73	87	0.00	ng/ul	404	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	39	0.000	
87)	2-Chloroaniline	12.48	1498	127	125	0.00	ng/ul	534	0.535	
88)	2,4-Diaminotoluene	0.00	2017	121	0	Not Found	ng/ul	709	0.000	
89)	2,3-Dinitrotoluene	18.08	2169	165	298	0.00	ng/ul	826	0.576	
90)	1-Naphthylamine	18.56	2228	143	327	0.00	ng/ul	760	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305341.1B2
Data File: 305341.MS
Name: 305341
Sample:

Quant Time: 05/23/02 06:57
Injected at: 05/22/02 15:38
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

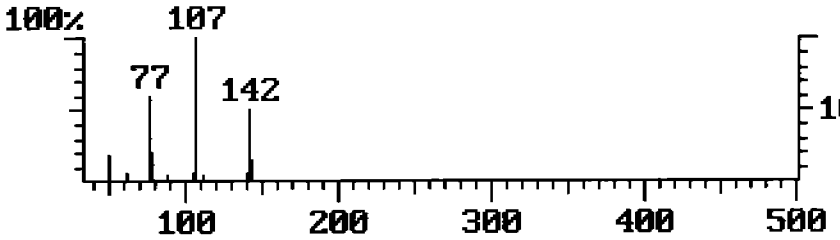
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.18	2302	152	493	0.00	ng/ul	303	0.425

* Compound is ISTD

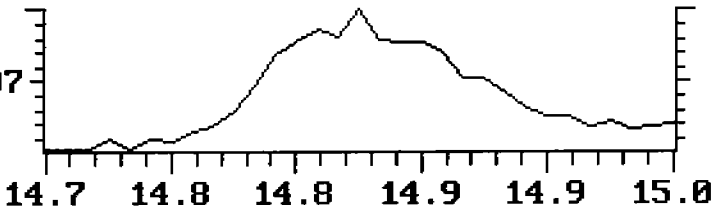
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 30 of 54
Data File: 305341 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:38 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1780
AGC: 2094

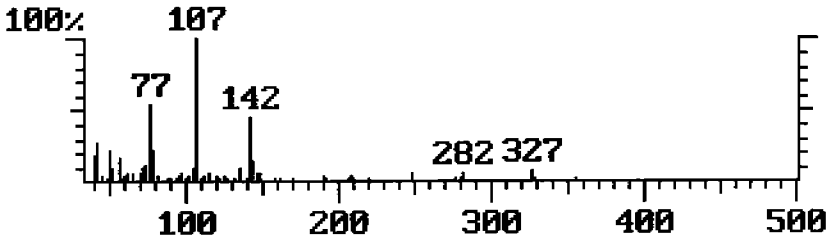
REFERENCE STANDARD SPECTRUM



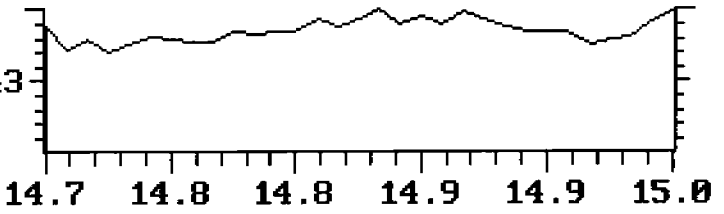
MASS 107 PLOT



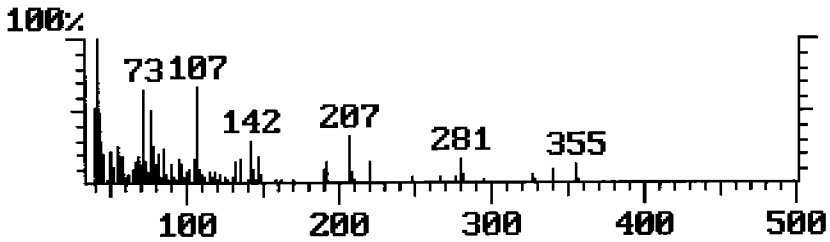
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



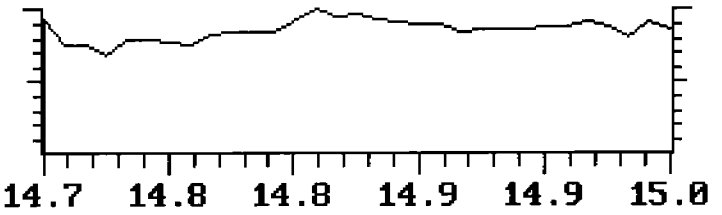
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

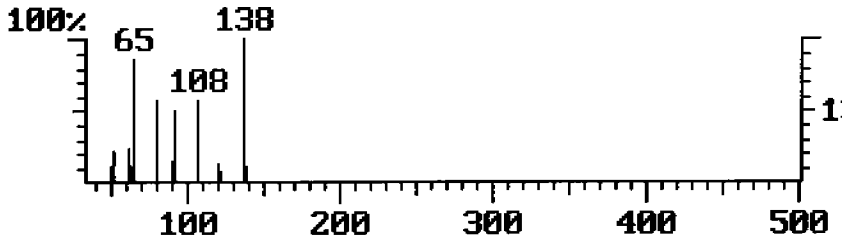


Approved_____ Date_____

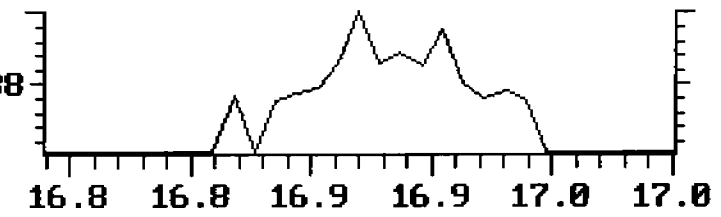
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 32 of 54
Data File: 305341 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:38 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2-Nitroaniline SCAN#: 2025
AGC: 2477

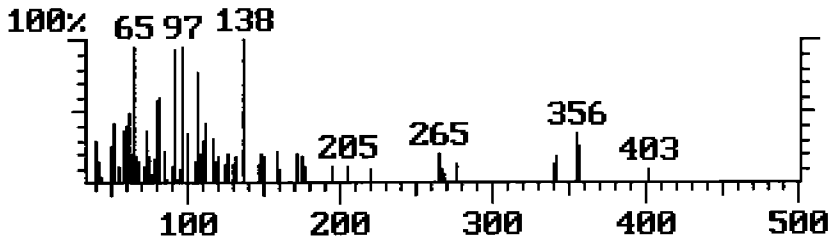
REFERENCE STANDARD SPECTRUM



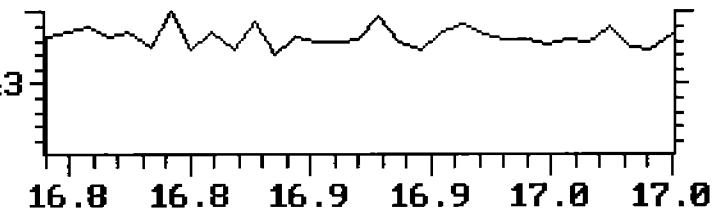
MASS 138 PLOT



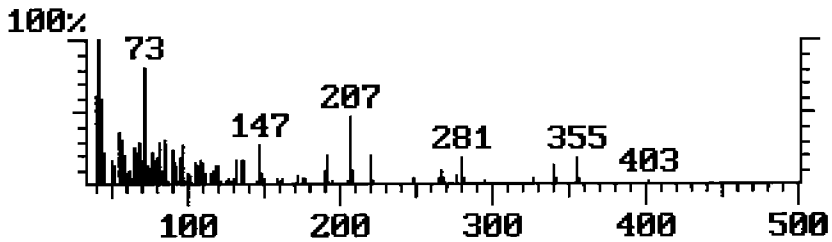
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



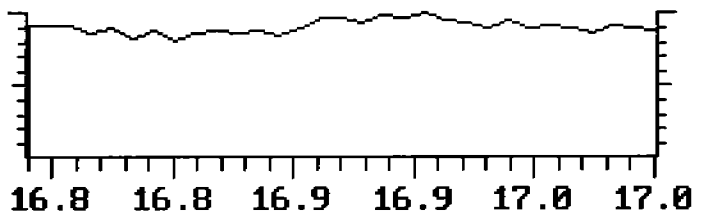
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

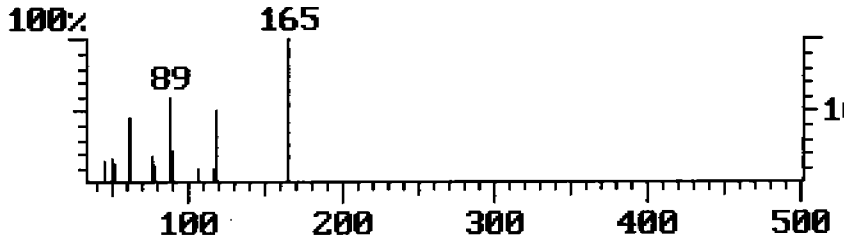


Approved_____ Date_____

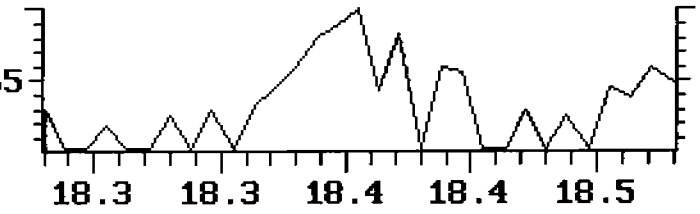
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 36 of 54
Data File: 305341 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:38 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2203
AGC: 916

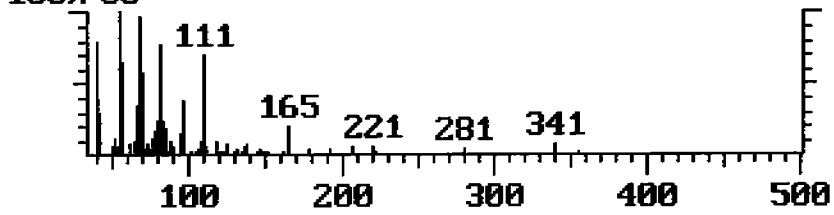
REFERENCE STANDARD SPECTRUM



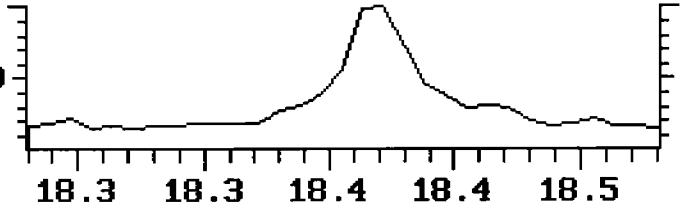
MASS 165 PLOT



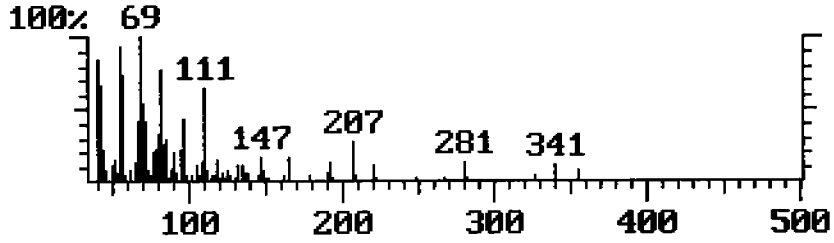
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



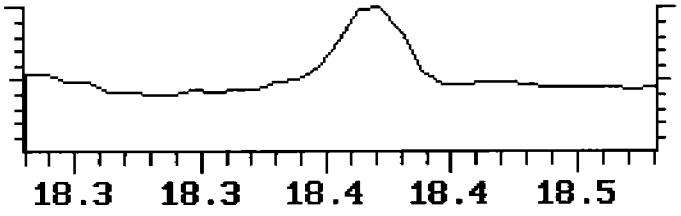
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

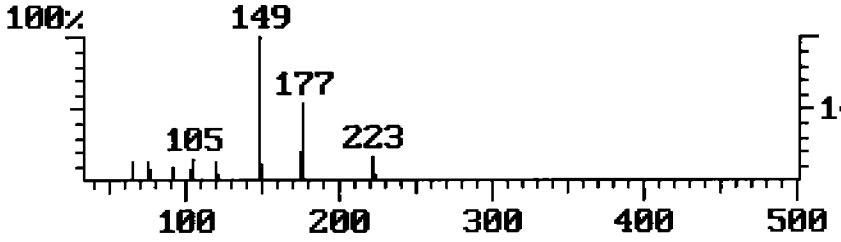


Approved_____ Date_____

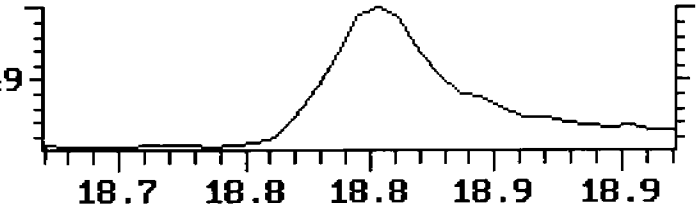
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 54
Data File: 305341 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:38 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2256
AGC: 1006

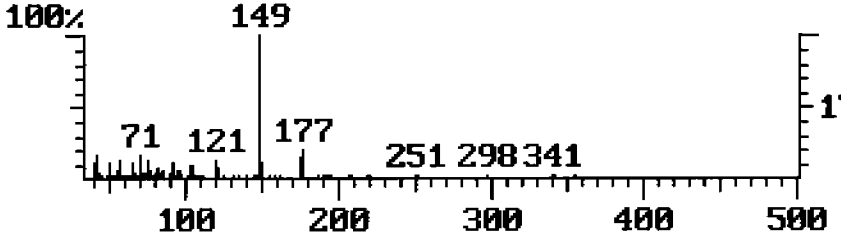
REFERENCE STANDARD SPECTRUM



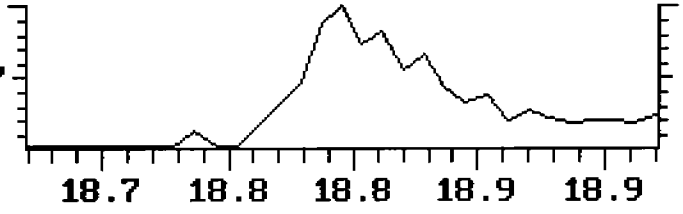
MASS 149 PLOT



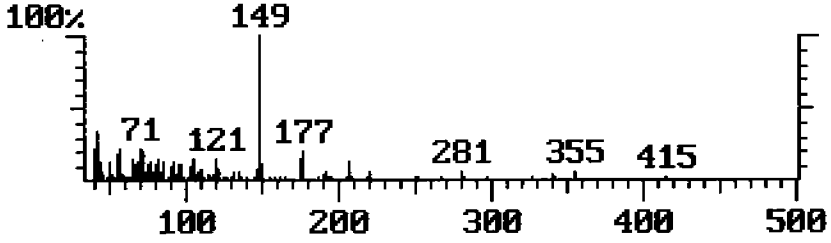
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



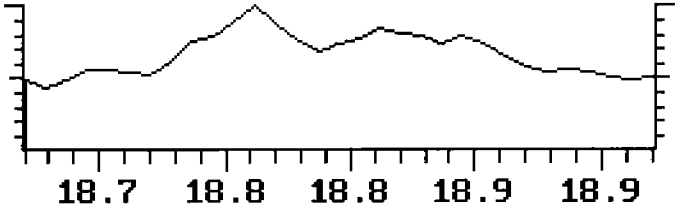
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

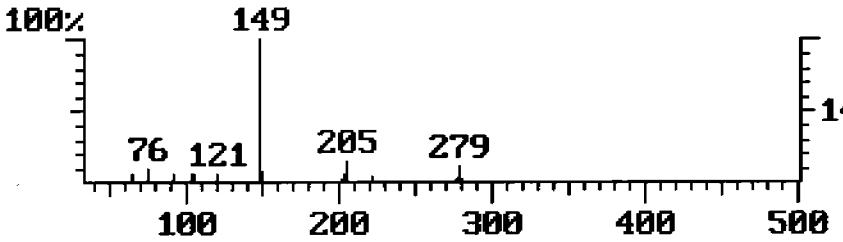


Approved_____ Date_____

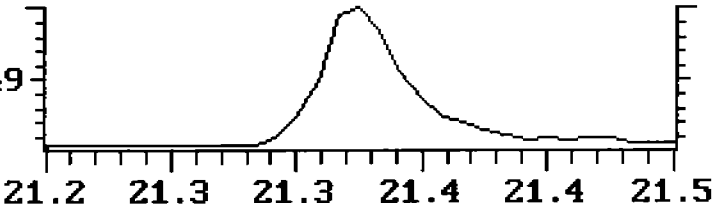
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 45 of 54
Data File: 305341 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:38 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2560
AGC: 225

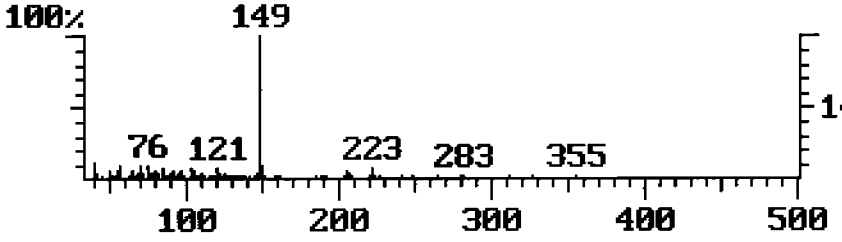
REFERENCE STANDARD SPECTRUM



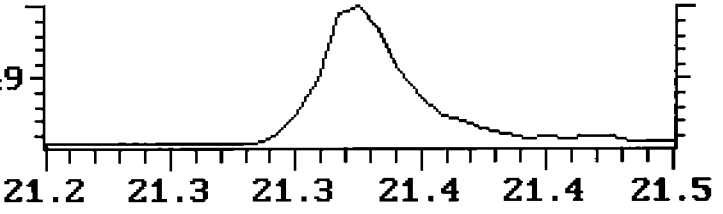
MASS 149 PLOT



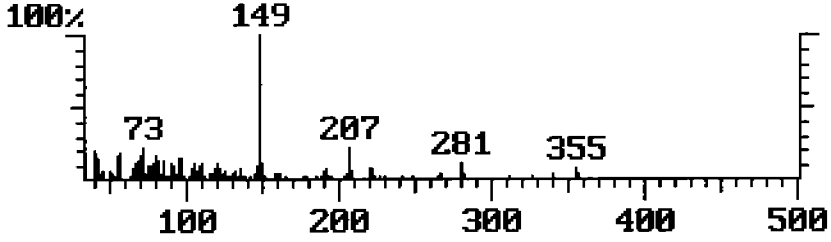
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



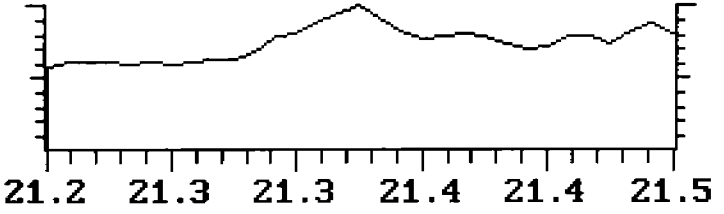
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

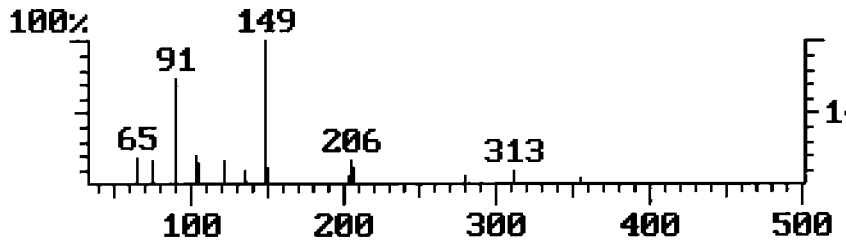


Approved_____ Date_____

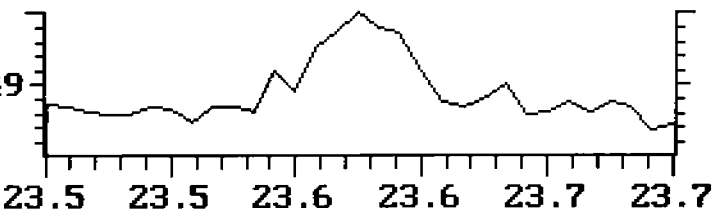
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 54
Data File: 305341 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:38 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2830
AGC: 88

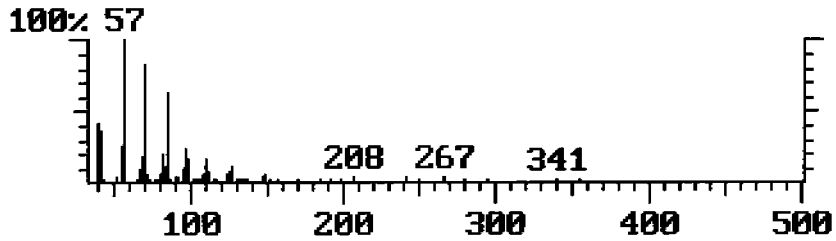
REFERENCE STANDARD SPECTRUM



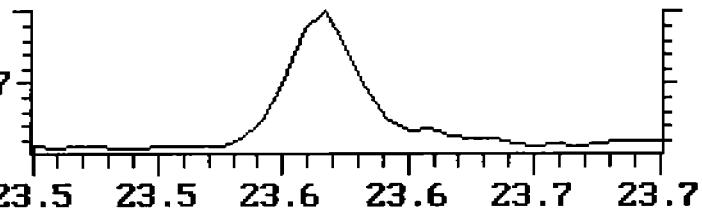
MASS 149 PLOT



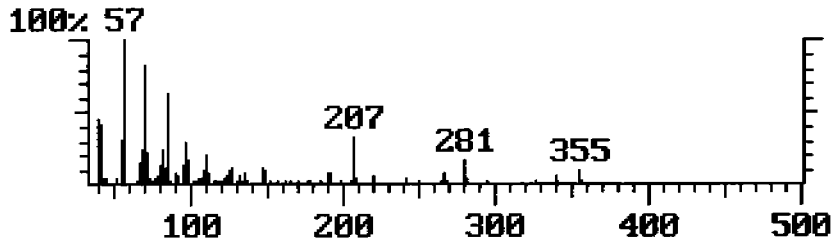
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



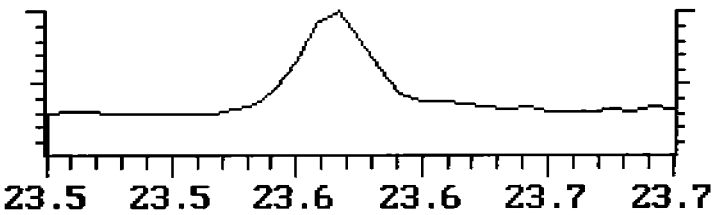
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

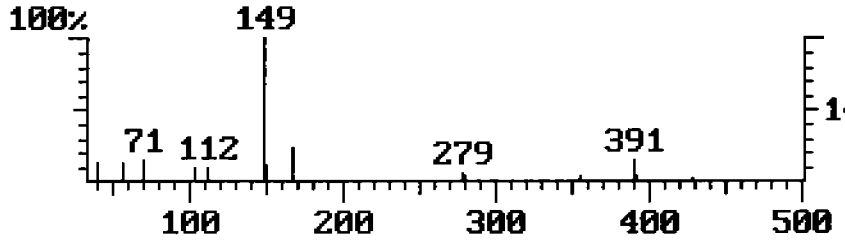


Approved_____ Date_____

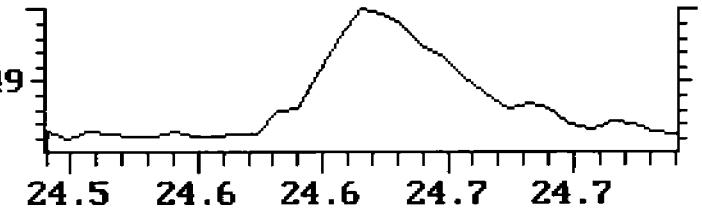
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 48 of 54
Data File: 305341 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 3:38 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2954
AGC: 247

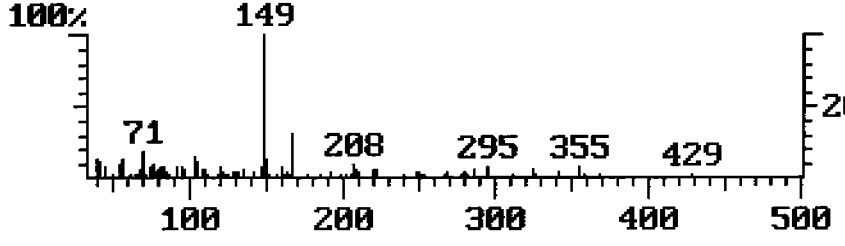
REFERENCE STANDARD SPECTRUM



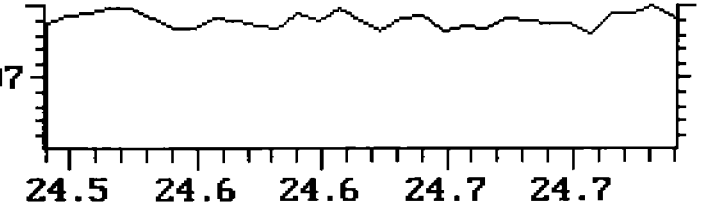
MASS 149 PLOT



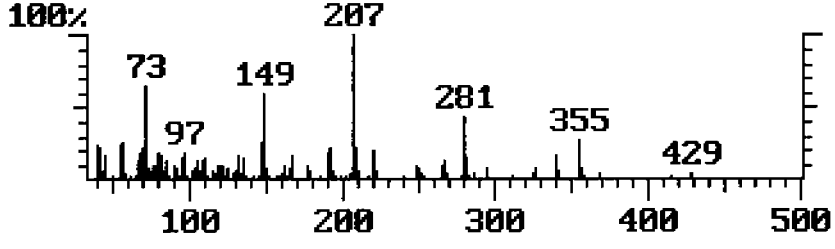
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



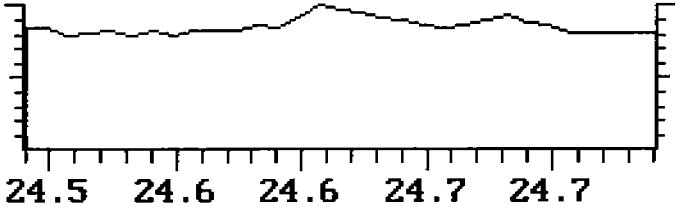
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
4BNP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:13
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305342
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.004**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
4BNP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:13
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305342
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.002**	J	0.002	0.005
84-66-2	Diethylphthalate	**0.032**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.024**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.006**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.012**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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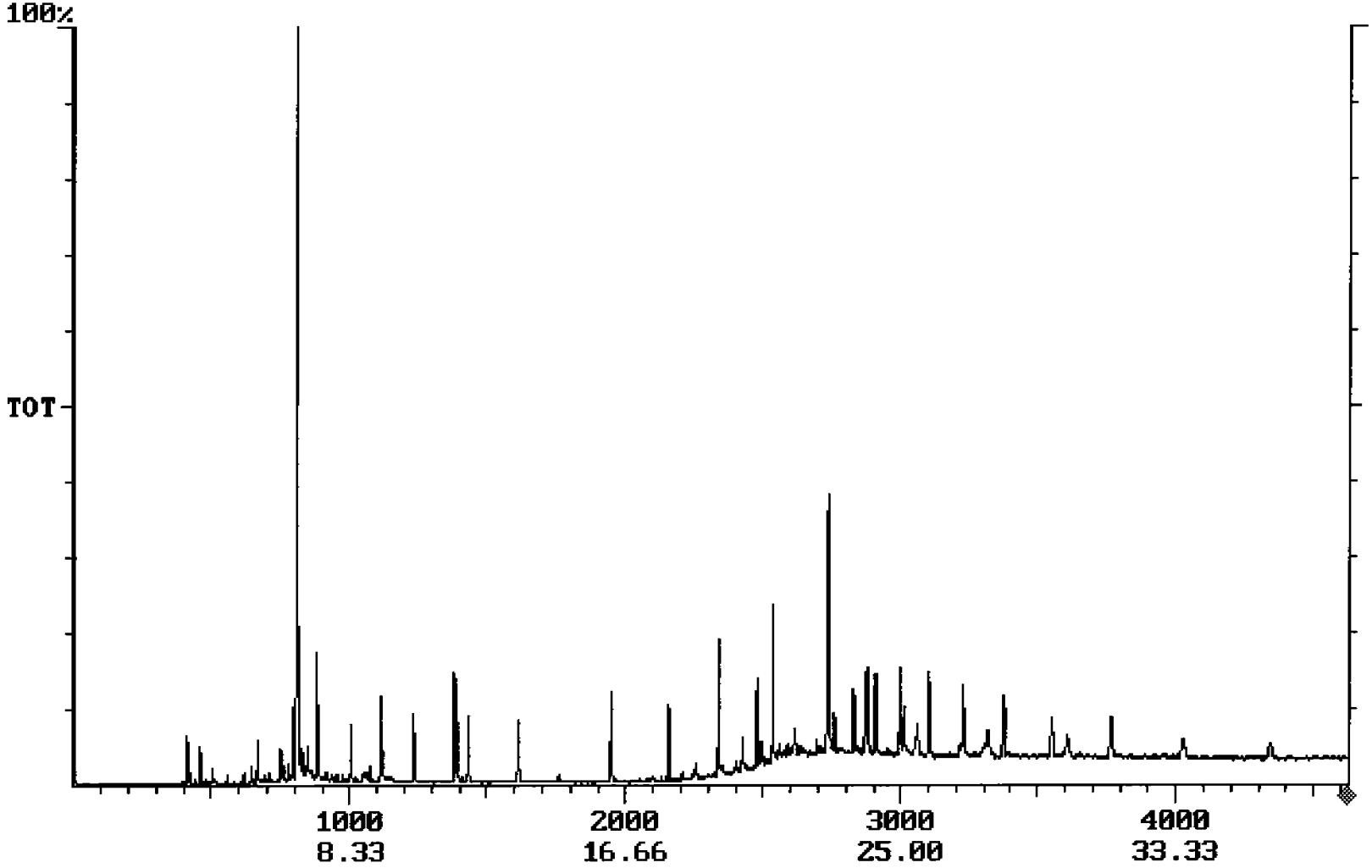
Chromatogram Plot C:\SATURN\DATA\305342 Date: 05/22/02 16:24:21
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4619 Range: 1 to 4619 100% = 10294094



Operator ID: DMC
Output File: 305342.1B2
Data File: 305342.MS
Name: 305342
Sample:

Quant Time: 05/23/02 07:00
Injected at: 05/22/02 16:24
Dilution Factor: 1.00
Instrument ID: 138

3y → 1w

100 2.

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.28	1234	152	610084	5.00	ng/ul	979	1.000
2)	*IS:D8-Naphthalene	13.45	1614	136	1925776	5.00	ng/ul	988	1.000
3)	*IS:D10-Acenaphthene	17.97	2157	162	1172273	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.65	2478	188	1880773	5.00	ng/ul	907	1.000
5)	*IS:D12-Chrysene	25.09	3011	240	1593774	5.00	ng/ul	933	1.000
6)	*IS:D12-Perylene	30.07	3608	264	1588893	5.00	ng/ul	867	1.000
7)	ACSUR:2-Fluorophenol	7.35	882	112	2233462	11.63	ng/ul	997	1.574
8)	ACSUR:D6-Phenol	9.29	1115	99	2712939	11.68	ng/ul	875	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.51	2341	330	1056669	13.55	ng/ul	997	0.333
10)	BNSUR:D5-Nitrobenzene	11.61	1393	127	506723	7.91	ng/ul	952	0.167
11)	BNSUR:Decafluorobiphenyl	11.53	1384	334	2003616	7.12	ng/ul	938	0.731
12)	BNSUR:2-Fluorobiphenyl	16.24	1949	172	2077464	7.52	ng/ul	997	1.178
13)	BNSUR:O-Terphenyl	21.13	2536	230	1836854	8.07	ng/ul	989	0.714
14)	Pyridine	4.95	594	79	373	0.00	ng/ul	314	1.031
15)	Phenol	0.00	1118	94	0	Not Found	ng/ul	139	0.000
16)	Aniline	9.58	1150	93	321	0.00	ng/ul	382	1.852
17)	Bis(2-Chloroethyl)Ether	0.00	1153	92	0	Not Found	ng/ul	191	0.000
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	304	0.000
19)	1,3-Dichlorobenzene	10.16	1219	146	2751	0.01	ng/ul	829	1.538
20)	1,4-Dichlorobenzene	10.25	1230	146	0	0.00	ng/ul	0	1.533
21)	Benzyl Alcohol	10.57	1268	108	3499	0.04	ng/ul	821	0.647
22)	1,2-Dichlorobenzene	10.69	1283	146	2427	0.01	ng/ul	761	1.426
23)	2-Methylphenol	10.65	1278	108	0	0.00	ng/ul	357	1.185
24)	Bis(2-Chloroisopropyl)Ether	10.97	1317	45	0	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.07	1329	108	0	0.00	ng/ul	522	1.306
26)	N-Nitrosodi-N-Propylamine	11.37	1364	70	0	0.00	ng/ul	0	0.786
27)	Hexachloroethane	11.58	1390	119	0	0.00	ng/ul	927	0.645
28)	Nitrobenzene	11.95	1434	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1465	82	0	Not Found	ng/ul	364	0.000
30)	2-Nitrophenol	0.00	1495	109	0	Not Found	ng/ul	626	0.000

* Compound is ISTD

Operator ID: DMC
Output File: 305342.1B2
Data File: 305342.MS
Name: 305342
Sample:

Quant Time: 05/23/02 07:00
Injected at: 05/22/02 16:24
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	558	0.000	
32)	Benzoic Acid	0.00	1513	105	0	Not Found	ng/ul	573	0.000	
33)	Bis(2-Chloroethoxy)Methane	0.00	1525	92	0	Not Found	ng/ul	629	0.000	
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	103	0.000	
35)	1,2,4-Trichlorobenzene	13.29	1595	180	998	0.01	ng/ul	750	0.385	
36)	Naphthalene	0.00	1618	128	0	Not Found	ng/ul	347	0.000	
37)	4-Chloroaniline	0.00	1630	127	0	Not Found	ng/ul	646	0.000	
38)	2,6-Dichlorophenol	0.00	1641	162	0	Not Found	ng/ul	682	0.000	
39)	Hexachlorobutadiene	13.74	1649	225	0	0.00	ng/ul	335	0.282	
40)	4-Chloro-3-Methylphenol	14.81	1777	107	27643	0.12	ng/ul	916	0.594	0.0040
41)	2-Methylnaphthalene	15.32	1838	142	1665	0.01	ng/ul	872	0.647	
42)	Hexachlorocyclopentadiene	0.00	1881	237	0	Not Found	ng/ul	2	0.000	
43)	2,4,6-Trichlorophenol	0.00	1917	196	0	Not Found	ng/ul	73	0.000	
44)	2,4,5-Trichlorophenol	0.00	1932	196	0	Not Found	ng/ul	191	0.000	
45)	2-Chloronapthalene	16.70	2004	162	0	0.00	ng/ul	0	1.258	
46)	2-Nitroaniline	16.87	2025	138	0	0.00	ng/ul	152	0.447	
47)	Dimethyl Phthalate	17.43	2092	163	0	0.00	ng/ul	0	1.884	
48)	2,6-Dinitrotoluene	17.44	2093	165	0	0.00	ng/ul	10	0.371	
49)	Acenaphthylene	0.00	2118	152	0	Not Found	ng/ul	646	0.000	
50)	3-Nitroaniline	17.74	2129	138	0	0.00	ng/ul	416	0.367	
51)	Acenaphthene	0.00	2164	152	0	Not Found	ng/ul	174	0.000	
52)	2,4-Dinitrophenol	0.00	2165	184	0	Not Found	ng/ul	250	0.000	
53)	4-Nitrophenol	18.17	2180	65	0	0.00	ng/ul	147	0.222	
54)	Dibenzofuran	0.00	2209	168	0	Not Found	ng/ul	352	0.000	
55)	2,4-Dinitrotoluene	18.35	2202	165	8467	0.06	ng/ul	848	0.578	0.0021
56)	Benzo(b)Fluoranthene	28.57	3429	252	0	0.00	ng/ul	173	1.127	
57)	Diethyl Phthalate	18.78	2254	149	473713	0.95	ng/ul	858	2.124	0.032
58)	Fluorene	19.07	2289	166	0	0.00	ng/ul	373	1.020	
59)	4-Chlorophenyl Phenyl Ether	0.00	2284	204	0	Not Found	ng/ul	71	0.000	
60)	4-Nitroaniline	19.05	2286	108	0	0.00	ng/ul	619	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305342.1B2
Data File: 305342.MS
Name: 305342
Sample:

Quant Time: 05/23/02 07:00
Injected at: 05/22/02 16:24
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.07	2289	198	0	0.00	ng/ul	198	0.215	
62)	N-Nitrosodiphenylamine	19.10	2292	169	0	0.00	ng/ul	241	0.495	
63)	1,2-Diphenylhydrazine	19.36	2324	77	19884	0.05	ng/ul	721	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	416	0.000	
65)	Hexachlorobenzene	0.00	2401	284	0	Not Found	ng/ul	53	0.000	
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	268	0.000	
67)	Phenanthrene	20.72	2486	178	0	0.00	ng/ul	0	1.126	
68)	Anthracene	20.72	2486	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	0.00	2516	167	0	Not Found	ng/ul	618	0.000	
70)	Di-n-Butyl Phthalate	21.32	2559	149	543550	0.72	ng/ul	908	2.009	0.021
71)	Fluoranthene	0.00	2687	202	0	Not Found	ng/ul	2	0.000	
72)	Benzidine	0.00	2698	184	0	Not Found	ng/ul	180	0.000	
73)	Pyrene	0.00	2732	202	0	Not Found	ng/ul	69	0.000	
74)	Butyl Benzyl Phthalate	23.57	2829	149	66519	0.17	ng/ul	615	1.194	0.0058
75)	3,3'-Dichlorobenzidine	0.00	2980	252	0	Not Found	ng/ul	4	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.61	2953	149	187157	0.35	ng/ul	760	1.695	0.012
77)	Benzo(a)Anthracene	24.95	2994	228	0	0.00	ng/ul	0	1.188	
78)	Chrysene	0.00	3019	228	0	Not Found	ng/ul	2	0.000	
79)	Di-n-Octylphthalate	26.46	3175	149	0	0.00	ng/ul	0	2.650	
80)	Benzo(k)Fluoranthene	28.57	3429	252	0	0.00	ng/ul	0	1.252	
81)	Benzo(a)Pyrene	0.00	3578	252	0	Not Found	ng/ul	77	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	0	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4545	276	0	Not Found	ng/ul	0	0.000	
85)	N-Nitrosodimethylamine	4.58	550	73	0	0.00	ng/ul	342	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	2	0.000	
87)	2-Chloroaniline	12.27	1473	127	0	0.00	ng/ul	0	0.535	
88)	2,4-Diaminotoluene	0.00	2006	121	0	Not Found	ng/ul	722	0.000	
89)	2,3-Dinitrotoluene	18.23	2188	165	0	0.00	ng/ul	0	0.576	
90)	1-Naphthylamine	18.43	2212	143	0	0.00	ng/ul	0	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305342.1B2
Data File: 305342.MS
Name: 305342
Sample:

Quant Time: 05/23/02 07:00
Injected at: 05/22/02 16:24
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

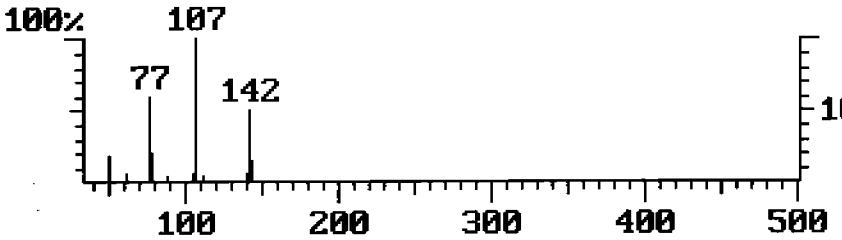
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.21	2305	152	286	0.00	ng/ul	355	0.425

* Compound is ISTD

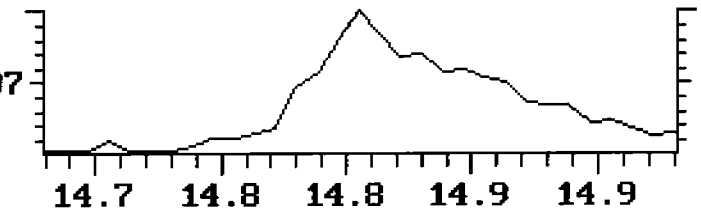
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 28 of 56
Data File: 305342 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:24 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1777
AGC: 2274

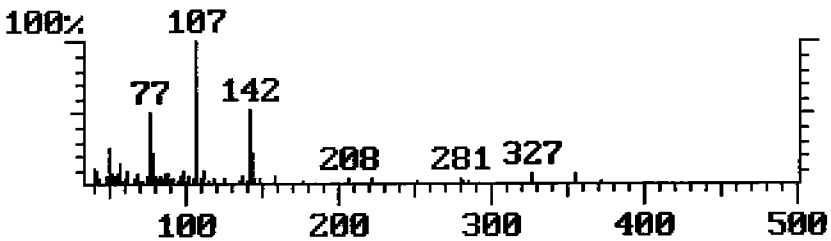
REFERENCE STANDARD SPECTRUM



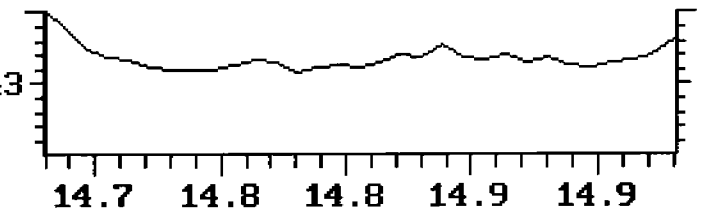
MASS 107 PLOT



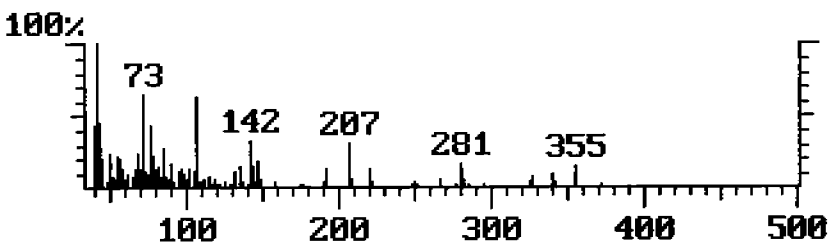
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



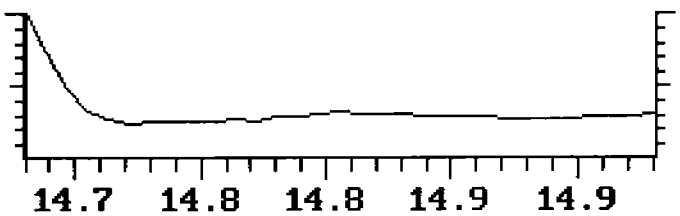
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

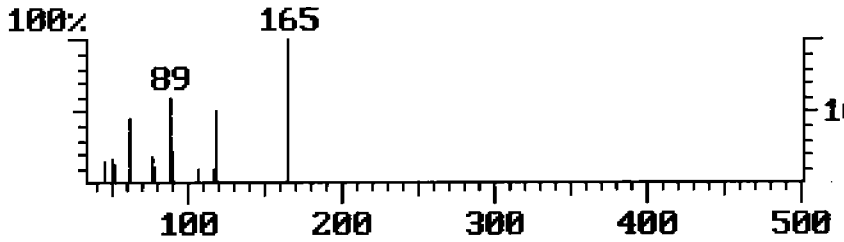


Approved_____ Date_____

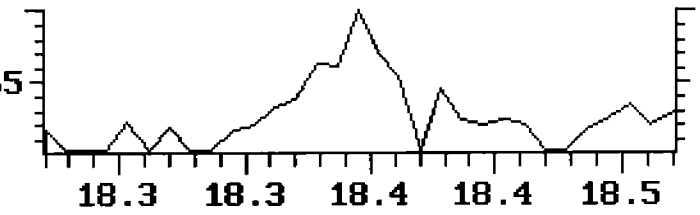
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 36 of 56
Data File: 305342 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:24 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2202
AGC: 1344

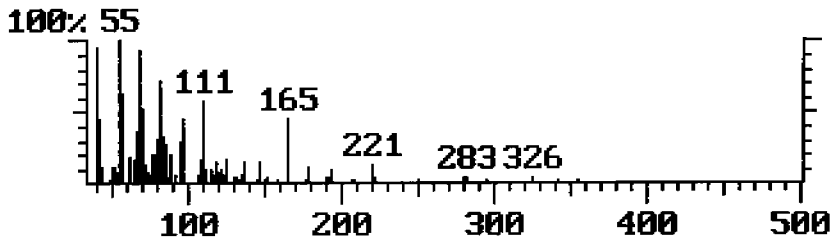
REFERENCE STANDARD SPECTRUM



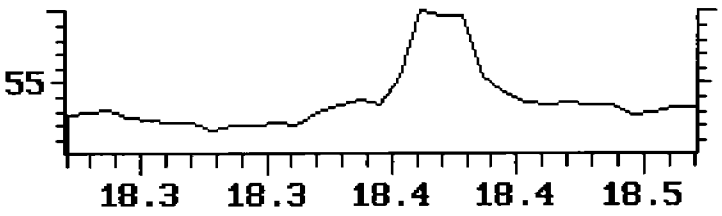
MASS 165 PLOT



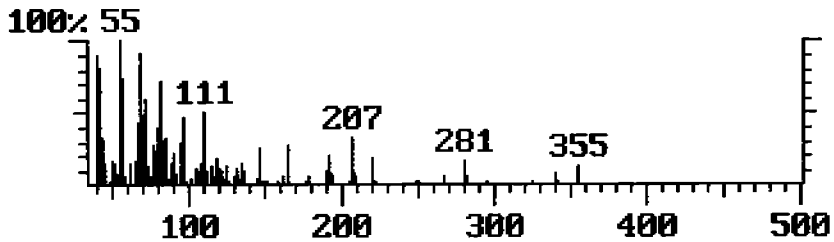
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



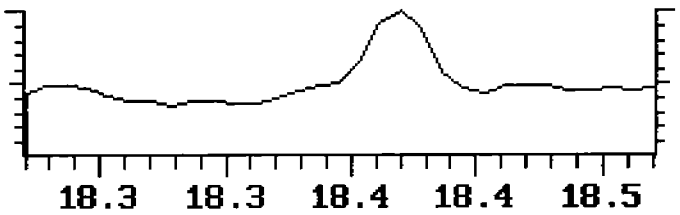
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

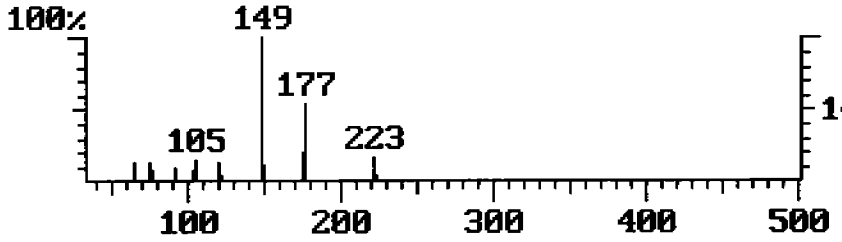


Approved_____ Date_____

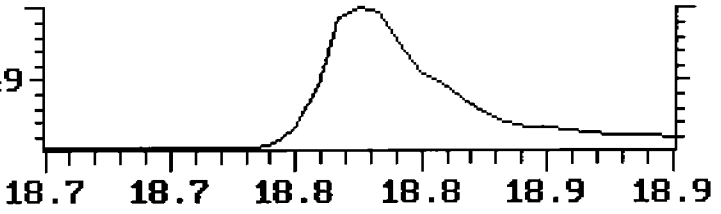
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 56
Data File: 305342 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:24 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2254
AGC: 479

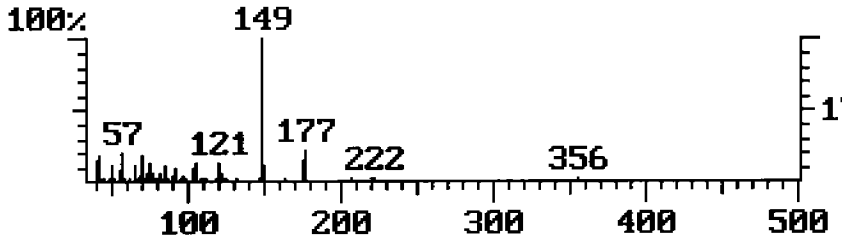
REFERENCE STANDARD SPECTRUM



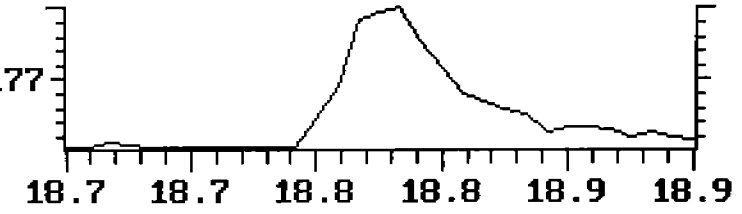
MASS 149 PLOT



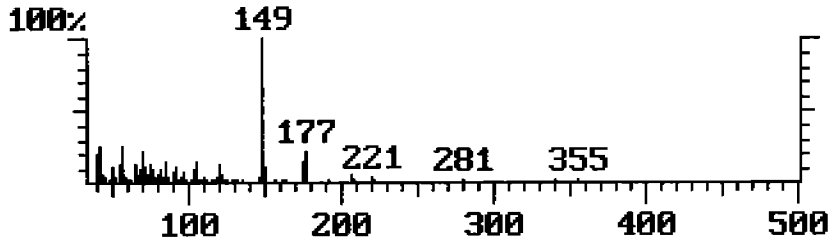
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



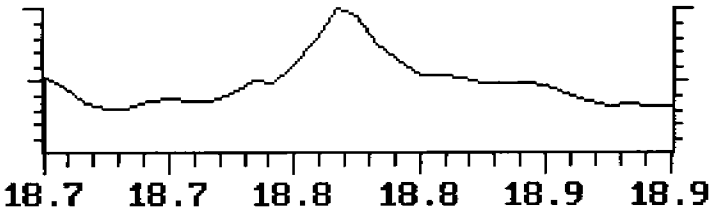
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

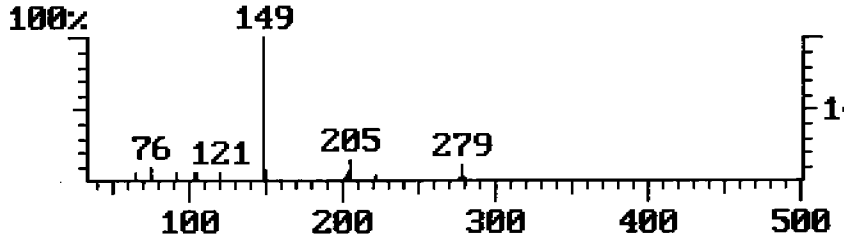


Approved_____ Date_____

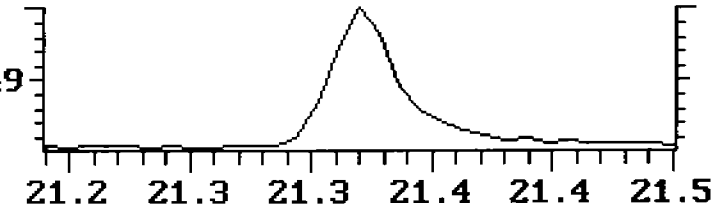
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 56
Data File: 305342 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:24 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2559
AGC: 220

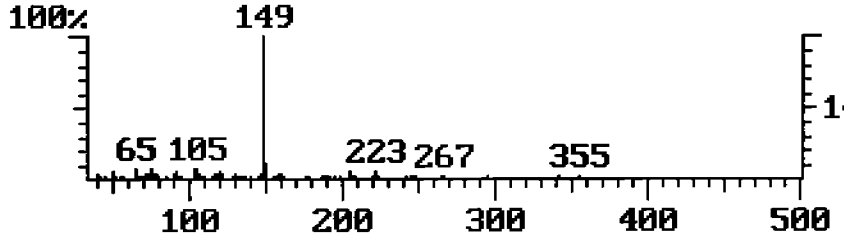
REFERENCE STANDARD SPECTRUM



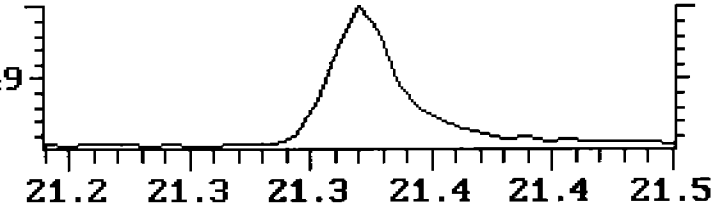
MASS 149 PLOT



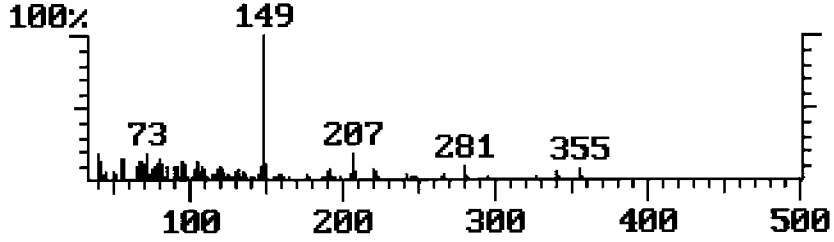
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



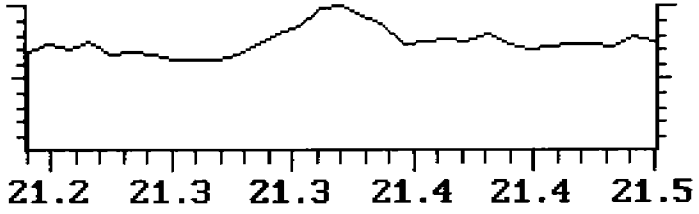
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

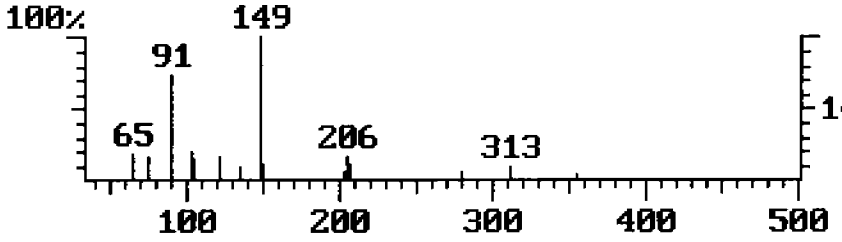


Approved_____ Date_____

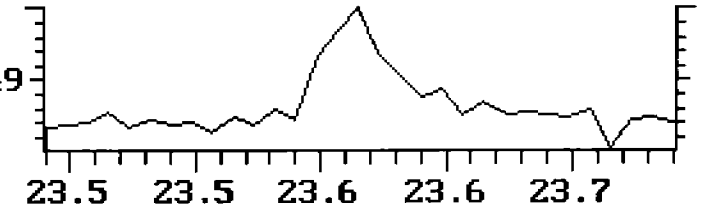
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 47 of 56
Data File: 305342 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:24 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2829
AGC: 85

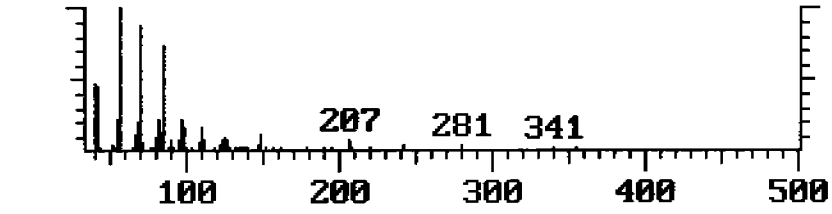
REFERENCE STANDARD SPECTRUM



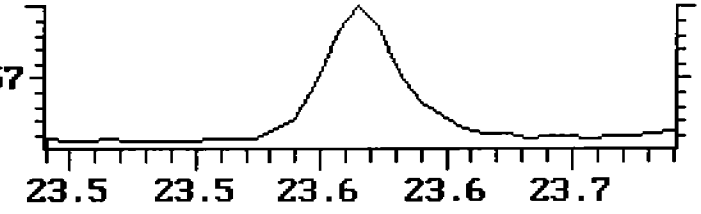
MASS 149 PLOT



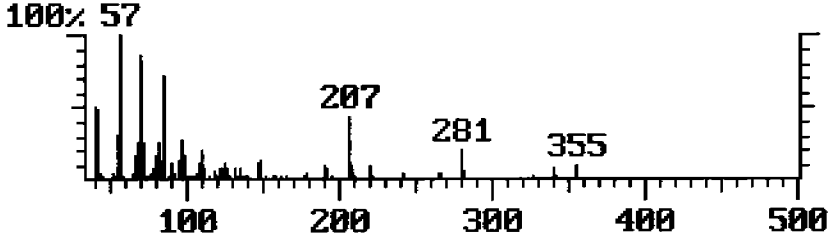
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



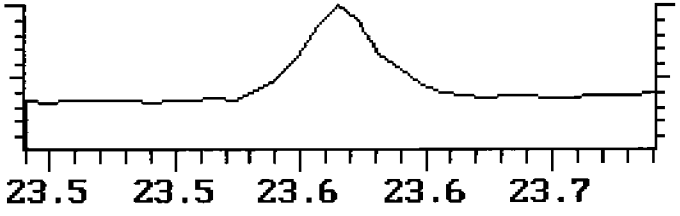
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

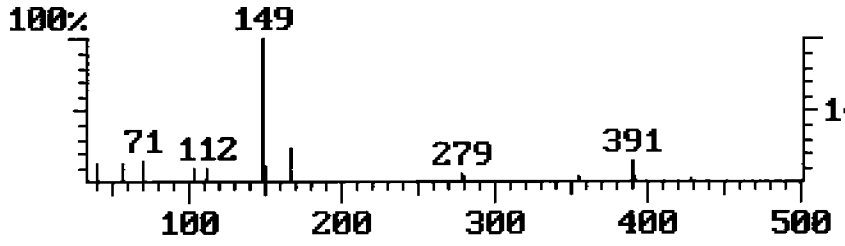


Approved_____ Date_____

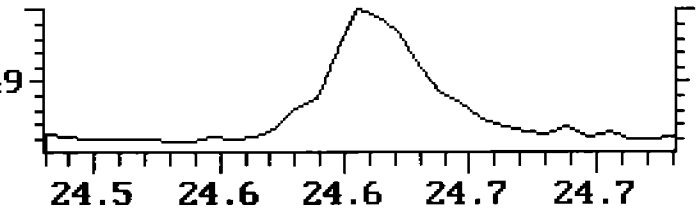
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 48 of 56
Data File: 305342 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 4:24 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2953
AGC: 255

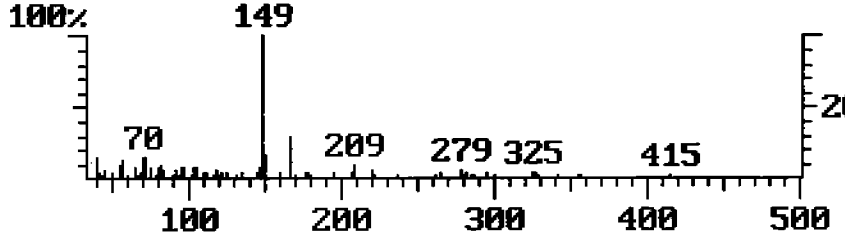
REFERENCE STANDARD SPECTRUM



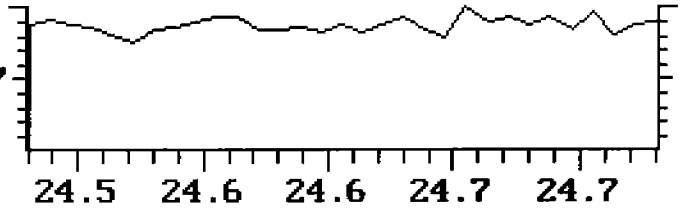
MASS 149 PLOT



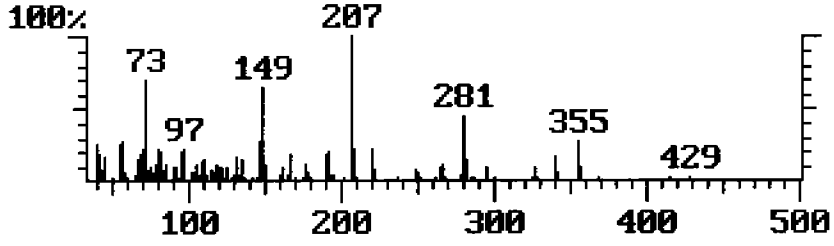
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



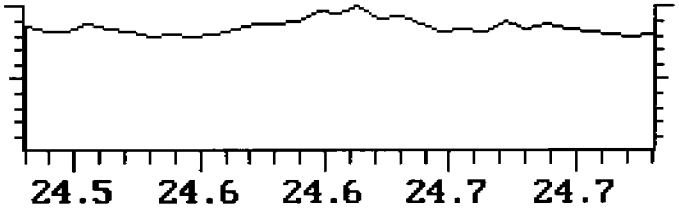
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
4DNP01005

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:18
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305343
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.008**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	**0.004**		0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
4DNP01005

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:18
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305343
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.11**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.047**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.014**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.028**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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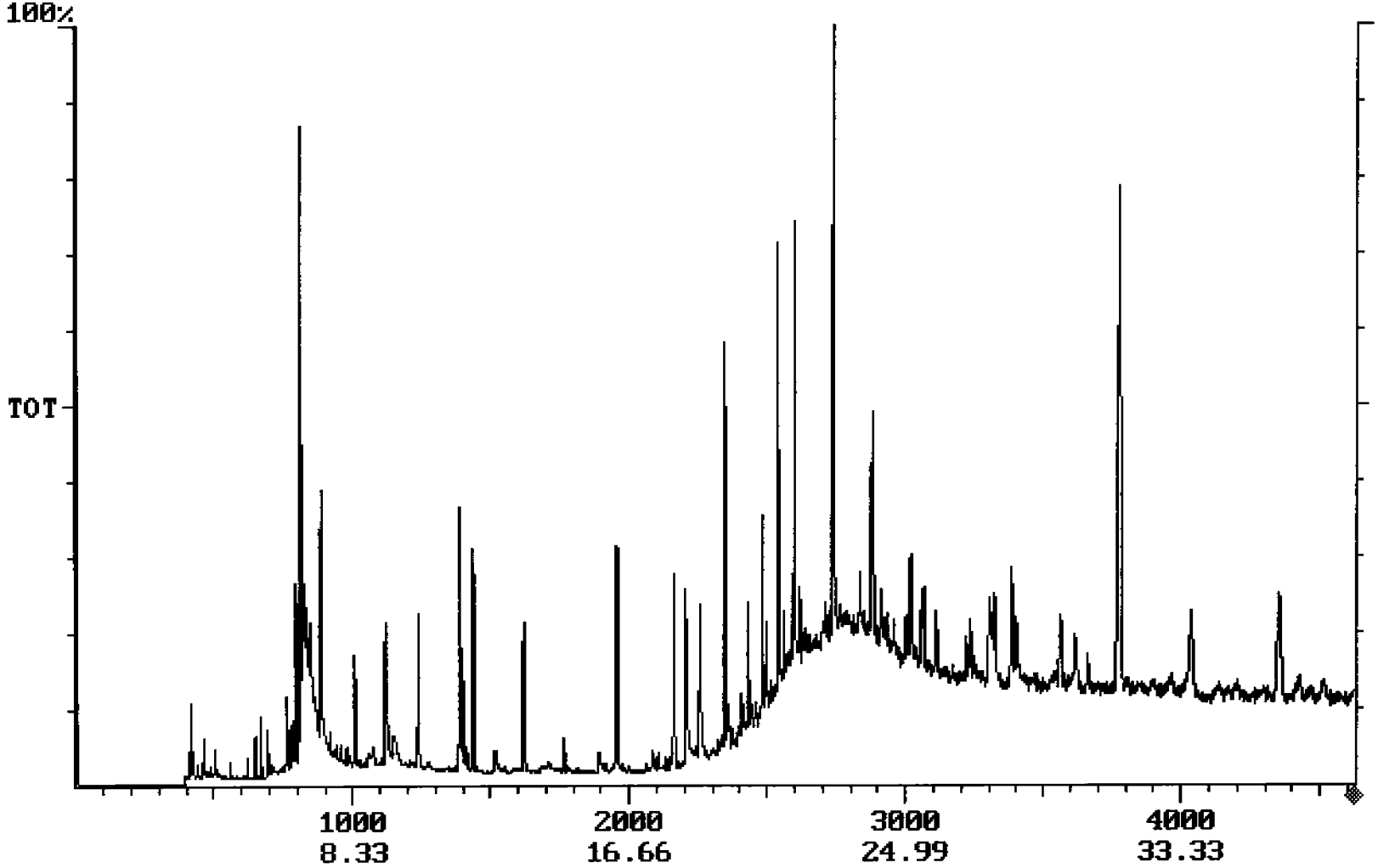
Chromatogram Plot C:\SATURN\DATA\305343 Date: 05/22/02 17:09:48
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4620 Range: 1 to 4620 100% = 3892327



Operator ID: DMC
Output File: 305343.1B2
Data File: 305343.MS
Name: 305343
Sample:

Quant Time: 05/23/02 07:09
Injected at: 05/22/02 17:09
Dilution Factor: 1.00
Instrument ID: 138

30µ → 1ml
100L

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.32	1239	152	574985	5.00	ng/ul	980	1.000
2)	*IS:D8-Naphthalene	13.49	1619	136	1807118	5.00	ng/ul	987	1.000
3)	*IS:D10-Acenaphthene	18.02	2162	162	1155541	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.68	2482	188	1618579	5.00	ng/ul	906	1.000
5)	*IS:D12-Chrysene	25.15	3018	240	1494275	5.00	ng/ul	942	1.000
6)	*IS:D12-Perylene	30.17	3620	264	1460387	5.00	ng/ul	895	1.000
7)	ACSUR:2-Fluorophenol	7.38	885	112	1778706	9.83	ng/ul	992	1.574
8)	ACSUR:D6-Phenol	9.33	1120	99	2468587	11.28	ng/ul	869	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.54	2345	330	1225482	15.86	ng/ul	998	0.335
10)	BNSUR:D5-Nitrobenzene	11.65	1398	127	477130	7.94	ng/ul	925	0.167
11)	BNSUR:Decafluorobiphenyl	11.57	1388	334	1884853	7.14	ng/ul	960	0.731
12)	BNSUR:2-Fluorobiphenyl	16.28	1954	172	2071944	7.61	ng/ul	996	1.178
13)	BNSUR:O-Terphenyl	21.17	2540	230	1732602	8.12	ng/ul	990	0.715
14)	Pyridine	4.82	578	79	907	0.01	ng/ul	764	1.031
15)	Phenol	9.27	1113	94	419	0.00	ng/ul	355	1.701
16)	Aniline	0.00	1137	93	0	Not Found	ng/ul	142	0.000
17)	Bis(2-Chloroethyl)Ether	0.00	1153	92	0	Not Found	ng/ul	247	0.000
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	262	0.000
19)	1,3-Dichlorobenzene	0.00	1216	146	0	Not Found	ng/ul	624	0.000
20)	1,4-Dichlorobenzene	10.19	1223	146	1592	0.01	ng/ul	370	1.533
21)	Benzyl Alcohol	10.59	1271	108	439	0.01	ng/ul	717	0.647
22)	1,2-Dichlorobenzene	10.73	1287	146	434	0.00	ng/ul	455	1.426
23)	2-Methylphenol	10.63	1276	108	0	0.00	ng/ul	58	1.185
24)	Bis(2-Chloroisopropyl)Ether	11.07	1329	45	0	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.08	1330	108	0	0.00	ng/ul	448	1.306
26)	N-Nitrosodi-N-Propylamine	11.20	1344	70	0	0.00	ng/ul	0	0.786
27)	Hexachloroethane	11.65	1398	119	0	0.00	ng/ul	954	0.645
28)	Nitrobenzene	11.66	1399	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1465	82	0	Not Found	ng/ul	626	0.000
30)	2-Nitrophenol	12.52	1503	109	0	0.00	ng/ul	245	0.374

* Compound is ISTD

Operator ID: DMC
Output File: 305343.1B2
Data File: 305343.MS
Name: 305343
Sample:

Quant Time: 05/23/02 07:09
Injected at: 05/22/02 17:09
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	472	0.000	
32)	Benzoic Acid	12.64	1517	105	27830	0.24	ng/ul	881	0.320	
33)	Bis(2-Chloroethoxy)Methane	0.00	1525	92	0	Not Found	ng/ul	13	0.000	
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	0	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1593	180	0	Not Found	ng/ul	241	0.000	
36)	Naphthalene	0.00	1618	128	0	Not Found	ng/ul	277	0.000	
37)	4-Chloroaniline	13.73	1648	127	0	0.00	ng/ul	2	0.570	
38)	2,6-Dichlorophenol	0.00	1645	162	0	Not Found	ng/ul	745	0.000	
39)	Hexachlorobutadiene	13.66	1639	225	0	0.00	ng/ul	2	0.282	
40)	4-Chloro-3-Methylphenol	14.85	1782	107	48284	0.23	ng/ul	946	0.594	0.0031
41)	2-Methylnaphthalene	15.37	1844	142	2564	0.01	ng/ul	812	0.647	
42)	Hexachlorocyclopentadiene	15.63	1876	237	0	0.00	ng/ul	0	0.379	
43)	2,4,6-Trichlorophenol	0.00	1918	196	0	Not Found	ng/ul	11	0.000	
44)	2,4,5-Trichlorophenol	0.00	1932	196	0	Not Found	ng/ul	64	0.000	
45)	2-Chloronapthalene	0.00	1987	162	0	Not Found	ng/ul	583	0.000	
46)	2-Nitroaniline	16.89	2027	138	11658	0.11	ng/ul	911	0.447	0.0038
47)	Dimethyl Phthalate	17.24	2069	163	0	0.00	ng/ul	0	1.884	
48)	2,6-Dinitrotoluene	17.44	2093	165	0	0.00	ng/ul	23	0.371	
49)	Acenaphthylene	0.00	2118	152	0	Not Found	ng/ul	369	0.000	
50)	3-Nitroaniline	17.73	2127	138	0	0.00	ng/ul	154	0.367	
51)	Acenaphthene	0.00	2164	152	0	Not Found	ng/ul	588	0.000	
52)	2,4-Dinitrophenol	18.12	2174	184	0	0.00	ng/ul	581	0.236	
53)	4-Nitrophenol	0.00	2173	65	0	Not Found	ng/ul	280	0.000	
54)	Dibenzofuran	0.00	2209	168	0	Not Found	ng/ul	173	0.000	
55)	2,4-Dinitrotoluene	18.34	2201	165	0	0.00	ng/ul	0	0.578	
56)	Benzo(b)Fluoranthene	28.50	3420	252	0	0.00	ng/ul	0	1.127	
57)	Diethyl Phthalate	18.81	2257	149	1579357	3.22	ng/ul	912	2.124	0.11
58)	Fluorene	19.09	2291	166	0	0.00	ng/ul	204	1.020	
59)	4-Chlorophenyl Phenyl Ether	0.00	2284	204	0	Not Found	ng/ul	175	0.000	
60)	4-Nitroaniline	19.12	2295	108	0	0.00	ng/ul	531	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305343.1B2
Data File: 305343.MS
Name: 305343
Sample:

Quant Time: 05/23/02 07:09
Injected at: 05/22/02 17:09
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.14	2297	198	0	0.00	ng/ul	499	0.215	
62)	N-Nitrosodiphenylamine	0.00	2309	169	0	Not Found	ng/ul	638	0.000	
63)	1,2-Diphenylhydrazine	19.39	2327	77	44845	0.13	ng/ul	758	1.112	
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	353	0.000	
65)	Hexachlorobenzene	0.00	2402	284	0	Not Found	ng/ul	108	0.000	
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.72	2486	178	10945	0.03	ng/ul	0	1.126	
68)	Anthracene	20.77	2492	178	0	0.00	ng/ul	62	1.171	
69)	Carbazole	0.00	2516	167	0	Not Found	ng/ul	589	0.000	
70)	Di-n-Butyl Phthalate	21.35	2562	149	881420	1.41	ng/ul	897	1.933	0.047
71)	Fluoranthene	0.00	2687	202	0	Not Found	ng/ul	298	0.000	
72)	Benzidine	0.00	2698	184	0	Not Found	ng/ul	180	0.000	
73)	Pyrene	22.73	2728	202	0	0.00	ng/ul	0	1.089	
74)	Butyl Benzyl Phthalate	23.61	2833	149	148809	0.42	ng/ul	742	1.194	0.014
75)	3,3'-Dichlorobenzidine	24.93	2992	252	0	0.00	ng/ul	0	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.65	2958	149	427526	0.84	ng/ul	807	1.696	0.028
77)	Benzo(a)Anthracene	0.00	3007	228	0	Not Found	ng/ul	143	0.000	
78)	Chrysene	25.26	3031	228	0	0.00	ng/ul	0	1.675	
79)	Di-n-Octylphthalate	26.27	3152	149	0	0.00	ng/ul	0	2.650	
80)	Benzo(k)Fluoranthene	28.52	3422	252	0	0.00	ng/ul	0	1.252	
81)	Benzo(a)Pyrene	29.93	3592	252	0	0.00	ng/ul	0	1.075	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	53	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	49	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4545	276	0	Not Found	ng/ul	0	0.000	
85)	N-Nitrosodimethylamine	4.76	571	73	87	0.00	ng/ul	0	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	0	0.000	
87)	2-Chloroaniline	12.20	1464	127	0	0.00	ng/ul	0	0.535	
88)	2,4-Diaminotoluene	0.00	1916	121	0	Not Found	ng/ul	547	0.000	
89)	2,3-Dinitrotoluene	18.10	2172	165	0	0.00	ng/ul	625	0.576	
90)	1-Naphthylamine	0.00	2239	143	0	Not Found	ng/ul	633	0.000	

* Compound is ISTD

Operator ID: DMC Quant Time: 05/23/02 07:09
Output File: 305343.1B2 Injected at: 05/22/02 17:09
Data File: 305343.MS Dilution Factor: 1.00
Name: 305343 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

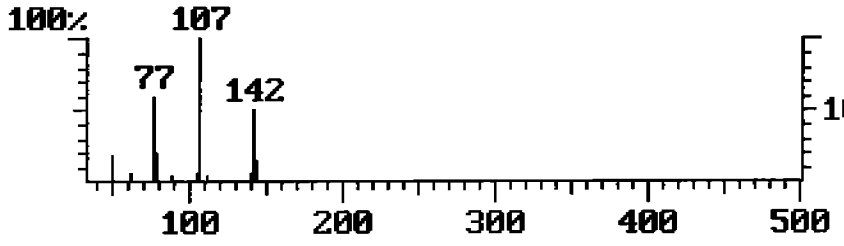
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.06	2287	152	0	0.00	ng/ul	0	0.425

* Compound is ISTD

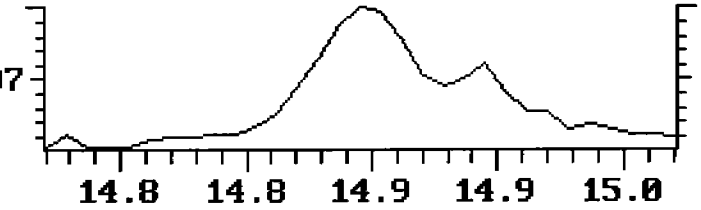
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 29 of 58
Data File: 305343 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:09 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1782
AGC: 1153

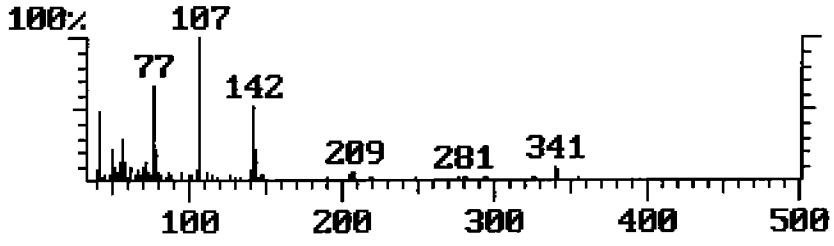
REFERENCE STANDARD SPECTRUM



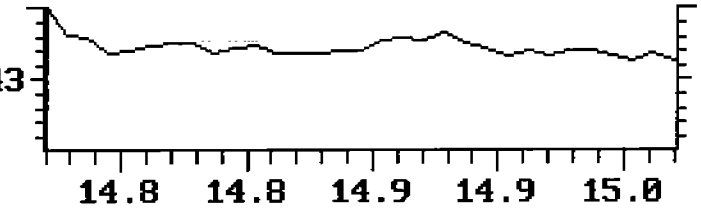
MASS 107 PLOT



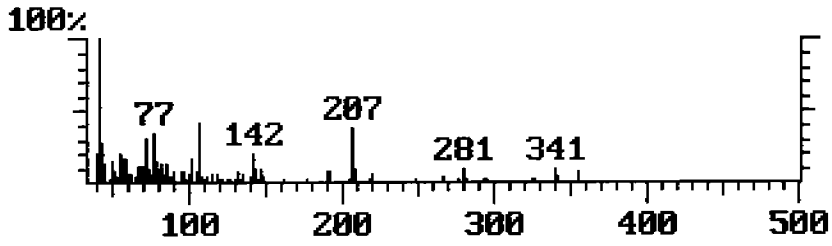
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



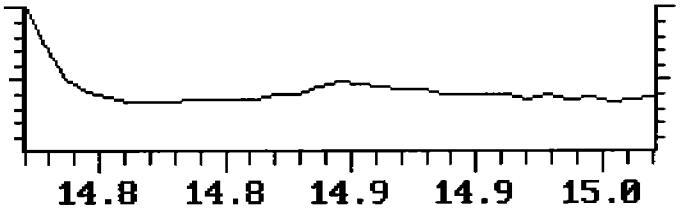
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

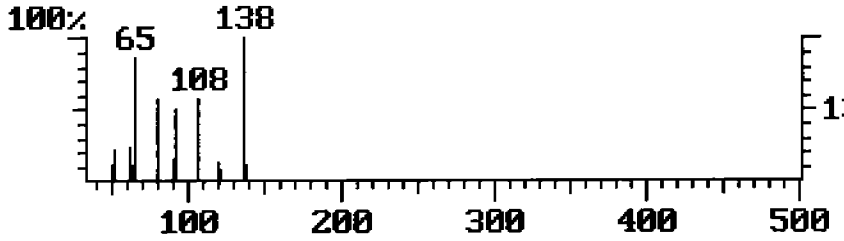


Approved_____ Date_____

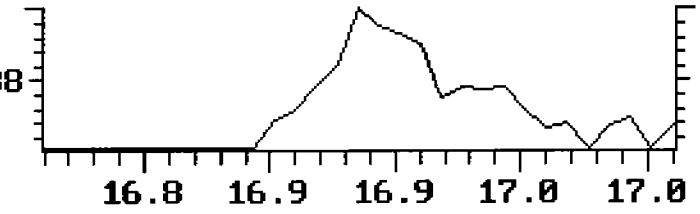
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 32 of 58
Data File: 305343 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:09 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2-Nitroaniline SCAN#: 2027
AGC: 1419

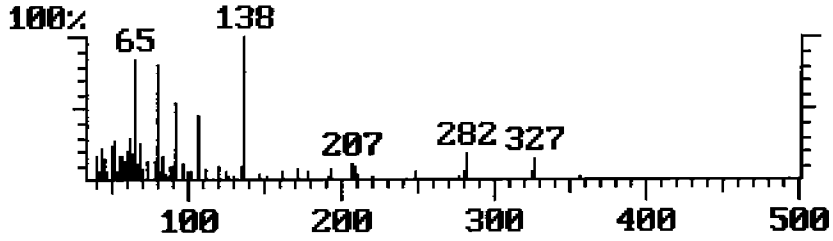
REFERENCE STANDARD SPECTRUM



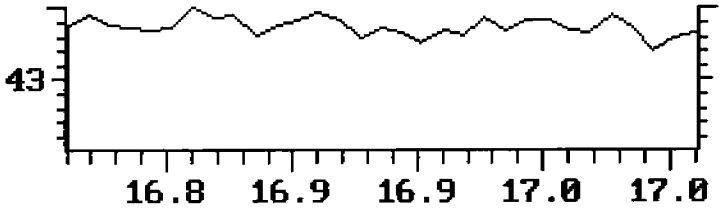
MASS 138 PLOT



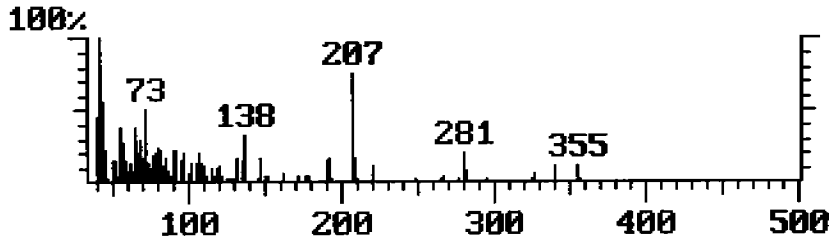
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



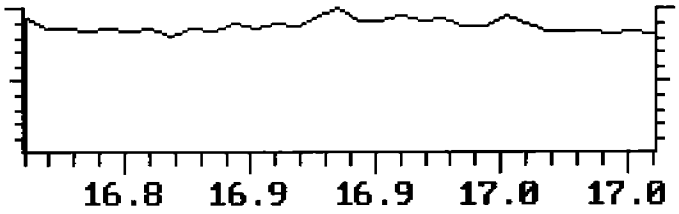
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

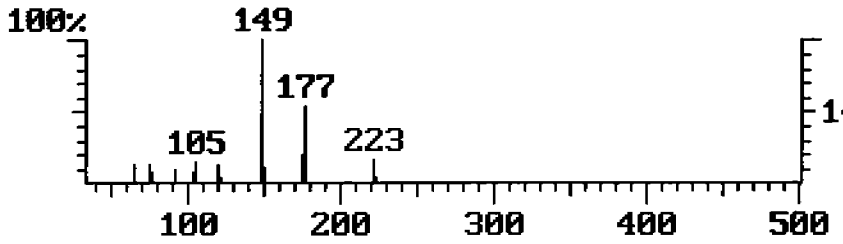


Approved_____ Date_____

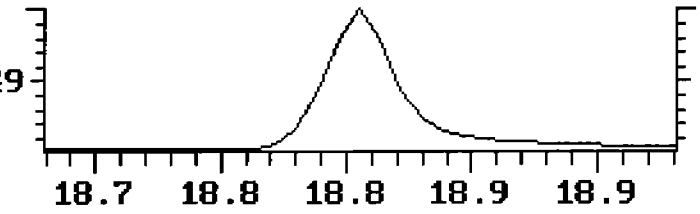
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 58
Data File: 305343 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:09 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2257
AGC: 139

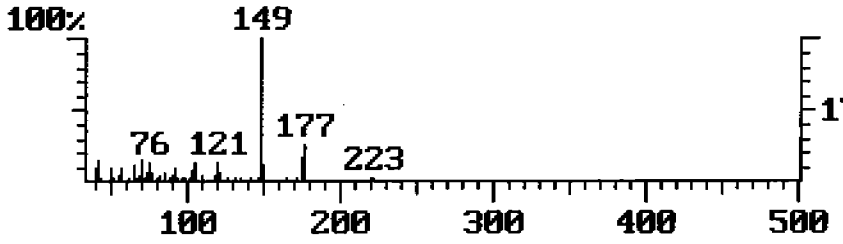
REFERENCE STANDARD SPECTRUM



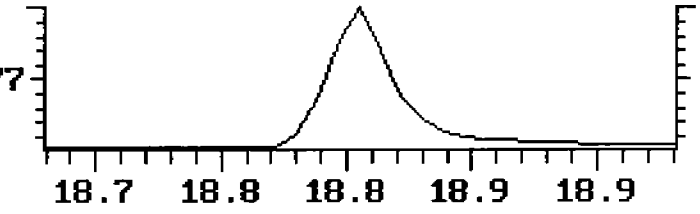
MASS 149 PLOT



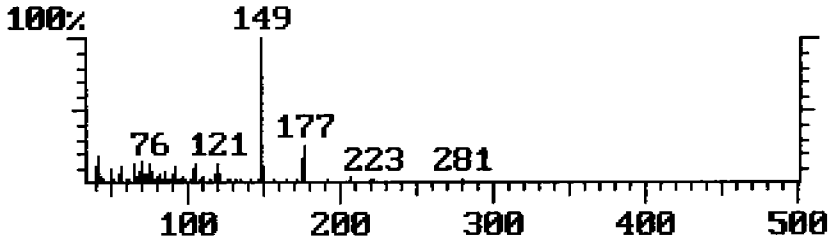
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



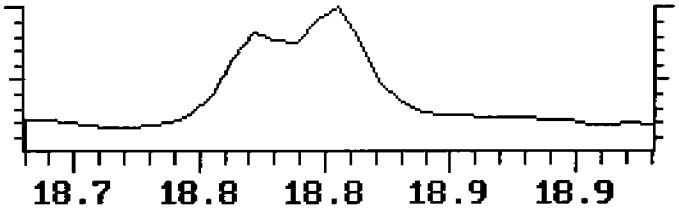
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

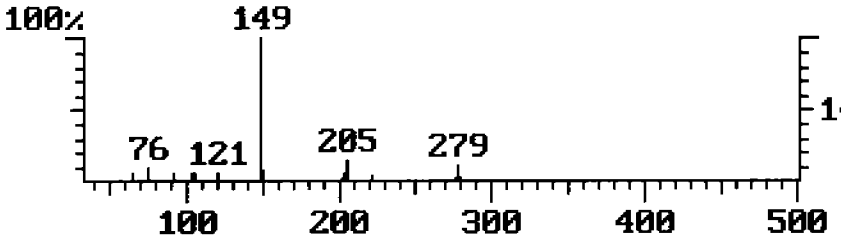


Approved_____ Date_____

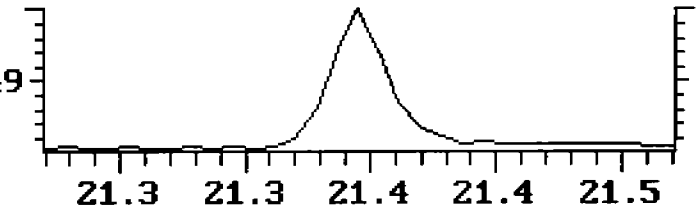
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 58
Data File: 305343 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:09 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2562
AGC: 123

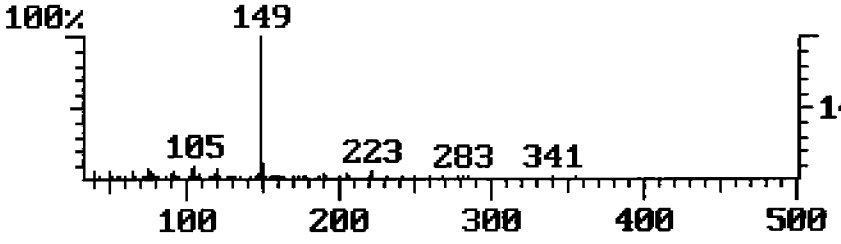
REFERENCE STANDARD SPECTRUM



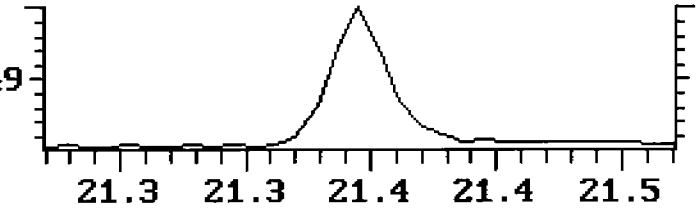
MASS 149 PLOT



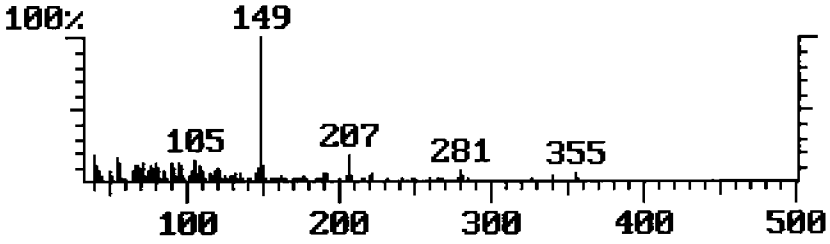
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



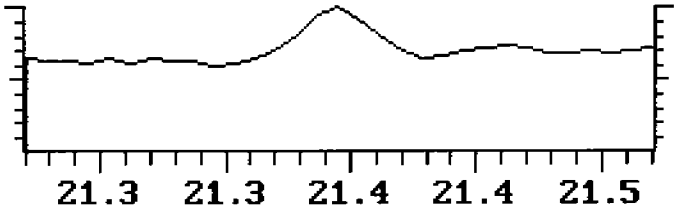
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

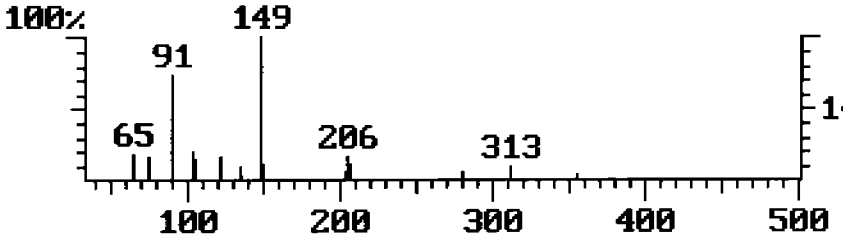


Approved_____ Date_____

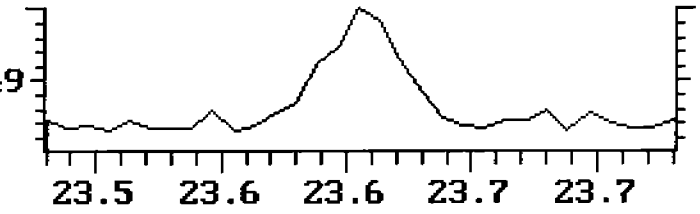
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 48 of 58
Data File: 305343 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:09 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2833
AGC: 107

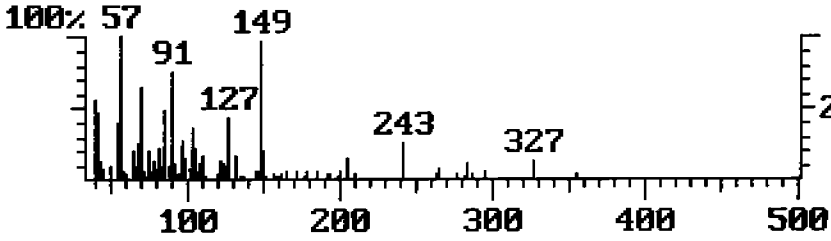
REFERENCE STANDARD SPECTRUM



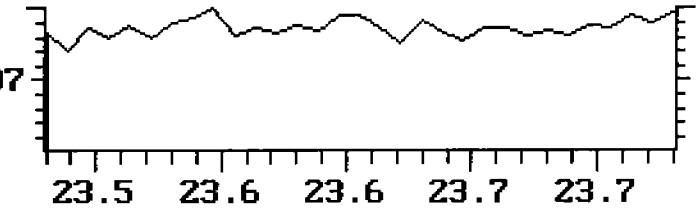
MASS 149 PLOT



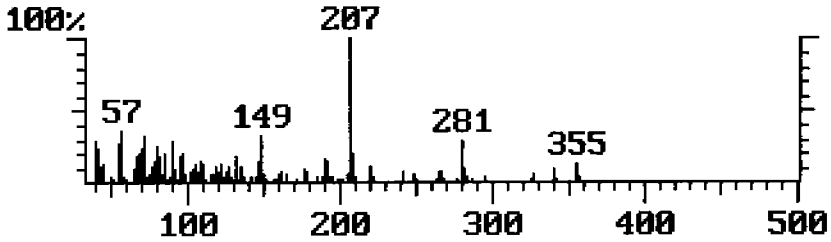
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



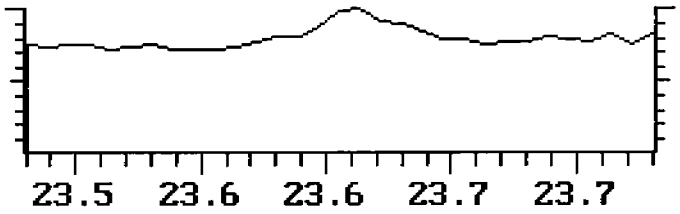
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

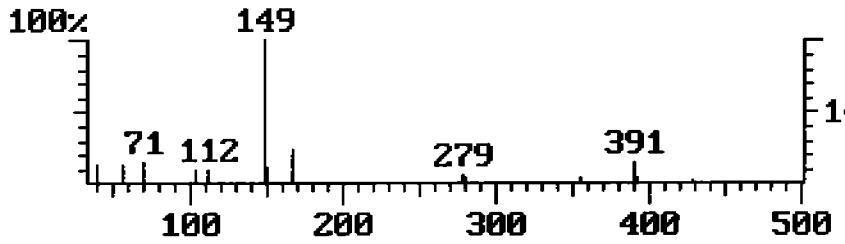


Approved_____ Date_____

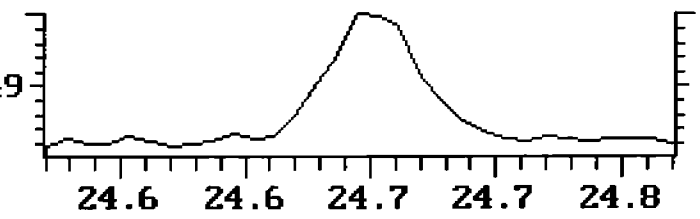
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 50 of 58
Data File: 305343 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:09 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2958
AGC: 140

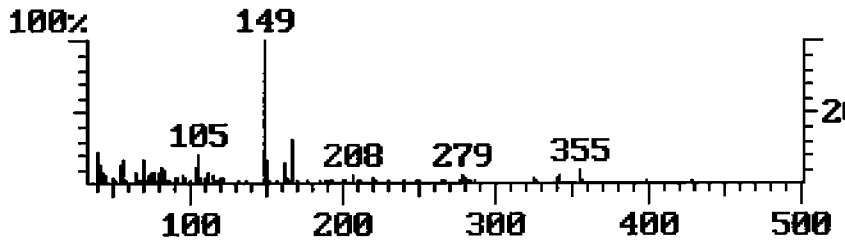
REFERENCE STANDARD SPECTRUM



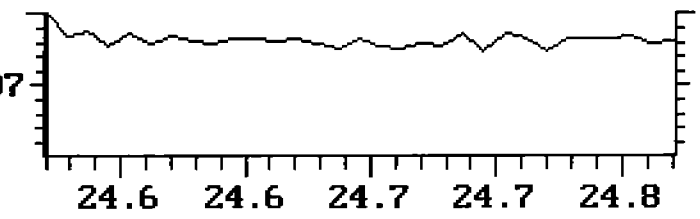
MASS 149 PLOT



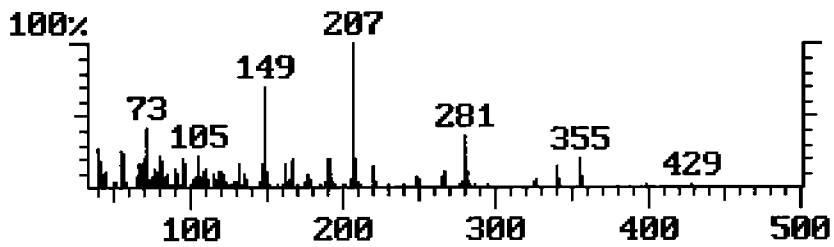
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



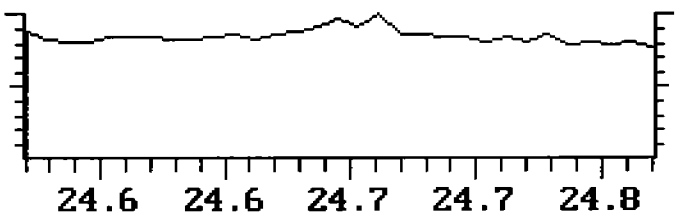
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
4ANP01006

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:21
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305344
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.006**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
4ANP01006

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:21
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305344
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	**0.005**		0.002	0.005
84-66-2	Diethylphthalate	**0.048**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.033**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.037**		0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.027**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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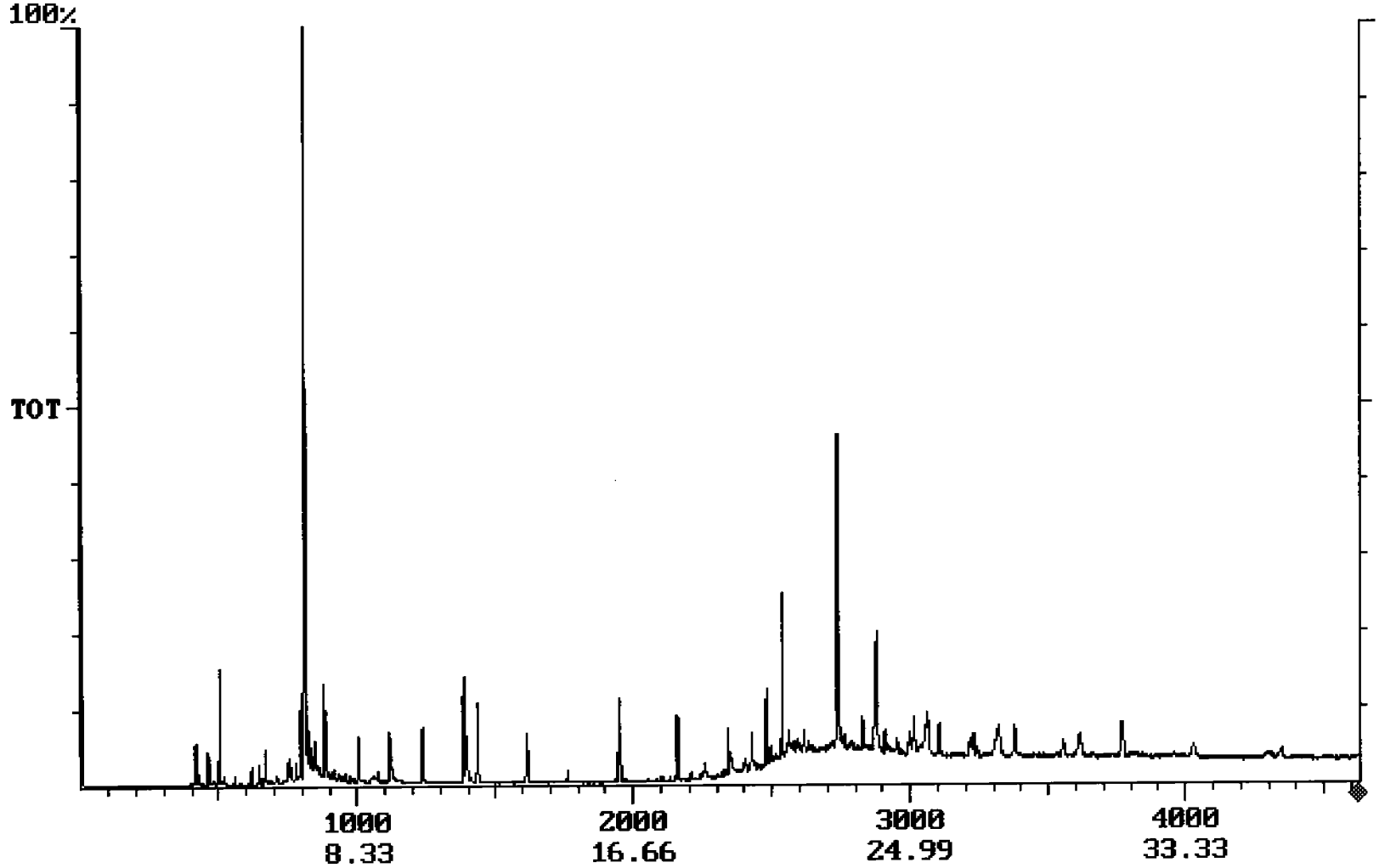
Chromatogram Plot C:\SATURN\DATA\305344 Date: 05/22/02 17:55:27
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4620 Range: 1 to 4620 100% = 11656760



Operator ID: DMC
Output File: 305344.1B2
Data File: 305344.MS
Name: 305344
Sample:

Quant Time: 05/23/02 07:13
Injected at: 05/22/02 17:55
Dilution Factor: 1.00
Instrument ID: 138

30 → 1 ml
100%

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.30	1236	152	615069	5.00	ng/ul	980	1.000
2)	*IS:D8-Naphthalene	13.47	1616	136	1950786	5.00	ng/ul	991	1.000
3)	*IS:D10-Acenaphthene	17.98	2158	162	1146654	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.66	2479	188	1746189	5.00	ng/ul	904	1.000
5)	*IS:D12-Chrysene	25.10	3012	240	1599891	5.00	ng/ul	935	1.000
6)	*IS:D12-Perylene	30.10	3612	264	1579814	5.00	ng/ul	874	1.000
7)	ACSUR:2-Fluorophenol	7.36	883	112	2087676	10.78	ng/ul	989	1.574
8)	ACSUR:D6-Phenol	9.31	1117	99	2883877	12.31	ng/ul	812	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.52	2343	330	700226	9.23	ng/ul	998	0.331
10)	BNSUR:D5-Nitrobenzene	11.62	1395	127	533721	8.23	ng/ul	925	0.167
11)	BNSUR:Decafluorobiphenyl	11.65	1398	334	6755	0.02	ng/ul	947	0.731
12)	BNSUR:2-Fluorobiphenyl	16.26	1951	172	2368822	8.77	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.14	2537	230	2012521	8.75	ng/ul	988	0.719
14)	Pyridine	4.71	565	79	327	0.00	ng/ul	507	1.031
15)	Phenol	0.00	1118	94	0	Not Found	ng/ul	41	0.000
16)	Aniline	9.53	1144	93	564	0.00	ng/ul	457	1.852
17)	Bis(2-Chloroethyl)Ether	0.00	1153	92	0	Not Found	ng/ul	133	0.000
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	270	0.000
19)	1,3-Dichlorobenzene	10.16	1220	146	2916	0.02	ng/ul	821	1.538
20)	1,4-Dichlorobenzene	10.35	1242	146	393	0.00	ng/ul	184	1.533
21)	Benzyl Alcohol	10.63	1276	108	585	0.01	ng/ul	770	0.647
22)	1,2-Dichlorobenzene	10.70	1284	146	3499	0.02	ng/ul	707	1.426
23)	2-Methylphenol	10.70	1284	108	0	0.00	ng/ul	0	1.185
24)	Bis(2-Chloroisopropyl)Ether	0.00	1305	45	0	Not Found	ng/ul	174	0.000
25)	4-Methylphenol	10.98	1317	108	0	0.00	ng/ul	288	1.306
26)	N-Nitrosodi-N-Propylamine	11.18	1342	70	0	0.00	ng/ul	25	0.786
27)	Hexachloroethane	11.66	1399	119	0	0.00	ng/ul	767	0.645
28)	Nitrobenzene	11.65	1398	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1465	82	0	Not Found	ng/ul	454	0.000
30)	2-Nitrophenol	0.00	1495	109	0	Not Found	ng/ul	273	0.000

* Compound is ISTD

Operator ID: DMC
Output File: 305344.1B2
Data File: 305344.MS
Name: 305344
Sample:

Quant Time: 05/23/02 07:13
Injected at: 05/22/02 17:55
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	267	0.000	
32)	Benzoic Acid	12.98	1558	105	3876	0.03	ng/ul	934	0.318	
33)	Bis(2-Chloroethoxy)Methane	12.71	1525	92	0	0.00	ng/ul	0	0.473	
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	110	0.000	
35)	1,2,4-Trichlorobenzene	13.29	1595	180	780	0.01	ng/ul	727	0.385	
36)	Naphthalene	0.00	1618	128	0	Not Found	ng/ul	199	0.000	
37)	4-Chloroaniline	13.57	1628	127	0	0.00	ng/ul	0	0.570	
38)	2,6-Dichlorophenol	0.00	1636	162	0	Not Found	ng/ul	821	0.000	
39)	Hexachlorobutadiene	13.63	1636	225	0	0.00	ng/ul	335	0.282	
40)	4-Chloro-3-Methylphenol	14.88	1786	107	38823	0.17	ng/ul	917	0.594	0.005C
41)	2-Methylnaphthalene	15.32	1838	142	1534	0.01	ng/ul	883	0.647	
42)	Hexachlorocyclopentadiene	15.62	1875	237	0	0.00	ng/ul	2	0.379	
43)	2,4,6-Trichlorophenol	0.00	1918	196	0	Not Found	ng/ul	26	0.000	
44)	2,4,5-Trichlorophenol	0.00	1932	196	0	Not Found	ng/ul	44	0.000	
45)	2-Chloronapthalene	0.00	1987	162	0	Not Found	ng/ul	454	0.000	
46)	2-Nitroaniline	16.87	2024	138	0	0.00	ng/ul	0	0.447	
47)	Dimethyl Phthalate	0.00	2077	163	0	Not Found	ng/ul	759	0.000	
48)	2,6-Dinitrotoluene	17.25	2070	165	393	0.00	ng/ul	858	0.371	
49)	Acenaphthylene	0.00	2118	152	0	Not Found	ng/ul	640	0.000	
50)	3-Nitroaniline	17.71	2125	138	0	0.00	ng/ul	0	0.367	
51)	Acenaphthene	0.00	2164	152	0	Not Found	ng/ul	411	0.000	
52)	2,4-Dinitrophenol	18.09	2171	184	0	0.00	ng/ul	418	0.236	
53)	4-Nitrophenol	18.10	2172	65	0	0.00	ng/ul	0	0.222	
54)	Dibenzofuran	0.00	2209	168	0	Not Found	ng/ul	575	0.000	
55)	2,4-Dinitrotoluene	18.37	2205	165	18927	0.14	ng/ul	673	0.578	0.0048
56)	Benzo(b)Fluoranthene	28.26	3391	252	0	0.00	ng/ul	0	1.127	
57)	Diethyl Phthalate	18.79	2255	149	698665	1.43	ng/ul	866	2.124	0.048
58)	Fluorene	19.14	2297	166	0	0.00	ng/ul	0	1.020	
59)	4-Chlorophenyl Phenyl Ether	0.00	2284	204	0	Not Found	ng/ul	213	0.000	
60)	4-Nitroaniline	19.08	2290	108	0	0.00	ng/ul	663	0.862	

* Compound is ISTD

Operator ID: DMC
Output File: 305344.1B2
Data File: 305344.MS
Name: 305344
Sample:

Quant Time: 05/23/02 07:13
Injected at: 05/22/02 17:55
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	19.12	2295	198	0	0.00	ng/ul	521	0.215	
62)	N-Nitrosodiphenylamine	0.00	2309	169	0	Not Found	ng/ul	375	0.000	
63)	1,2-Diphenylhydrazine	0.00	2331	77	0	Not Found	ng/ul	870	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	639	0.000	
65)	Hexachlorobenzene	0.00	2402	284	0	Not Found	ng/ul	180	0.000	
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	0	0.000	
67)	Phenanthrene	20.58	2470	178	899	0.00	ng/ul	746	1.126	
68)	Anthracene	20.78	2493	178	0	0.00	ng/ul	0	1.171	
69)	Carbazole	0.00	2516	167	0	Not Found	ng/ul	404	0.000	
70)	Di-n-Butyl Phthalate	21.33	2560	149	676492	0.98	ng/ul	823	1.979	0.033
71)	Fluoranthene	22.41	2689	202	0	0.00	ng/ul	0	1.074	
72)	Benzidine	0.00	2698	184	0	Not Found	ng/ul	98	0.000	
73)	Pyrene	22.70	2724	202	0	0.00	ng/ul	0	1.089	
74)	Butyl Benzyl Phthalate	23.58	2830	149	424506	1.11	ng/ul	848	1.194	0.037
75)	3,3'-Dichlorobenzidine	24.77	2973	252	0	0.00	ng/ul	0	0.588	
76)	Bis(2-Ethylhexyl)Phthalate	24.62	2955	149	438497	0.81	ng/ul	835	1.696	0.027
77)	Benzo(a)Anthracene	25.05	3006	228	0	0.00	ng/ul	0	1.188	
78)	Chrysene	25.05	3006	228	0	0.00	ng/ul	0	1.675	
79)	Di-n-Octylphthalate	26.18	3142	149	0	0.00	ng/ul	0	2.650	
80)	Benzo(k)Fluoranthene	0.00	3424	252	0	Not Found	ng/ul	526	0.000	
81)	Benzo(a)Pyrene	0.00	3579	252	0	Not Found	ng/ul	129	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	93	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4545	276	0	Not Found	ng/ul	0	0.000	
85)	N-Nitrosodimethylamine	4.80	576	73	0	0.00	ng/ul	0	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	39	0.000	
87)	2-Chloroaniline	12.43	1491	127	180	0.00	ng/ul	583	0.535	
88)	2,4-Diaminotoluene	0.00	1968	121	0	Not Found	ng/ul	772	0.000	
89)	2,3-Dinitrotoluene	18.07	2169	165	358	0.00	ng/ul	752	0.576	
90)	1-Naphthylamine	18.54	2225	143	308	0.00	ng/ul	555	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305344.1B2
Data File: 305344.MS
Name: 305344
Sample:

Quant Time: 05/23/02 07:13
Injected at: 05/22/02 17:55
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

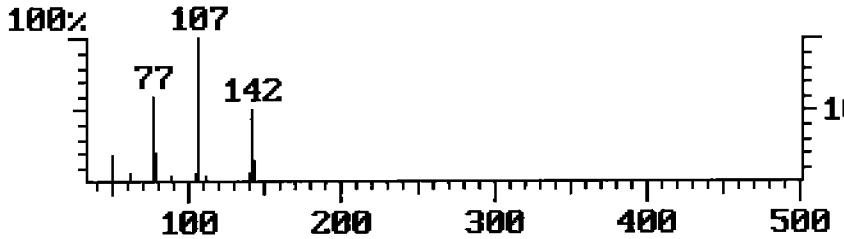
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.22	2306	152	451	0.00	ng/ul	378	0.425

* Compound is ISTD

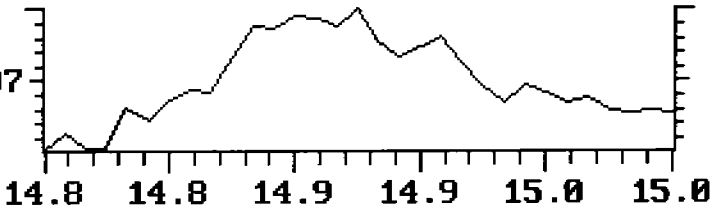
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 30 of 59
Data File: 305344 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1786
AGC: 2181

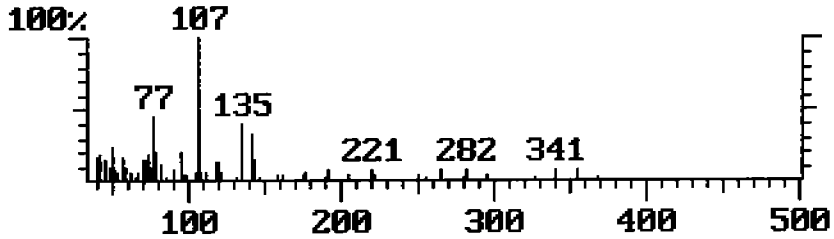
REFERENCE STANDARD SPECTRUM



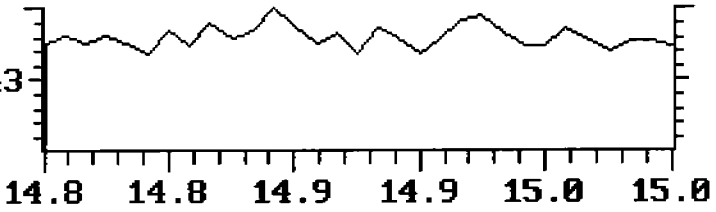
MASS 107 PLOT



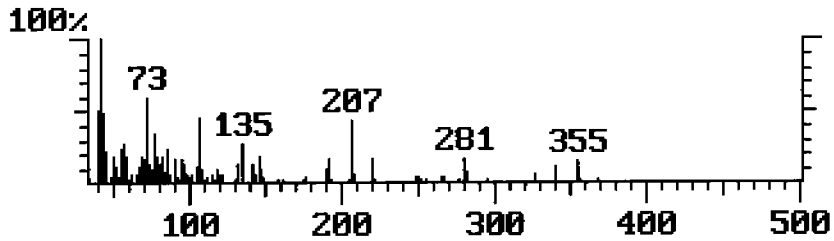
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



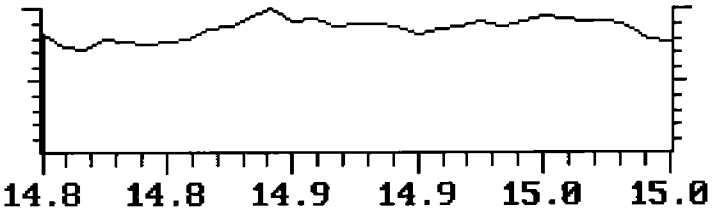
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



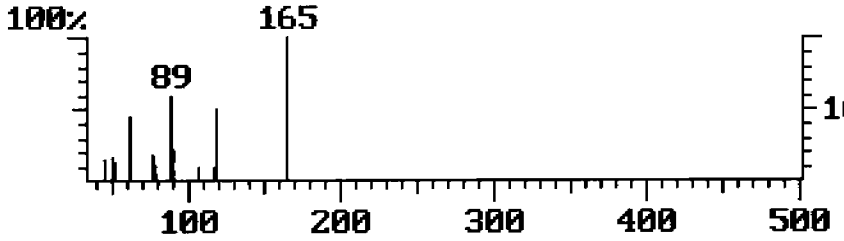
Approved_____ Date_____

000872

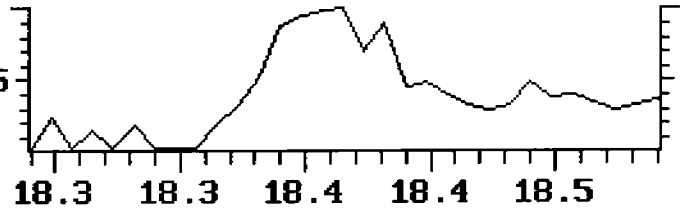
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 38 of 59
Data File: 305344 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

2,4-Dinitrotoluene SCAN#: 2205
AGC: 662

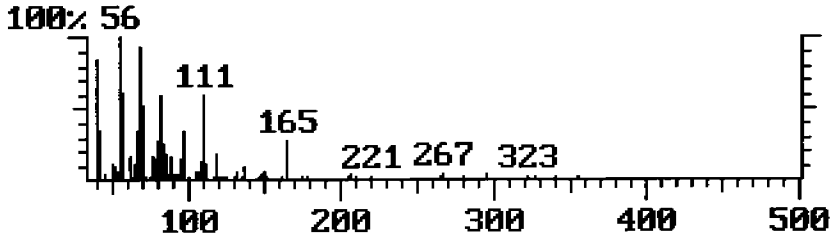
REFERENCE STANDARD SPECTRUM



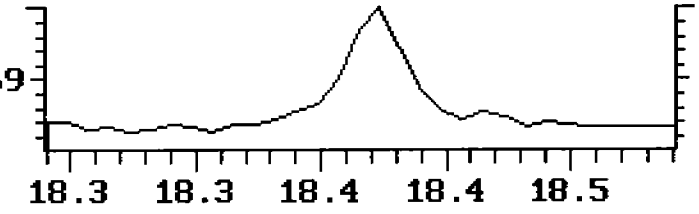
MASS 165 PLOT



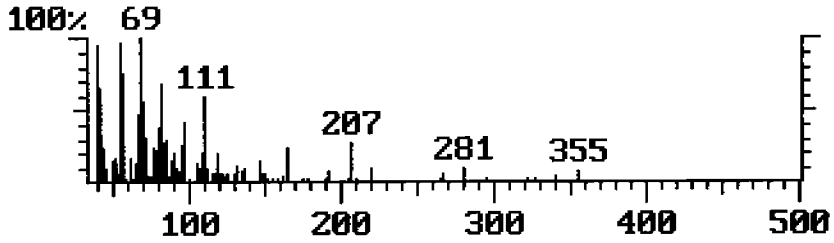
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



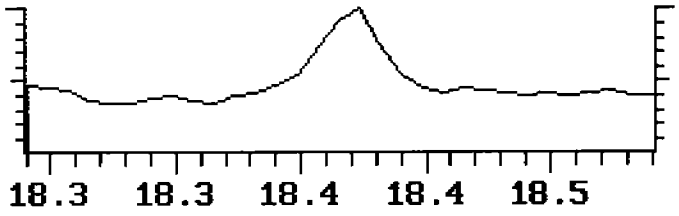
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

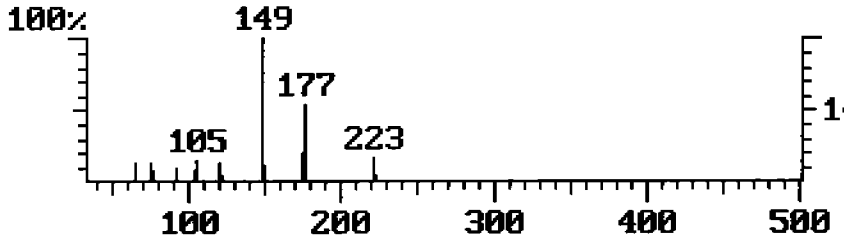


Approved_____ Date_____

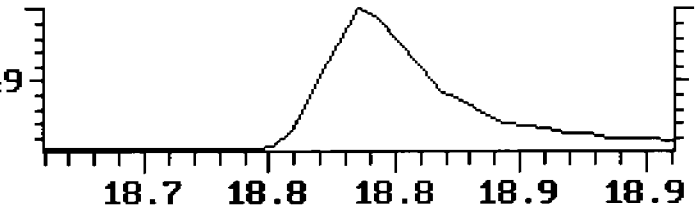
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 40 of 59
Data File: 305344 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2255
AGC: 398

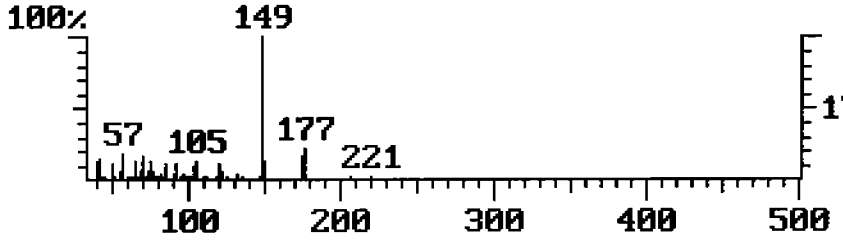
REFERENCE STANDARD SPECTRUM



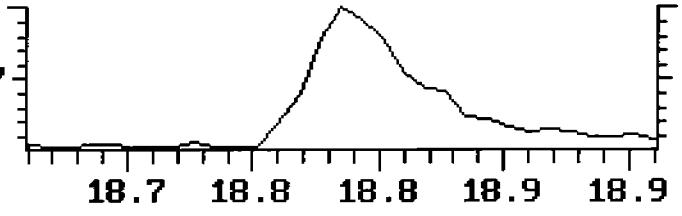
MASS 149 PLOT



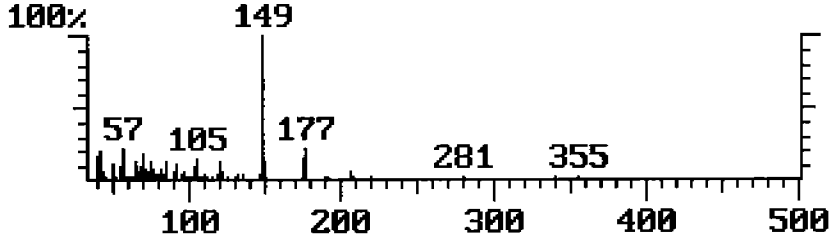
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



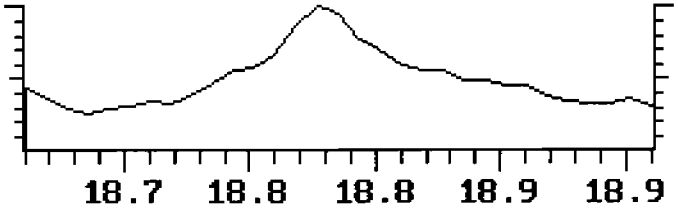
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

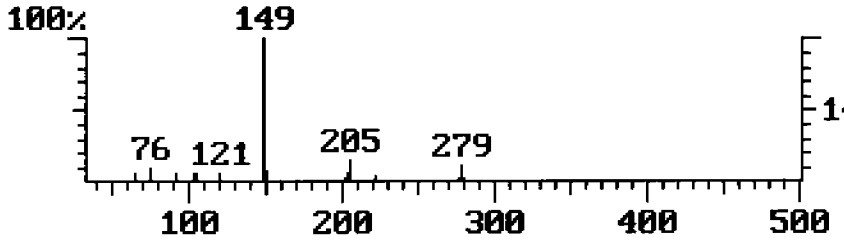


Approved_____ Date_____

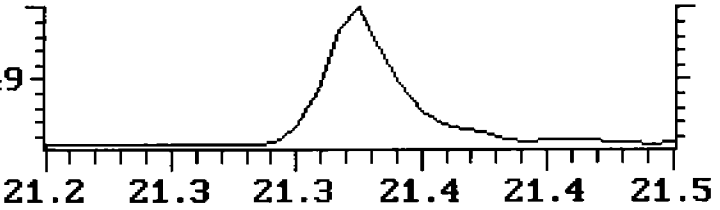
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 46 of 59
Data File: 305344 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2560
AGC: 142

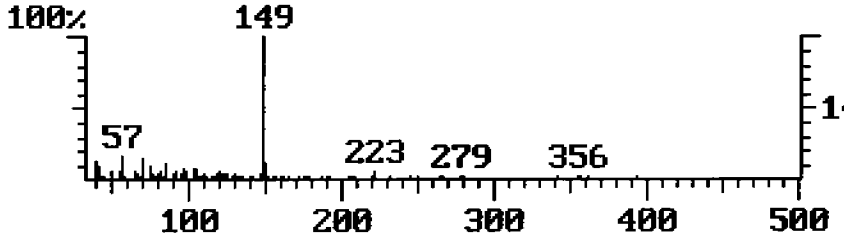
REFERENCE STANDARD SPECTRUM



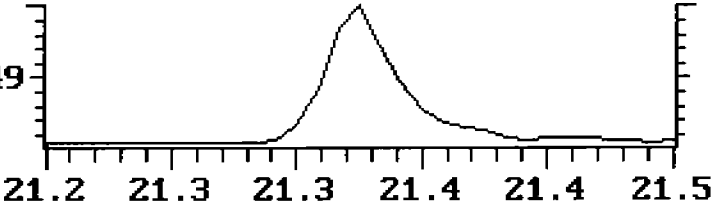
MASS 149 PLOT



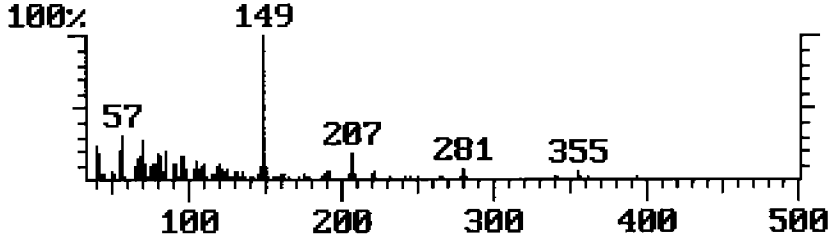
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



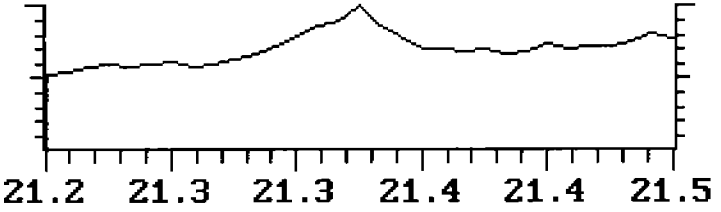
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

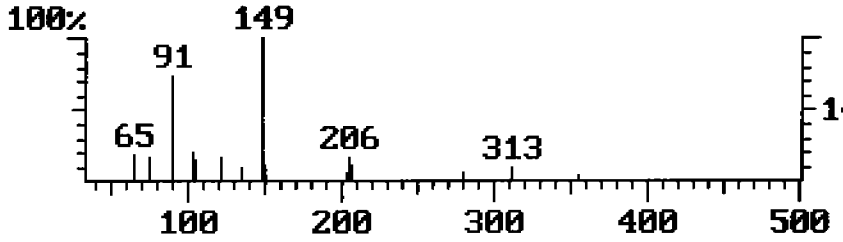


Approved_____ Date_____

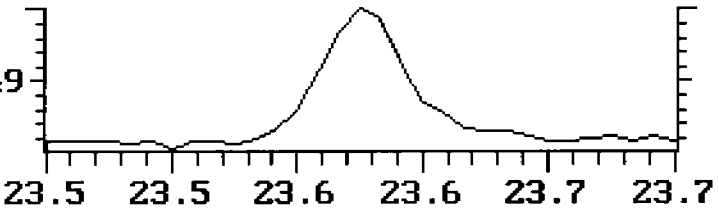
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 49 of 59
Data File: 305344 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2830
AGC: 108

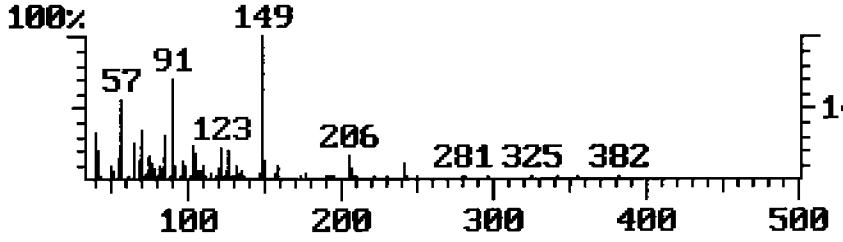
REFERENCE STANDARD SPECTRUM



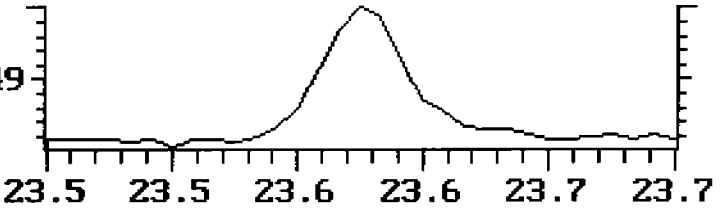
MASS 149 PLOT



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



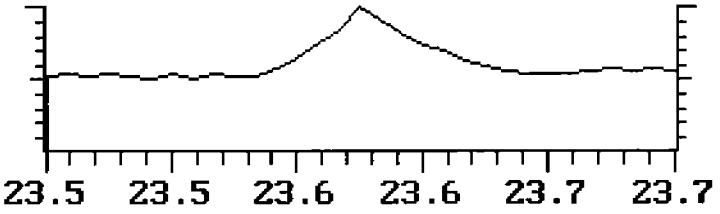
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

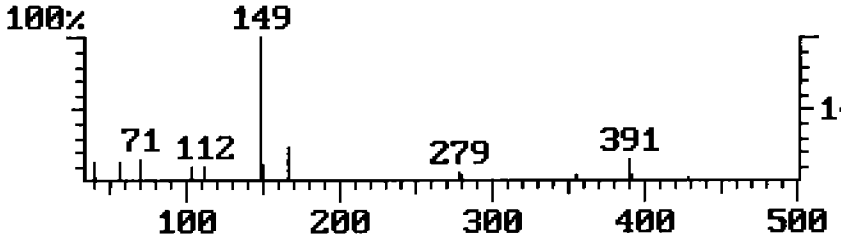


Approved_____ Date_____

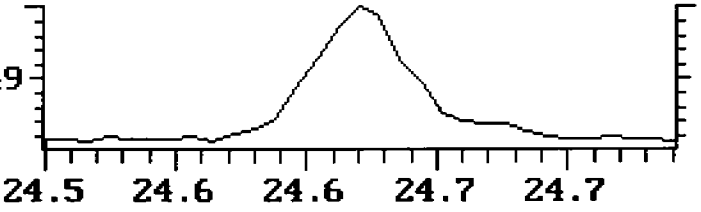
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 51 of 59
Data File: 305344 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 5:55 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2955
AGC: 177

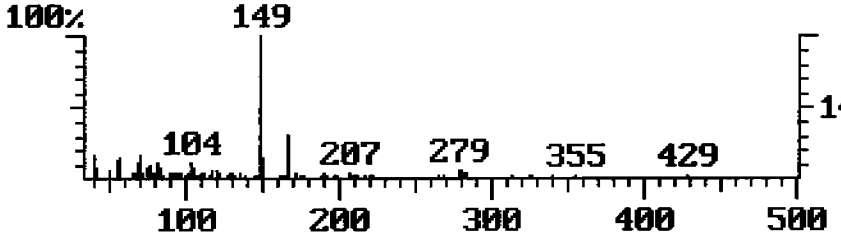
REFERENCE STANDARD SPECTRUM



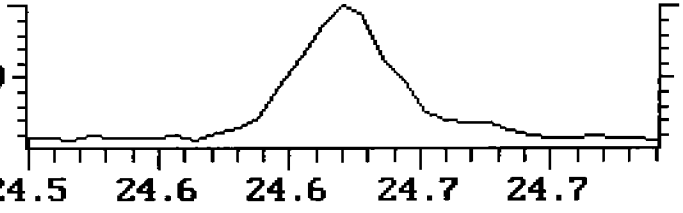
MASS 149 PLOT



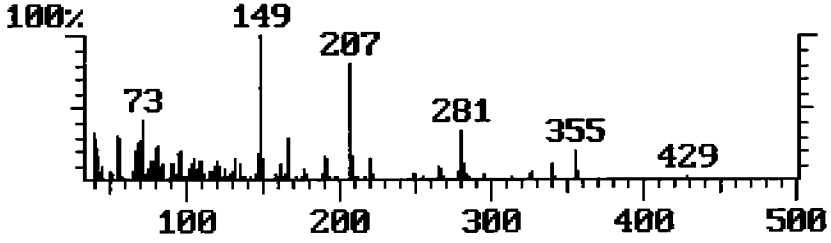
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



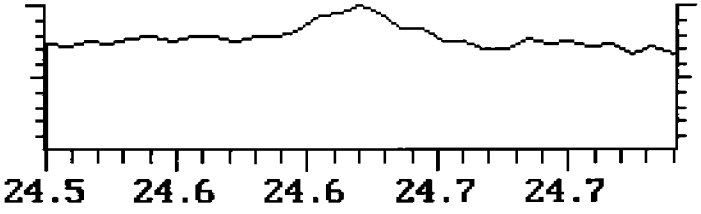
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
7BNP01007

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:28
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305345
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
108-95-2	Phenol	ND	U	0.002	0.005
111-44-4	Bis (2-Chloroethyl) Ether	ND	U	0.002	0.005
95-57-8	2-Chlorophenol	ND	U	0.001	0.004
541-73-1	1,3-Dichlorobenzene	ND	U	0.001	0.003
106-46-7	1,4-Dichlorobenzene	ND	U	0.001	0.003
95-50-1	1,2-Dichlorobenzene	ND	U	0.001	0.003
95-48-7	2-Methylphenol	ND	U	0.002	0.005
108-60-1	Bis (2-Chloroisopropyl)-Ether	ND	U	0.002	0.005
106-44-5	4-Methylphenol	ND	U	0.002	0.005
621-64-7	N-Nitrosodi-n-Propylamine	ND	U	0.002	0.006
67-72-1	Hexachloroethane	ND	U	0.002	0.008
98-95-3	Nitrobenzene	ND	U	0.003	0.009
78-59-1	Isophorone	ND	U	0.001	0.003
88-75-5	2-Nitrophenol	ND	U	0.002	0.006
105-67-9	2,4-Dimethylphenol	ND	U	0.004	0.014
111-91-1	Bis (2-Chloroethoxy)-Methane	ND	U	0.001	0.002
120-83-2	2,4-Dichlorophenol	ND	U	0.001	0.002
120-82-1	1,2,4-Trichlorobenzene	ND	U	0.001	0.003
91-20-3	Naphthalene	ND	U	0.001	0.002
106-47-8	4-Chloroaniline	ND	U	0.002	0.008
87-68-3	Hexachlorobutadiene	ND	U	0.001	0.003
59-50-7	4-Chloro-3-Methylphenol	**0.005**		0.001	0.002
91-57-6	2-Methylnaphthalene	ND	U	0.001	0.002
77-47-4	Hexachlorocyclopentadiene	ND	U	0.002	0.006
88-06-2	2,4,6-Trichlorophenol	ND	U	0.002	0.005
95-95-4	2,4,5-Trichlorophenol	ND	U	0.001	0.004
91-58-7	2-Chloronaphthalene	ND	U	0.001	0.002
88-74-4	2-Nitroaniline	ND	U	0.001	0.003
131-11-3	Dimethylphthalate	ND	U	0.001	0.003
208-96-8	Acenaphthylene	ND	U	0.001	0.003
606-20-2	2,6-Dinitrotoluene	ND	U	0.002	0.006
99-09-2	3-Nitroaniline	ND	U	0.001	0.003
83-32-9	Acenaphthene	ND	U	0.001	0.002

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Individual sample results relate only to the sample tested.
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TCL SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL - 8270

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
7BNP01007

Submittal Number 35988- 1
Date Sampled: 05/13/02 Time: 13:28
Date Received: 05/14/02 Time: 08:43
Analysis Date: 05/22/02
Lab Sample No: 305345
Batch No: 186124

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	LOD	LOQ
51-28-5	2,4-Dinitrophenol	ND	U	0.001	0.004
100-02-7	4-Nitrophenol	ND	U	0.003	0.009
132-64-9	Dibenzofuran	ND	U	0.001	0.003
121-14-2	2,4-Dinitrotoluene	ND	U	0.002	0.005
84-66-2	Diethylphthalate	**0.11**		0.001	0.004
7005-72-3	4-Chlorophenylphenyl-Ether	ND	U	0.001	0.004
86-73-7	Fluorene	ND	U	0.001	0.003
100-01-6	4-Nitroaniline	ND	U	0.001	0.004
534-52-1	4,6-Dinitro-2-Methylphenol	ND	U	0.001	0.004
86-30-6	N-Nitroso-di-Phenylamine	ND	U	0.001	0.003
101-55-3	4-Bromophenyl Phenylether	ND	U	0.001	0.002
118-74-1	Hexachlorobenzene	ND	U	0.001	0.003
87-86-5	Pentachlorophenol	ND	U	0.003	0.009
85-01-8	Phenanthrene	ND	U	0.001	0.004
120-12-7	Anthracene	ND	U	0.001	0.003
86-74-8	Carbazole	ND	U	0.002	0.008
84-74-2	Di-n-Butylphthalate	**0.035**	B	0.002	0.006
206-44-0	Fluoranthene	ND	U	0.001	0.004
129-00-0	Pyrene	ND	U	0.001	0.003
85-68-7	Butyl Benzyl Phthalate	**0.002**	J	0.001	0.004
91-94-1	3,3'-Dichlorobenzidine	ND	U	0.001	0.002
56-55-3	Benzo (a) Anthracene	ND	U	0.002	0.007
218-01-9	Chrysene	ND	U	0.001	0.004
117-81-7	Bis (2-ethylhexyl)-Phthalate	**0.010**		0.003	0.011
117-84-0	Di-n-Octylphthalate	ND	U	0.002	0.005
205-99-2	Benzo (b) Fluoranthene	ND	U	0.003	0.009
207-08-9	Benzo (k) Fluoranthene	ND	U	0.002	0.005
50-32-8	Benzo (a) Pyrene	ND	U	0.002	0.006
193-39-5	Indeno (1,2,3-cd) Pyrene	ND	U	0.001	0.003
53-70-3	Dibenzo (a,h) Anthracene	ND	U	0.003	0.010
191-24-2	Benzo (g,h,i,) Perylene	ND	U	0.002	0.008

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Individual sample results relate only to the sample tested.
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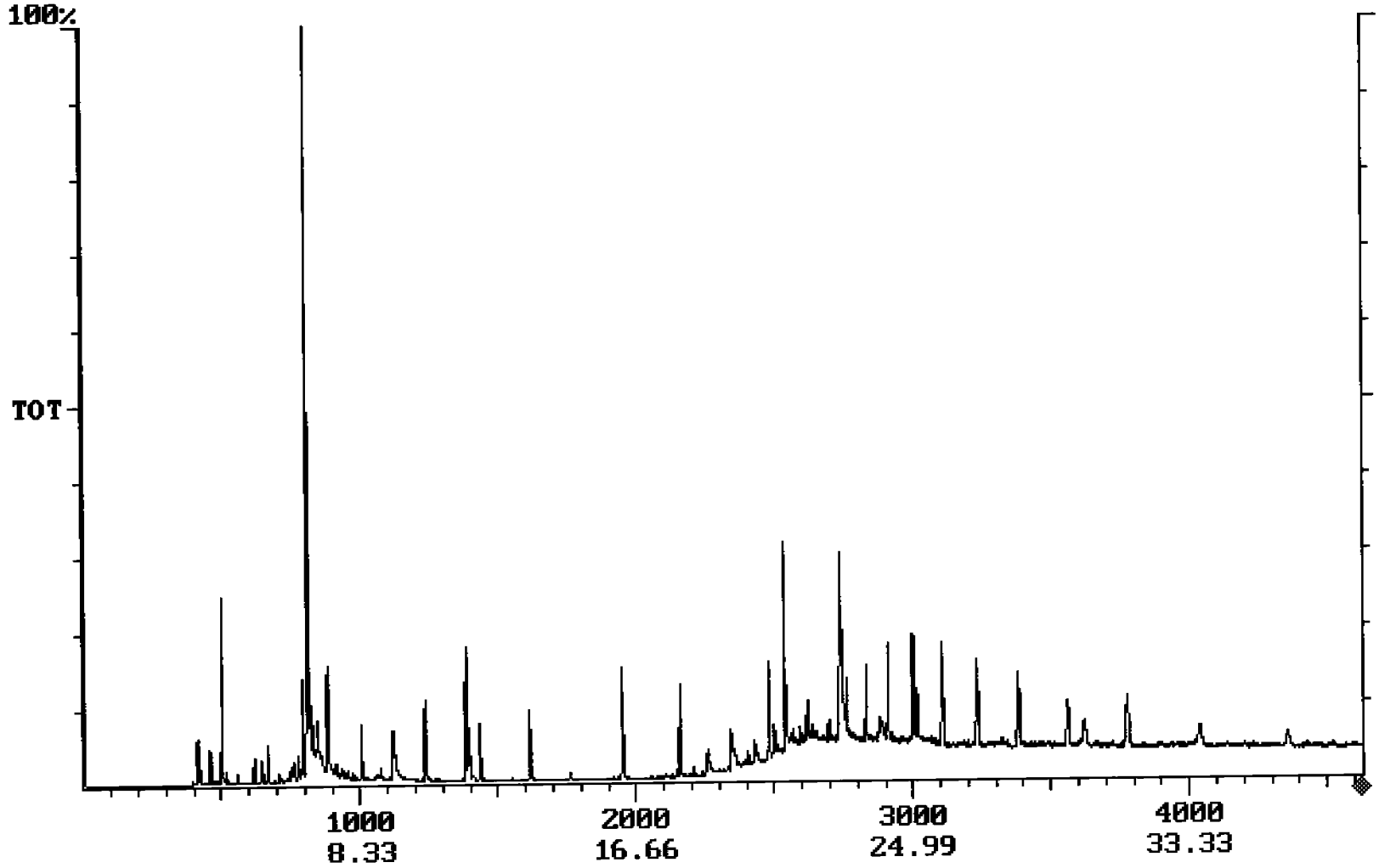
Chromatogram Plot C:\SATURN\DATA\305345 Date: 05/22/02 18:41:10
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4619 Range: 1 to 4619 100% = 8323338



000880

Operator ID: DMC
Output File: 305345.1B2
Data File: 305345.MS
Name: 305345
Sample:

Quant Time: 05/23/02 07:19
Injected at: 05/22/02 18:41
Dilution Factor: 1.00
Instrument ID: 138

30 → 10

100 ?

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.30	1236	152	605183	5.00	ng/ul	978	1.000
2)	*IS:D8-Naphthalene	13.47	1617	136	1922753	5.00	ng/ul	992	1.000
3)	*IS:D10-Acenaphthene	18.00	2160	162	1228894	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.68	2481	188	1716992	5.00	ng/ul	918	1.000
5)	*IS:D12-Chrysene	25.14	3017	240	1522112	5.00	ng/ul	937	1.000
6)	*IS:D12-Perylene	30.19	3623	264	1559655	5.00	ng/ul	818	1.000
7)	ACSUR:2-Fluorophenol	7.37	884	112	1961631	10.30	ng/ul	992	1.574
8)	ACSUR:D6-Phenol	9.32	1119	99	2661971	11.55	ng/ul	818	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.54	2345	330	726342	8.94	ng/ul	997	0.331
10)	BNSUR:D5-Nitrobenzene	11.63	1396	127	477450	7.47	ng/ul	940	0.167
11)	BNSUR:Decafluorobiphenyl	11.55	1386	334	2077024	7.40	ng/ul	954	0.731
12)	BNSUR:2-Fluorobiphenyl	16.27	1952	172	2212485	7.64	ng/ul	997	1.178
13)	BNSUR:O-Terphenyl	21.15	2538	230	1934460	8.84	ng/ul	992	0.720
14)	Pyridine	0.00	583	79	0	Not Found	ng/ul	132	0.000
15)	Phenol	0.00	1118	94	0	Not Found	ng/ul	85	0.000
16)	Aniline	9.53	1144	93	378	0.00	ng/ul	328	1.852
17)	Bis(2-Chloroethyl)Ether	0.00	1153	92	0	Not Found	ng/ul	126	0.000
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	0	0.000
19)	1,3-Dichlorobenzene	10.17	1221	146	3348	0.02	ng/ul	907	1.538
20)	1,4-Dichlorobenzene	10.28	1234	146	0	0.00	ng/ul	0	1.533
21)	Benzyl Alcohol	10.70	1284	108	271	0.00	ng/ul	668	0.647
22)	1,2-Dichlorobenzene	10.72	1286	146	1777	0.01	ng/ul	597	1.426
23)	2-Methylphenol	10.77	1293	108	0	0.00	ng/ul	0	1.185
24)	Bis(2-Chloroisopropyl)Ether	10.93	1312	45	0	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.00	1320	108	0	0.00	ng/ul	524	1.306
26)	N-Nitrosodi-N-Propylamine	11.28	1354	70	0	0.00	ng/ul	411	0.786
27)	Hexachloroethane	11.64	1397	119	0	0.00	ng/ul	945	0.645
28)	Nitrobenzene	0.00	1399	77	0	Not Found	ng/ul	256	0.000
29)	Isophorone	0.00	1484	82	0	Not Found	ng/ul	712	0.000
30)	2-Nitrophenol	12.54	1505	109	0	0.00	ng/ul	0	0.374

* Compound is ISTD

Operator ID: DMC
Output File: 305345.1B2
Data File: 305345.MS
Name: 305345
Sample:

Quant Time: 05/23/02 07:19
Injected at: 05/22/02 18:41
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	278	0.000	
32)	Benzoic Acid	12.78	1534	105	0	0.00	ng/ul	362	0.318	
33)	Bis(2-Chloroethoxy)Methane	12.67	1520	92	0	0.00	ng/ul	0	0.473	
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	80	0.000	
35)	1,2,4-Trichlorobenzene	0.00	1593	180	0	Not Found	ng/ul	576	0.000	
36)	Naphthalene	0.00	1618	128	0	Not Found	ng/ul	142	0.000	
37)	4-Chloroaniline	0.00	1630	127	0	Not Found	ng/ul	552	0.000	
38)	2,6-Dichlorophenol	0.00	1640	162	0	Not Found	ng/ul	728	0.000	
39)	Hexachlorobutadiene	13.63	1636	225	0	0.00	ng/ul	335	0.282	
40)	4-Chloro-3-Methylphenol	14.89	1787	107	35881	0.16	ng/ul	861	0.594	0.0053
41)	2-Methylnaphthalene	15.34	1841	142	745	0.00	ng/ul	54	0.647	
42)	Hexachlorocyclopentadiene	0.00	1881	237	0	Not Found	ng/ul	50	0.000	
43)	2,4,6-Trichlorophenol	0.00	1917	196	0	Not Found	ng/ul	239	0.000	
44)	2,4,5-Trichlorophenol	0.00	1932	196	0	Not Found	ng/ul	0	0.000	
45)	2-Chloronapthalene	16.62	1994	162	0	0.00	ng/ul	0	1.258	
46)	2-Nitroaniline	0.00	2016	138	0	Not Found	ng/ul	284	0.000	
47)	Dimethyl Phthalate	0.00	2068	163	0	Not Found	ng/ul	573	0.000	
48)	2,6-Dinitrotoluene	17.50	2100	165	0	0.00	ng/ul	0	0.371	
49)	Acenaphthylene	0.00	2118	152	0	Not Found	ng/ul	619	0.000	
50)	3-Nitroaniline	0.00	2137	138	0	Not Found	ng/ul	298	0.000	
51)	Acenaphthene	0.00	2164	152	0	Not Found	ng/ul	301	0.000	
52)	2,4-Dinitrophenol	17.84	2141	184	0	0.00	ng/ul	353	0.236	
53)	4-Nitrophenol	18.31	2197	65	0	0.00	ng/ul	566	0.222	
54)	Dibenzofuran	0.00	2209	168	0	Not Found	ng/ul	293	0.000	
55)	2,4-Dinitrotoluene	0.00	2199	165	0	Not Found	ng/ul	830	0.000	
56)	Benzo(b)Fluoranthene	0.00	3407	252	0	Not Found	ng/ul	543	0.000	
57)	Diethyl Phthalate	18.85	2262	149	1714655	3.29	ng/ul	868	2.124	0.11
58)	Fluorene	0.00	2289	166	0	Not Found	ng/ul	242	0.000	
59)	4-Chlorophenyl Phenyl Ether	19.22	2306	204	0	0.00	ng/ul	390	0.773	
60)	4-Nitroaniline	0.00	2288	108	0	Not Found	ng/ul	272	0.000	

* Compound is ISTD

Operator ID: DMC
Output File: 305345.1B2
Data File: 305345.MS
Name: 305345
Sample:

Quant Time: 05/23/02 07:19
Injected at: 05/22/02 18:41
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf	
61)	4,6-Dinitro-2-Methylphenol	0.00	2291	198	0	Not Found	ng/ul	257	0.000	
62)	N-Nitrosodiphenylamine	0.00	2309	169	0	Not Found	ng/ul	196	0.000	
63)	1,2-Diphenylhydrazine	0.00	2317	77	0	Not Found	ng/ul	698	0.000	
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	665	0.000	
65)	Hexachlorobenzene	19.93	2391	284	0	0.00	ng/ul	0	0.276	
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	293	0.000	
67)	Phenanthrene	20.64	2477	178	0	0.00	ng/ul	73	1.126	
68)	Anthracene	20.64	2477	178	0	0.00	ng/ul	81	1.171	
69)	Carbazole	0.00	2516	167	0	Not Found	ng/ul	485	0.000	
70)	Di-n-Butyl Phthalate	21.37	2565	149	710730	1.05	ng/ul	872	1.971	0.635
71)	Fluoranthene	0.00	2687	202	0	Not Found	ng/ul	85	0.000	
72)	Benzidine	22.47	2696	184	0	0.00	ng/ul	2	0.875	
73)	Pyrene	0.00	2732	202	0	Not Found	ng/ul	186	0.000	
74)	Butyl Benzyl Phthalate	23.61	2833	149	24320	0.07	ng/ul	642	1.194	0.0021
75)	3,3'-Dichlorobenzidine	0.00	2980	252	0	Not Found	ng/ul	12	0.000	
76)	Bis(2-Ethylhexyl)Phthalate	24.68	2961	149	153861	0.30	ng/ul	720	1.694	0.010
77)	Benzo(a)Anthracene	0.00	3006	228	0	Not Found	ng/ul	23	0.000	
78)	Chrysene	0.00	3019	228	0	Not Found	ng/ul	210	0.000	
79)	Di-n-Octylphthalate	26.39	3167	149	4861	0.01	ng/ul	380	2.650	
80)	Benzo(k)Fluoranthene	0.00	3423	252	0	Not Found	ng/ul	283	0.000	
81)	Benzo(a)Pyrene	0.00	3578	252	0	Not Found	ng/ul	212	0.000	
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	0	0.000	
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	50	0.000	
84)	Benzo(g,h,i)Perylene	0.00	4545	276	0	Not Found	ng/ul	24	0.000	
85)	N-Nitrosodimethylamine	4.80	576	73	0	0.00	ng/ul	0	0.367	
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	2	0.000	
87)	2-Chloroaniline	12.22	1467	127	0	0.00	ng/ul	0	0.535	
88)	2,4-Diaminotoluene	16.07	1929	121	0	0.00	ng/ul	0	0.453	
89)	2,3-Dinitrotoluene	17.99	2159	165	109957	0.78	ng/ul	701	0.576	
90)	1-Naphthylamine	18.57	2228	143	296	0.00	ng/ul	536	0.724	

* Compound is ISTD

Operator ID: DMC
Output File: 305345.1B2
Data File: 305345.MS
Name: 305345
Sample:

Quant Time: 05/23/02 07:19
Injected at: 05/22/02 18:41
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

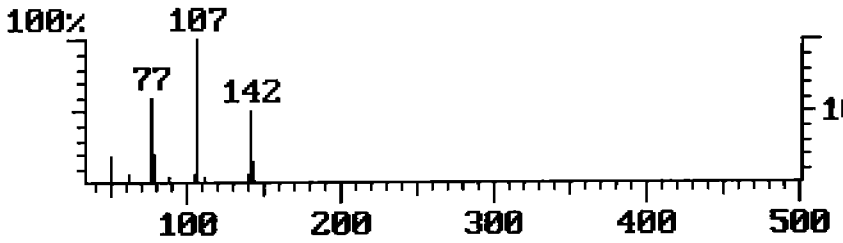
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2286	152	0	Not Found	ng/ul	135	0.000

* Compound is ISTD

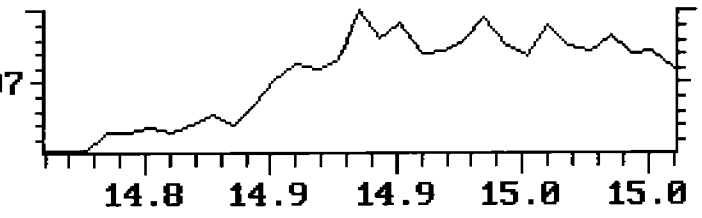
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 28 of 48
Data File: 305345 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

4-Chloro-3-Methylphenol SCAN#: 1787
AGC: 2598

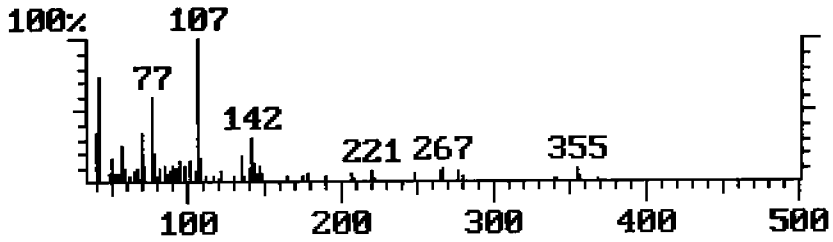
REFERENCE STANDARD SPECTRUM



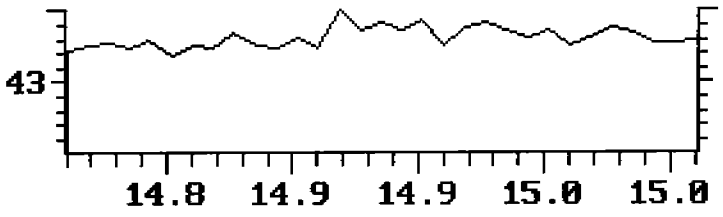
MASS 107 PLOT



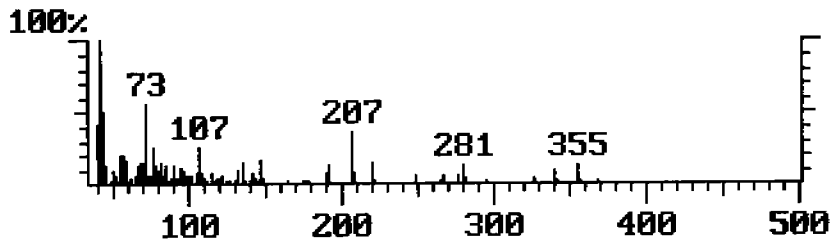
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



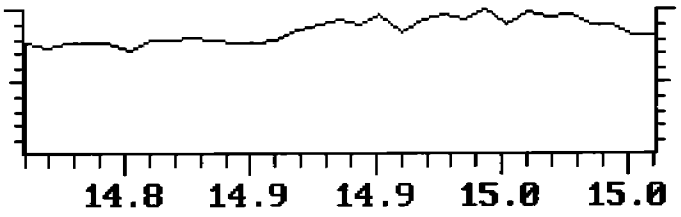
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

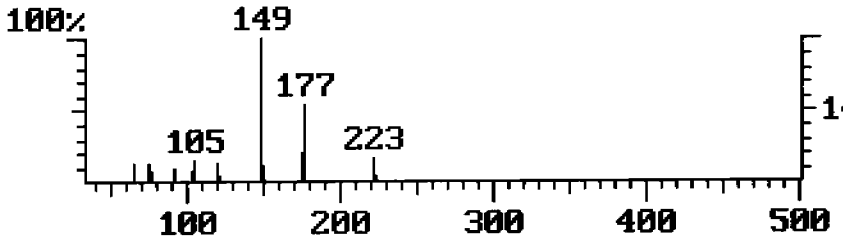


Approved_____ Date_____

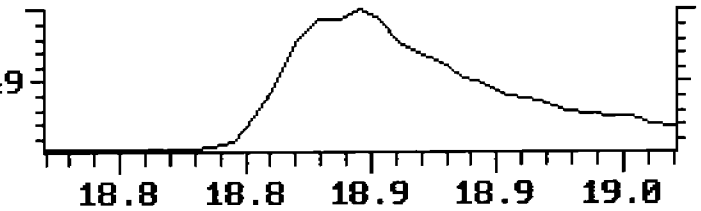
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 34 of 48
Data File: 305345 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Diethyl Phthalate SCAN#: 2262
AGC: 370

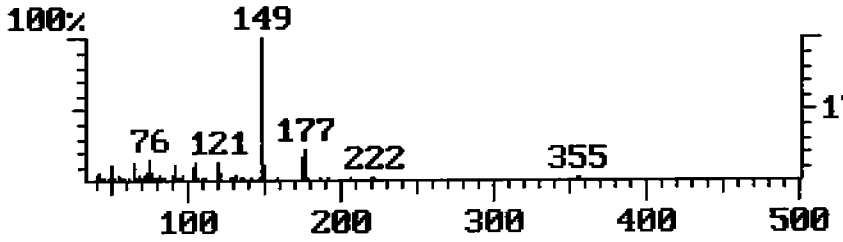
REFERENCE STANDARD SPECTRUM



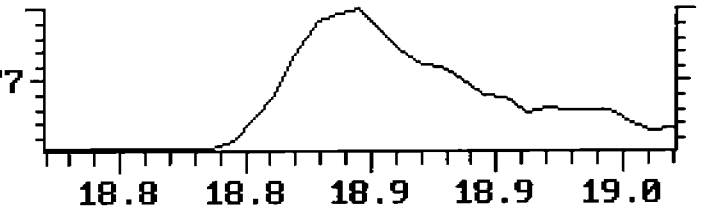
MASS 149 PLOT



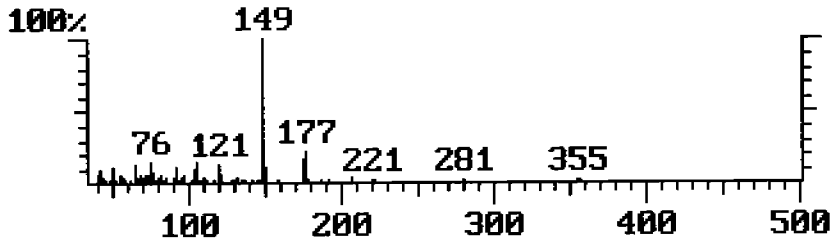
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



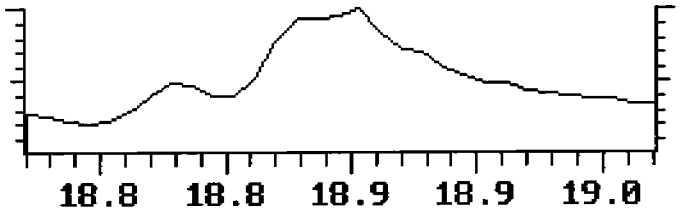
MASS 177 PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

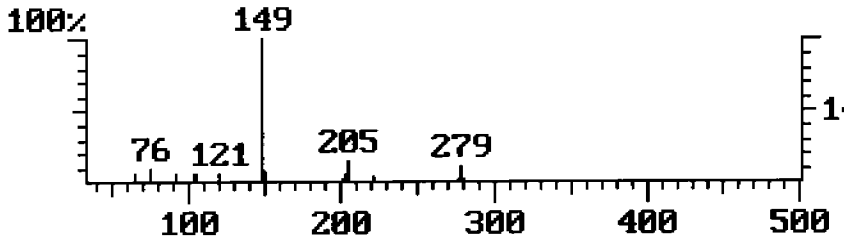


Approved_____ Date_____

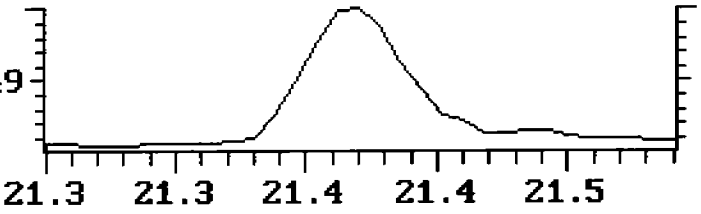
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 39 of 48
Data File: 305345 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2565
AGC: 218

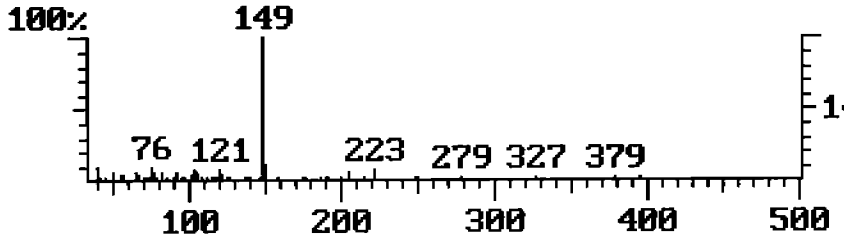
REFERENCE STANDARD SPECTRUM



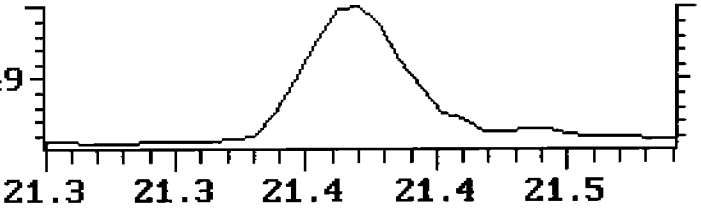
MASS 149 PLOT



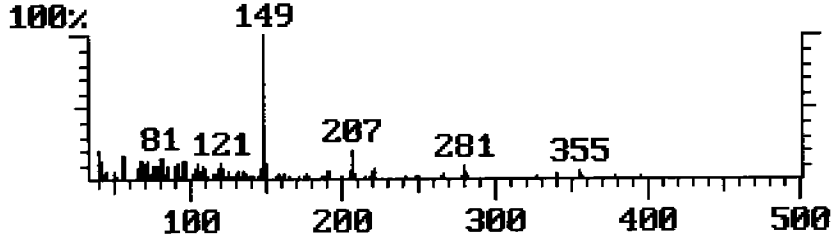
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



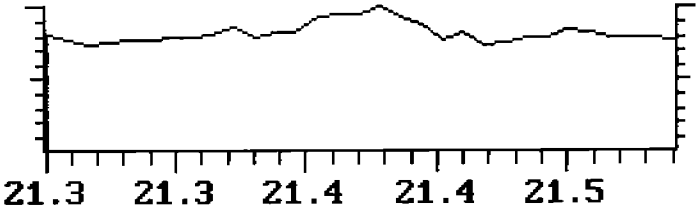
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

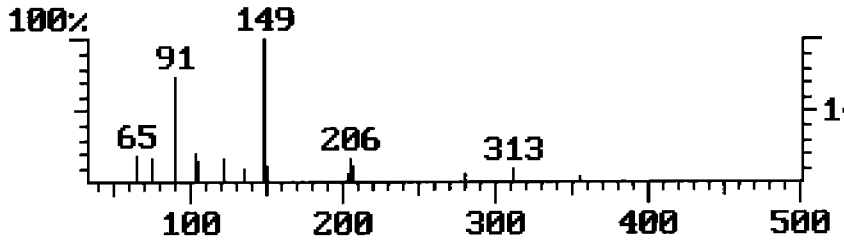


Approved_____ Date_____

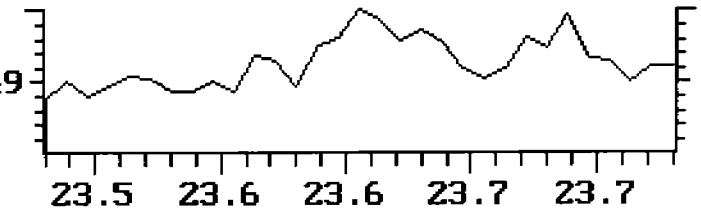
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 41 of 48
Data File: 305345 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Butyl Benzyl Phthalate SCAN#: 2833
AGC: 89

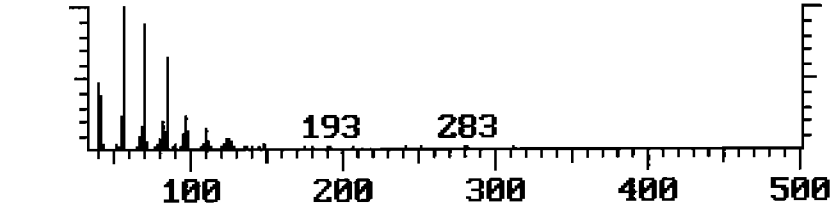
REFERENCE STANDARD SPECTRUM



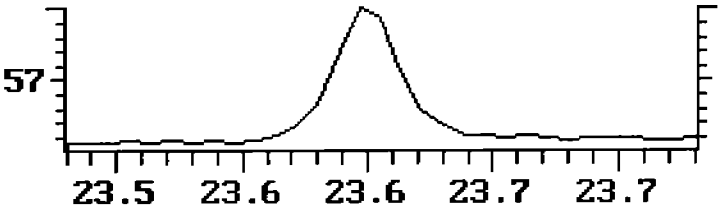
MASS 149 PLOT



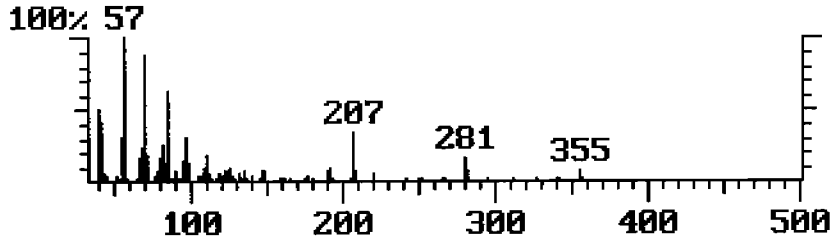
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



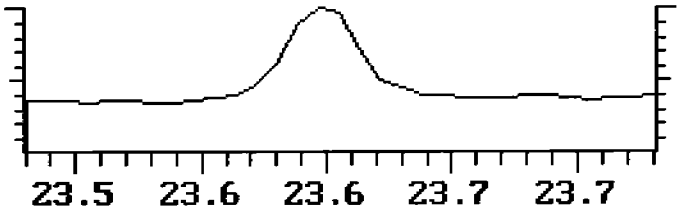
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT

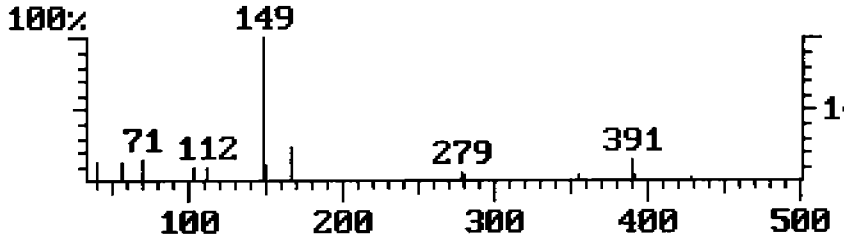


Approved_____ Date_____

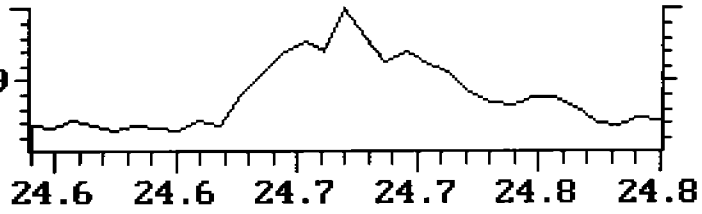
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 42 of 48
Data File: 305345 TRIMATRIX Calibration File: CCC8270
Date: 05/22/02 6:41 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Bis(2-Ethylhexyl)Phthalate SCAN#: 2961
AGC: 285

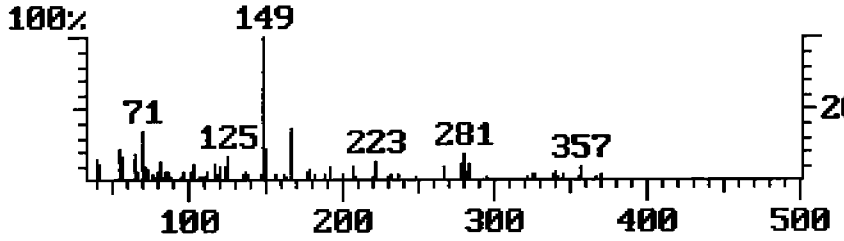
REFERENCE STANDARD SPECTRUM



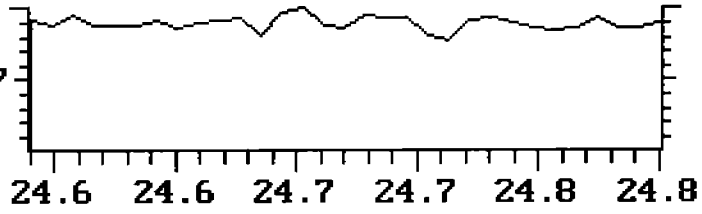
MASS 149 PLOT



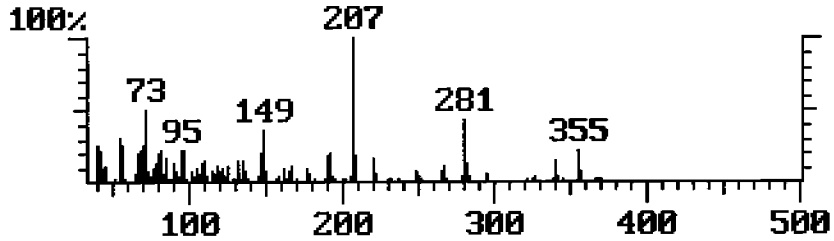
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



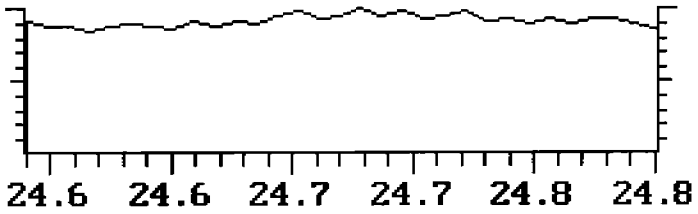
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

SECTION - D

STANDARDS DATA

GC/MS
SEMI-VOLATILE ORGANIC COMPOUND
DATA

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INITIAL CALIBRATION REPORT

EPA Method 8270C

Case No. 8PT CAL.

Contract Lab: TRIMATRIX Contract No. ION TRAP

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

Minimum RF for SPCC is 0.050 Maximum % RSD for CCC is 30.00%

Data File Name	05IC0518	1IC0518	2IC0518	5IC0518	10IC0518	15IC0518	20IC0518	25IC0518				
Compound	RF	RF	RF	RF	RF	RF	RF	RF	$\overline{RF}$	% RSD	CCC	SPCC
ACSUR:2-Fluorophenol	1.481	1.432	1.479	1.526	1.468	1.453	1.457	1.464	1.470	1.9		
ACSUR:D6-Phenol	1.635	1.591	1.750	1.730	1.615	1.622	1.754	1.790	1.686	4.6		
ACSUR:2,4,6-Tribromophenol	0.454	0.464	0.490	0.464	0.465	0.441	0.502	0.470	0.469	4.1		
BNSUR:D5-Nitrobenzene	0.156	0.148	0.142	0.146	0.150	0.128	0.142	0.131	0.143	6.5		
BNSUR:Decafluorobiphenyl	0.978	0.929	0.917	0.884	0.860	0.805	0.864	0.777	0.877	7.5		
BNSUR:2-Fluorobiphenyl	1.270	1.199	1.236	1.144	1.124	1.131	1.160	1.094	1.170	5.2		
BNSUR:O-Terphenyl	0.737	0.741	0.770	0.781	0.845	1.032	1.167	1.159	0.904	20.6		
Pyridine	1.160	1.130	1.170	1.173	1.149	1.118	1.143	1.118	1.145	1.9		
Phenol	1.518	1.470	1.581	1.585	1.512	1.592	1.625	1.690	1.572	4.5	PASS	
Aniline	1.687	1.742	1.847	1.765	1.790	1.876	1.892	1.968	1.821	5.0		
Bis(2-Chloroethyl)Ether	0.988	0.920	0.858	0.828	0.785	0.764	0.766	0.754	0.833	10.1		
2-Chlorophenol	1.722	1.619	1.781	1.660	1.566	1.638	1.662	1.633	1.660	4.0		
1,3-Dichlorobenzene	1.836	1.677	1.726	1.656	1.605	1.629	1.564	1.581	1.659	5.3		
1,4-Dichlorobenzene	1.676	1.614	1.721	1.659	1.551	1.591	1.550	1.561	1.615	4.0	PASS	
Benzyl Alcohol	0.558	0.529	0.544	0.553	0.540	0.526	0.590	0.591	0.554	4.5		
1,2-Dichlorobenzene	1.645	1.559	1.557	1.549	1.415	1.391	1.425	1.441	1.498	6.1		
2-Methylphenol	1.228	1.230	1.264	1.274	1.246	1.332	1.384	1.432	1.299	5.8		
Bis(2-Chloroisopropyl)Ether	1.376	1.265	1.224	1.170	1.028	1.020	0.972	0.917	1.122	14.4		
4-Methylphenol	1.274	1.234	1.183	1.208	1.186	1.257	1.279	1.346	1.246	4.4		
N-Nitrosodi-N-Propylamine	0.766	0.689	0.717	0.694	0.610	0.661	0.635	0.644	0.677	7.4		PASS
Hexachloroethane	0.711	0.687	0.686	0.649	0.563	0.518	0.499	0.523	0.604	14.5		
Nitrobenzene	0.610	0.555	0.566	0.531	0.483	0.461	0.443	0.386	0.504	14.7		
Isophorone	0.806	0.743	0.760	0.727	0.698	0.642	0.709	0.622	0.713	8.5		
2-Nitrophenol	0.332	0.315	0.323	0.307	0.271	0.252	0.251	0.230	0.285	13.6	PASS	
2,4-Dimethylphenol	0.602	0.564	0.586	0.559	0.507	0.479	0.493	0.445	0.529	10.6		
Benzoic Acid	0.038	0.060	0.101	0.165	0.273	0.302	0.391	0.367	0.212	65.7		
Bis(2-Chloroethoxy)Methane	0.453	0.436	0.438	0.436	0.439	0.430	0.472	0.416	0.440	3.8		
2,4-Dichlorophenol	0.367	0.333	0.367	0.363	0.375	0.345	0.381	0.347	0.360	4.5	PASS	
1,2,4-Trichlorobenzene	0.424	0.395	0.415	0.402	0.407	0.382	0.395	0.362	0.398	4.9		
Naphthalene	1.414	1.319	1.352	1.303	1.272	1.233	1.321	1.189	1.300	5.4		

INITIAL CALIBRATION REPORT

EPA Method 8270C

Case No. 8PT CAL.

Contract Lab: TRIMATRIX Contract No. ION TRAP

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

Minimum RF for SPCC is 0.050 Maximum % RSD for CCC is 30.00%

Data File Name	05IC0518	1IC0518	2IC0518	5IC0518	10IC0518	15IC0518	20IC0518	25IC0518			
Compound	RF	RF	RF	RF	RF	RF	RF	RF	$\overline{RF}$	% RSD	CCC	SPCC
4-Chloroaniline	0.596	0.560	0.596	0.630	0.735	0.752	0.863	0.851	0.698	17.1		
2,6-Dichlorophenol	0.393	0.364	0.386	0.357	0.342	0.306	0.328	0.276	0.344	11.6		
Hexachlorobutadiene	0.370	0.318	0.335	0.317	0.310	0.282	0.296	0.264	0.311	10.5	PASS	
4-Chloro-3-Methylphenol	0.562	0.520	0.541	0.553	0.547	0.506	0.564	0.476	0.533	5.8	PASS	
2-Methylnaphthalene	0.683	0.646	0.659	0.651	0.640	0.589	0.653	0.587	0.639	5.3		
Hexachlorocyclopentadiene	0.393	0.383	0.433	0.420	0.414	0.419	0.432	0.415	0.414	4.3		PASS
2,4,6-Trichlorophenol	0.451	0.429	0.468	0.457	0.470	0.430	0.456	0.438	0.450	3.6	PASS	
2,4,5-Trichlorophenol	0.470	0.475	0.503	0.495	0.503	0.488	0.475	0.476	0.486	2.7		
2-Chloronapthalene	1.413	1.343	1.370	1.324	1.272	1.225	1.311	1.152	1.301	6.4		
2-Nitroaniline	0.369	0.388	0.410	0.409	0.425	0.407	0.435	0.427	0.409	5.3		
Dimethyl Phthalate	2.041	1.879	2.081	1.981	1.881	1.774	1.858	1.854	1.918	5.5		
2,6-Dinitrotoluene	0.353	0.352	0.378	0.353	0.352	0.328	0.363	0.324	0.350	4.9		
Acenaphthylene	1.869	1.783	1.842	1.645	1.655	1.569	1.722	1.630	1.714	6.3		
3-Nitroaniline	0.307	0.310	0.335	0.330	0.339	0.353	0.367	0.356	0.337	6.3		
Acenaphthene	1.419	1.376	1.519	1.476	1.501	1.514	1.617	1.571	1.499	5.2	PASS	
2,4-Dinitrophenol	0.045	0.060	0.110	0.139	0.154	0.136	0.126	0.108	0.110	35.3		PASS
4-Nitrophenol	0.104	0.121	0.148	0.159	0.172	0.173	0.178	0.171	0.153	17.9		PASS
Dibenzofuran	2.007	1.859	1.910	1.729	1.664	1.622	1.722	1.657	1.771	7.8		
2,4-Dinitrotoluene	0.594	0.532	0.593	0.539	0.552	0.520	0.538	0.503	0.547	6.0		
Benzo(b)Fluoranthene	1.180	1.140	1.035	1.052	1.083	1.083	1.144	1.047	1.095	4.8		
Diethyl Phthalate	2.504	2.259	2.413	2.156	2.147	2.007	2.056	1.944	2.186	9.0		
Fluorene	1.101	1.113	1.153	1.058	1.121	1.174	1.287	1.276	1.160	7.1		
4-Chlorophenyl Phenyl Ether	0.843	0.780	0.863	0.814	0.765	0.729	0.748	0.715	0.782	6.9		
4-Nitroaniline	0.827	0.827	0.877	0.731	0.736	0.637	0.666	0.582	0.735	14.0		
4,6-Dinitro-2-Methylphenol	0.098	0.112	0.152	0.175	0.176	0.175	0.185	0.172	0.156	20.9		
N-Nitrosodiphenylamine	0.527	0.491	0.505	0.490	0.511	0.493	0.531	0.523	0.509	3.3	PASS	
1,2-Diphenylhydrazine	1.262	1.196	1.216	1.065	1.011	0.896	0.878	0.738	1.033	18.1		
4-Bromophenyl Phenyl Ether	0.401	0.377	0.406	0.372	0.369	0.369	0.393	0.378	0.383	3.8		
Hexachlorobenzene	0.345	0.321	0.314	0.301	0.319	0.272	0.283	0.278	0.304	8.2		
Pentachlorophenol	0.245	0.205	0.218	0.215	0.240	0.236	0.251	0.240	0.231	7.1	PASS	

INITIAL CALIBRATION REPORT

EPA Method 8270C

Case No. 8PT CAL.

Contract Lab: TRIMATRIX Contract No. ION TRAP

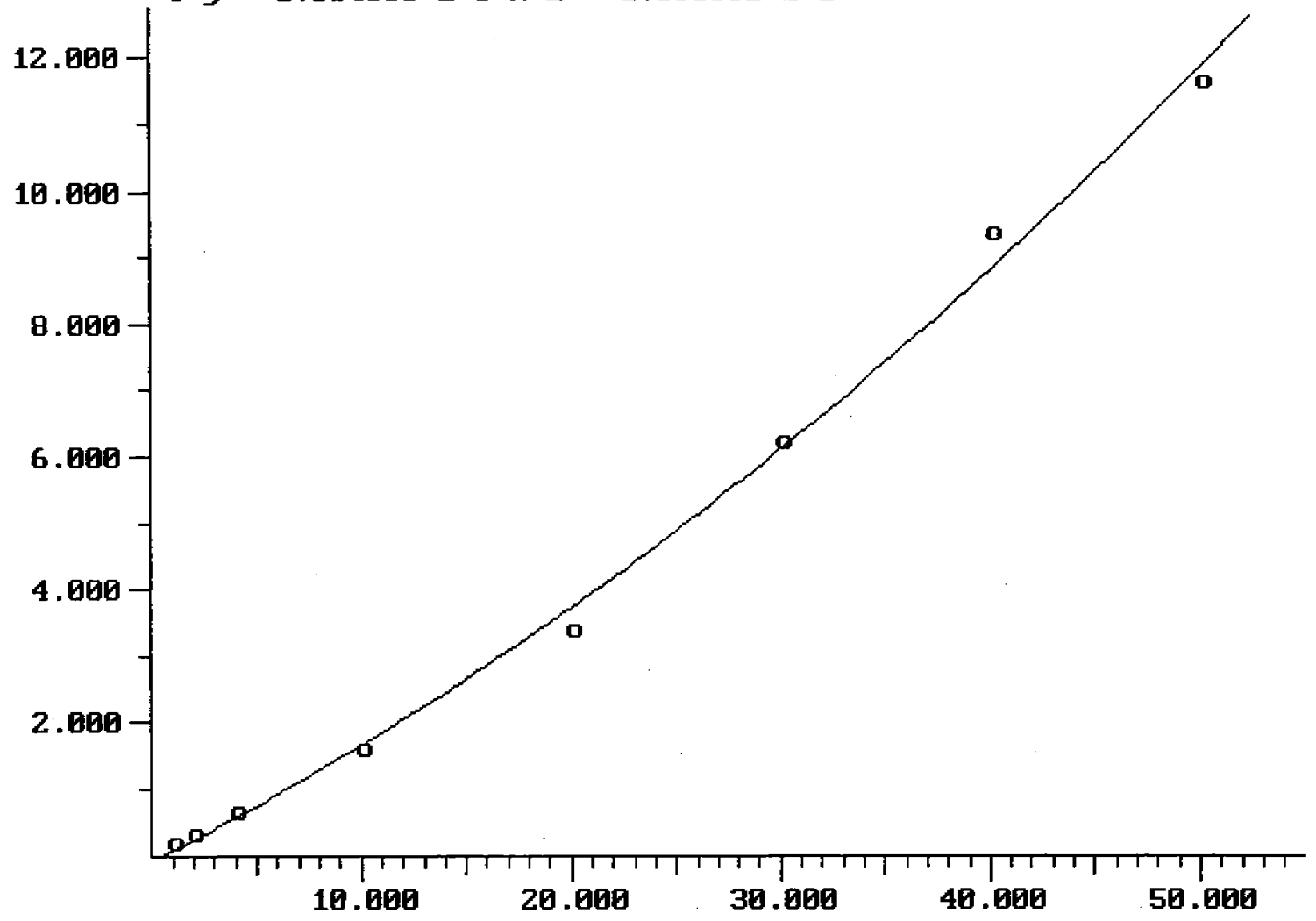
Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

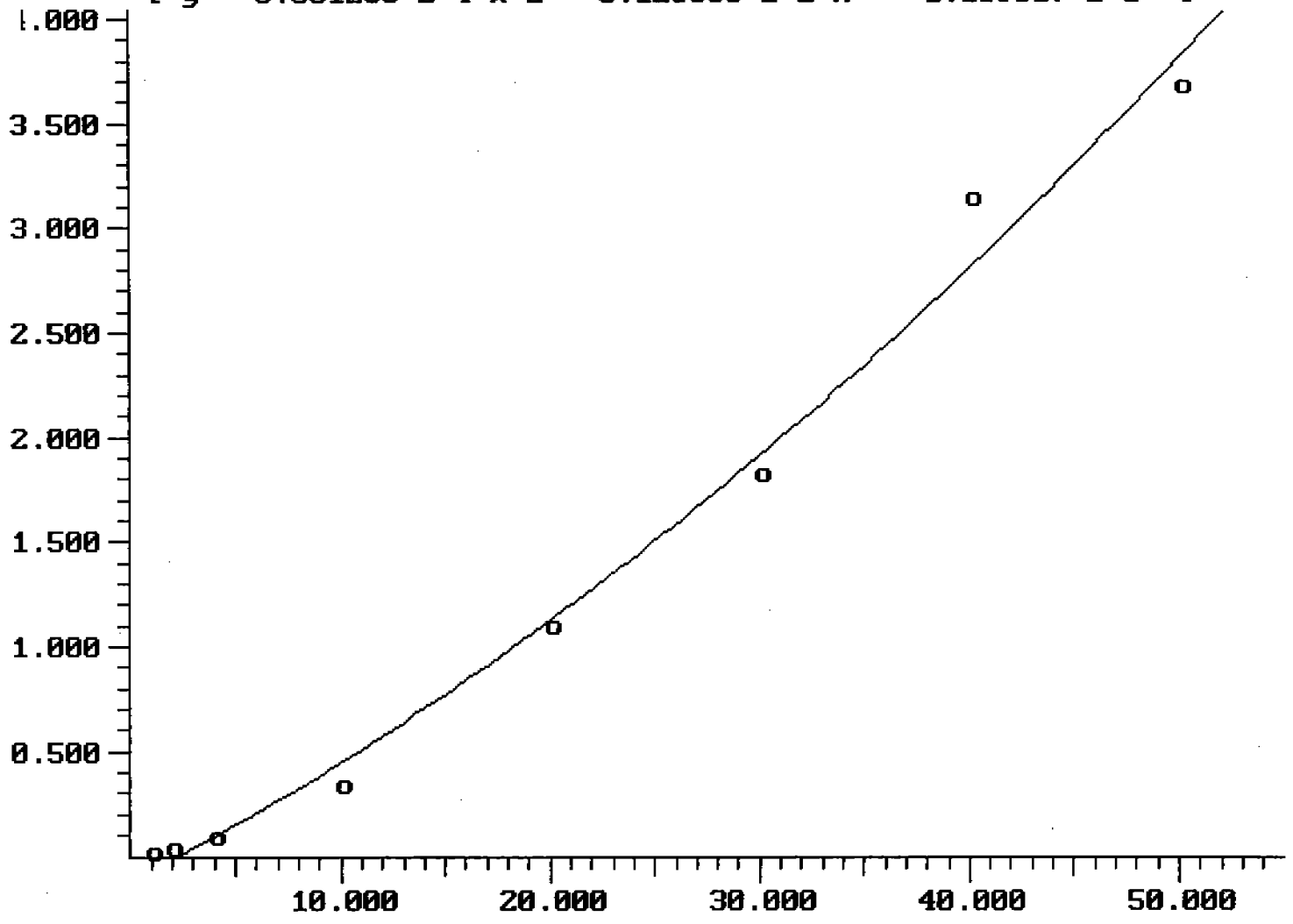
Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30.00%

Data File Name	05IC0518	1IC0518	2IC0518	5IC0518	10IC0518	15IC0518	20IC0518	25IC0518			
Compound	RF	RF	RF	RF	RF	RF	RF	RF	$\overline{RF}$	% RSD	CCC SPCC
Phenanthrene	1.130	1.072	1.120	1.046	1.024	1.040	1.102	1.068	1.075	3.6	
Anthracene	1.219	1.108	1.196	1.151	1.138	1.178	1.253	1.219	1.183	4.1	
Carbazole	1.169	1.076	1.095	1.052	1.055	1.042	1.054	1.052	1.074	3.9	
Di-n-Butyl Phthalate	2.078	1.955	1.939	1.687	1.509	1.276	1.259	1.126	1.604	22.7	- Q
Fluoranthene	1.204	1.146	1.204	1.067	1.073	1.075	1.092	1.041	1.113	5.7	PASS
Benzidine	0.333	0.381	0.508	0.653	0.714	0.801	0.998	1.030	0.677	38.6	- Q
Pyrene	1.288	1.225	1.329	1.382	1.445	1.673	1.887	1.885	1.514	17.5	- Q
Butyl Benzyl Phthalate	0.813	0.852	0.953	1.019	1.071	1.125	1.148	1.121	1.013	12.7	
3,3'-Dichlorobenzidine	0.528	0.507	0.595	0.656	0.733	0.866	1.030	0.968	0.735	27.2	- Q
Bis(2-Ethylhexyl)Phthalate	1.694	1.330	1.426	1.503	1.620	1.744	1.929	1.812	1.632	12.4	
Benzo(a)Anthracene	1.372	1.253	1.365	1.434	1.578	1.742	2.074	2.005	1.603	19.2	- Q
Chrysene	1.223	1.183	1.281	1.260	1.404	1.562	1.725	1.788	1.428	16.5	- Q
Di-n-Octylphthalate	1.704	1.535	1.761	2.169	2.389	2.758	3.250	3.156	2.340	28.4	PASS - Q
Benzo(k)Fluoranthene	1.341	1.179	1.294	1.302	1.273	1.239	1.191	1.167	1.248	5.1	
Benzo(a)Pyrene	1.137	1.033	1.045	1.056	1.052	1.077	1.098	1.051	1.069	3.2	PASS
Indeno(1,2,3-cd)Pyrene	1.582	1.583	1.739	1.913	2.102	2.531	2.958	2.990	2.175	26.8	- Q
Dibenzo(a,h)Anthracene	1.009	0.976	1.030	1.045	0.988	0.987	0.976	0.903	0.989	4.4	
Benzo(g,h,i)Perylene	1.326	1.246	1.255	1.302	1.287	1.303	1.297	1.252	1.284	2.3	
N-Nitrosodimethylamine	0.353	0.273	0.342	0.286	0.302	0.248	0.228	0.224	0.282	17.2	- Q
2,3,4,6-tetrachlorophenol	0.403	0.411	0.445	0.456	0.428	0.416	0.478	0.422	0.432	5.9	
2,3-Dinitrotoluene	0.566	0.571	0.567	0.539	0.553	0.497	0.536	0.489	0.540	5.8	
2,4-Diaminotoluene	0.187	0.178	0.205	0.218	0.180	0.174	0.180	0.144	0.183	12.0	
2-Chloroaniline	0.626	0.586	0.611	0.606	0.619	0.596	0.646	0.607	0.612	3.0	
5-Nitro-o-toluidine	0.418	0.416	0.450	0.434	0.436	0.438	0.463	0.422	0.435	3.7	
1-Naphthylamine	0.818	0.806	0.797	0.761	0.765	0.887	1.051	1.042	0.866	13.6	
Benzaldehyde	2.374	2.447	2.290	2.109	1.524	1.174	1.001	0.820	1.718	38.7	- Q
Acetophenone	0.976	1.003	0.951	0.889	0.882	0.858	0.882	0.828	0.909	6.7	
Caprolactam	0.077	0.078	0.084	0.106	0.115	0.115	0.132	0.118	0.103	20.2	- Q
Biphenyl	1.654	1.704	1.635	1.510	1.415	1.412	1.510	1.401	1.530	7.9	
Atrazine	0.406	0.437	0.399	0.331	0.255	0.199	0.176	0.140	0.293	39.5	- Q

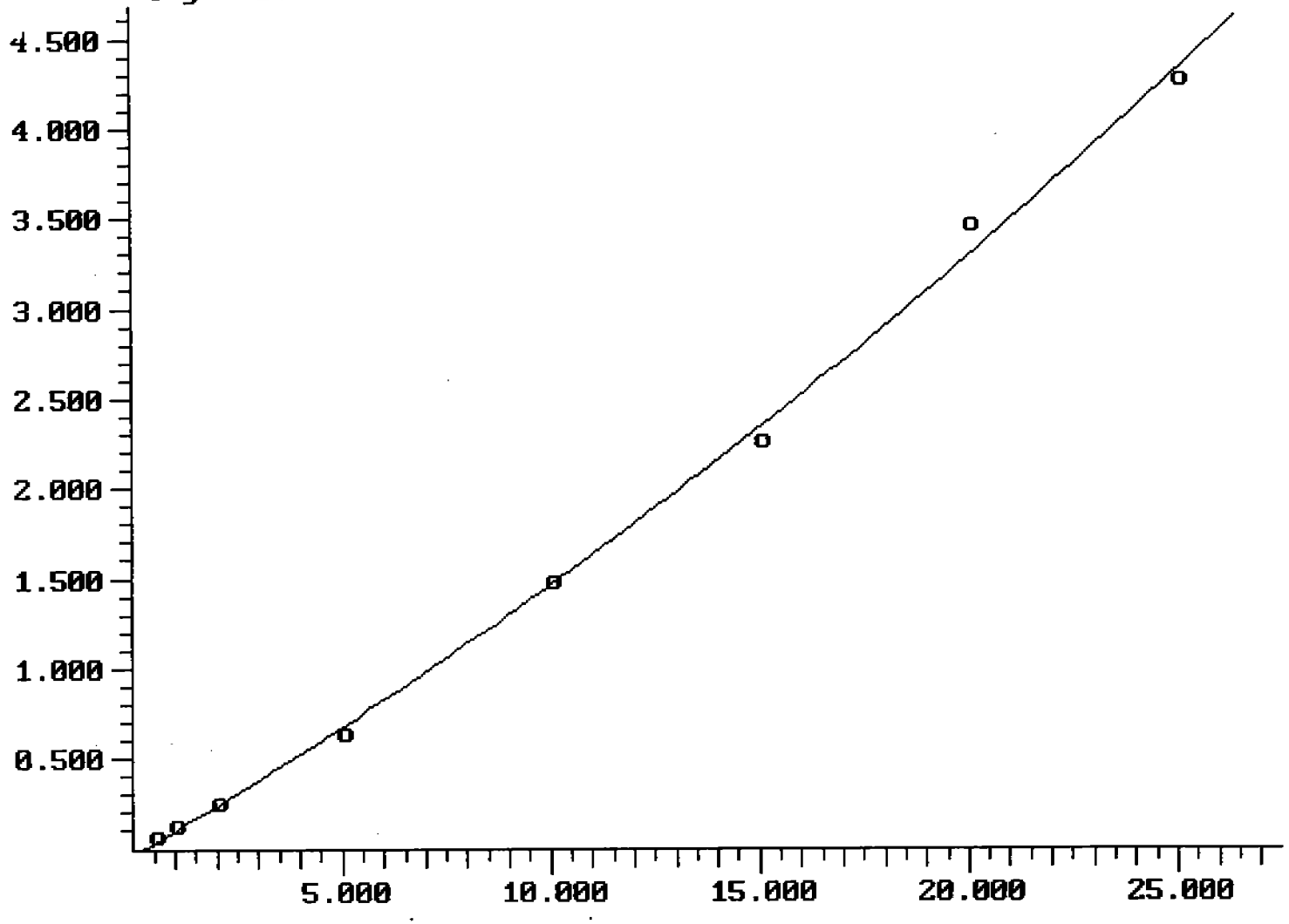
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.995
BNSUR:O-Terphenyl Compound: 13 of 96 Standard Deviation: 0.244
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin|Lin)
[y = 1.604038 E-3 x^2 + 1.590532 E-1 x + -8.853060 E-2]



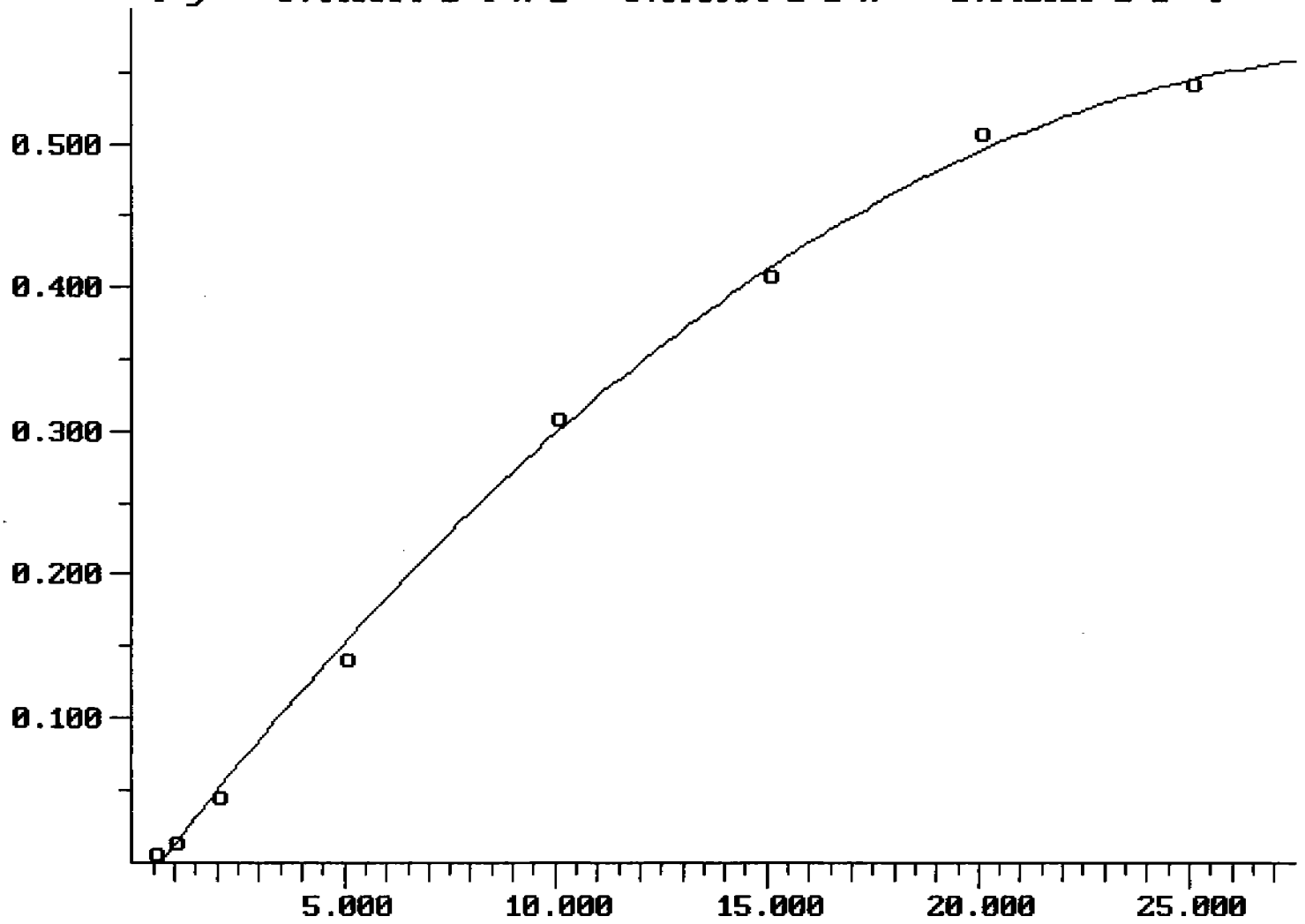
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.991
Benzoic Acid Compound: 32 of 96 Standard Deviation: 0.139
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 5.531288 E-4 x^2 + 5.120885 E-2 x + -1.189517 E-1]



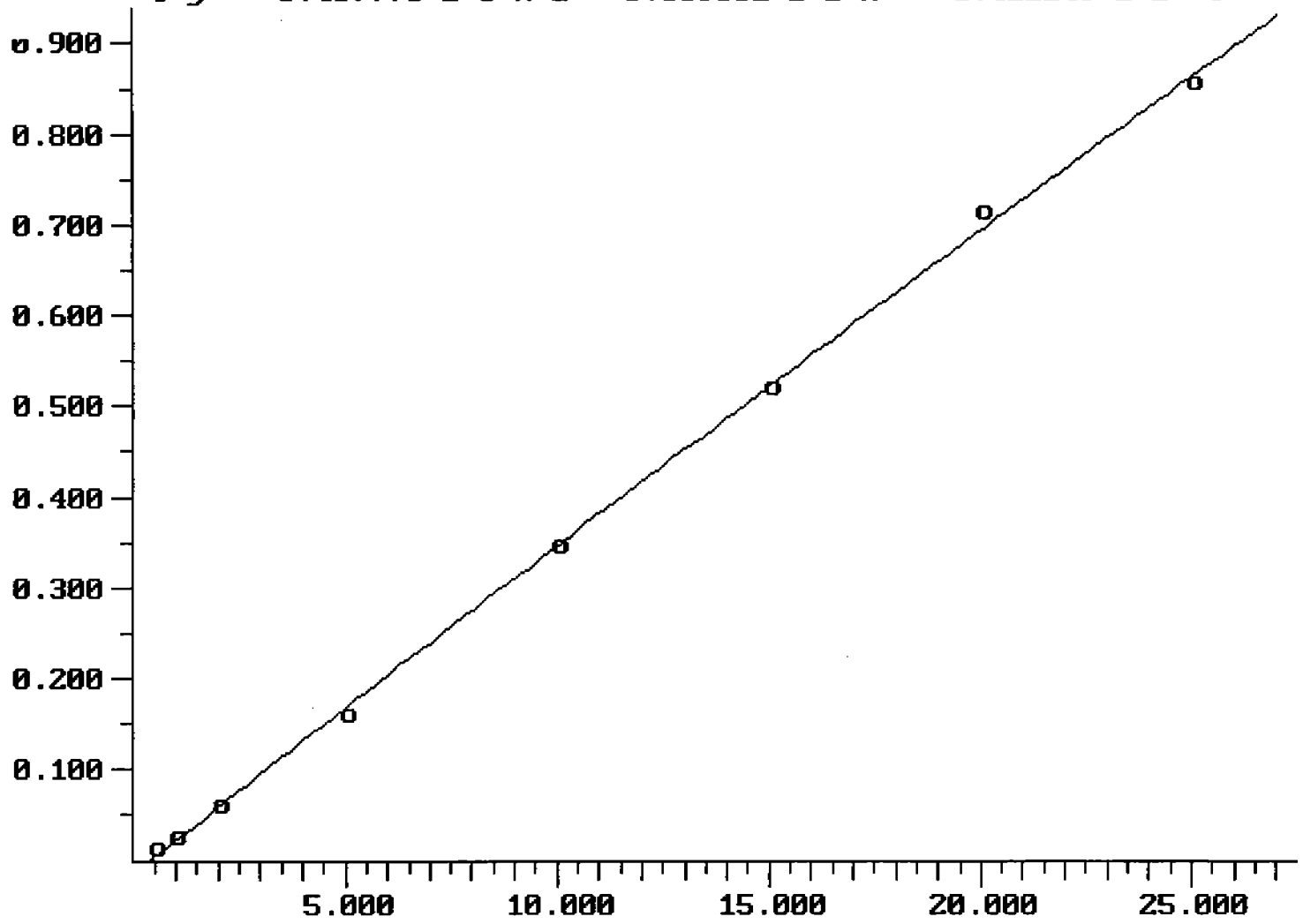
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.997
4-Chloroaniline Compound: 37 of 96 Standard Deviation: 0.071
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 1.629159 E-3 x^2 + 1.336868 E-1 x + -3.463235 E-2]



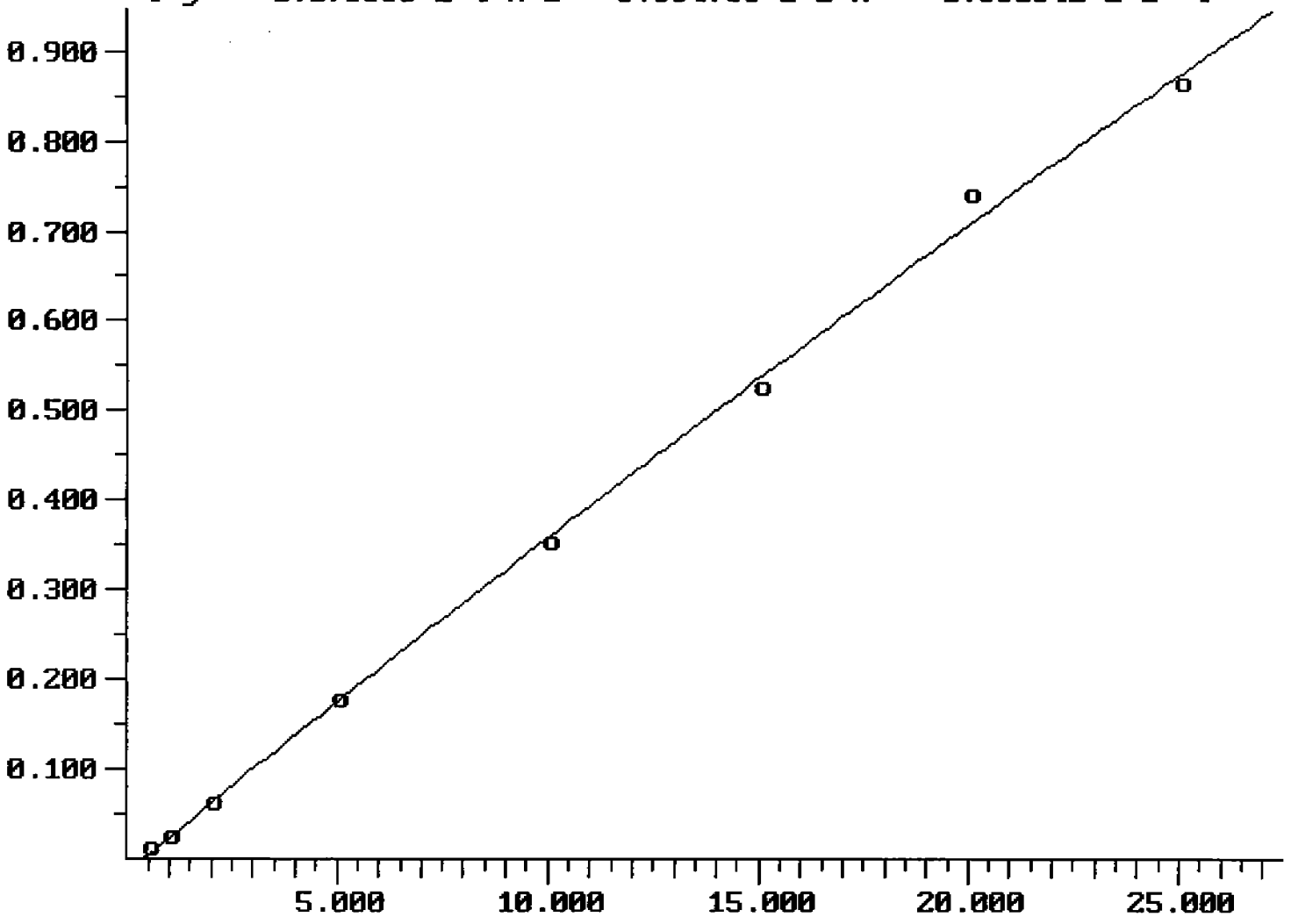
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.984
2,4-Dinitrophenol Compound: 52 of 96 Standard Deviation: 0.008
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin¦Lin)
[y = -6.440304 E-4 x^2 + 3.895904 E-2 x + -2.642026 E-2]



Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 1.000
4-Nitrophenol Compound: 53 of 96 Standard Deviation: 0.009
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin|Lin)
[y = -6.437776 E-5 x^2 + 3.669602 E-2 x + -1.422249 E-2]

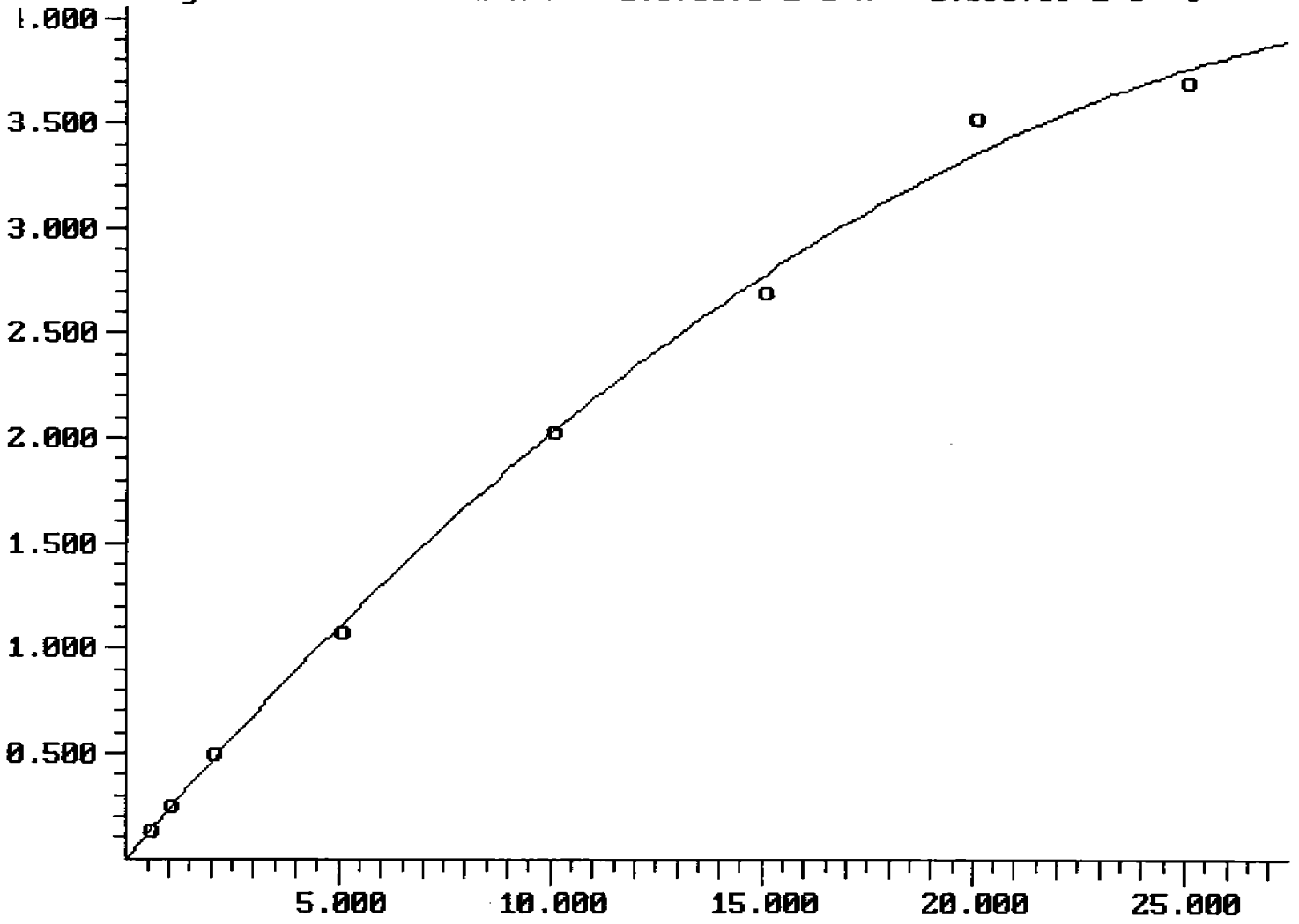


Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.999
4,6-Dinitro-2-Methylphenol Compound: 61 of 96 Standard Deviation: 0.013
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -1.173663 E-4 x^2 + 3.854703 E-2 x + -1.561842 E-2]

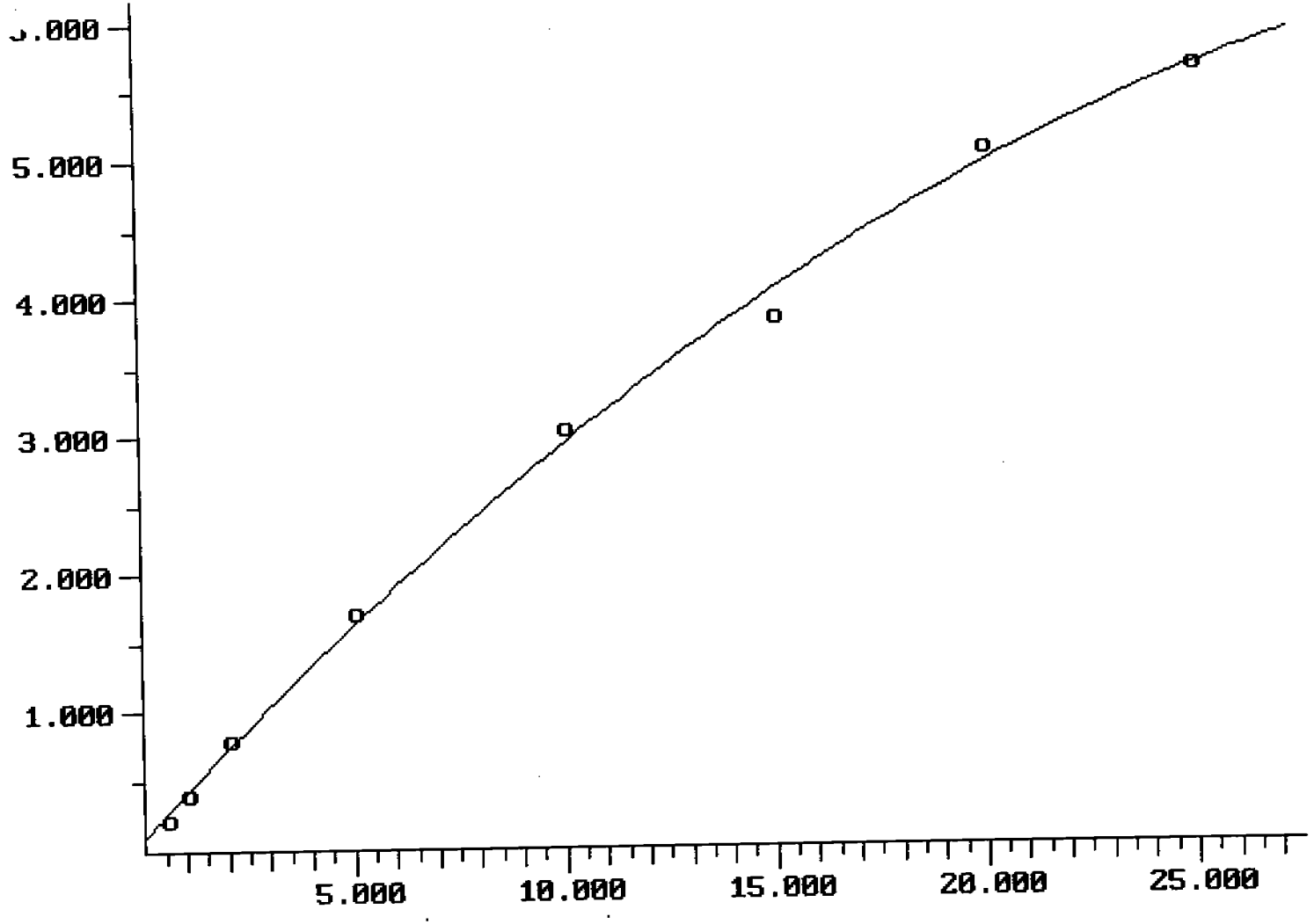


000899

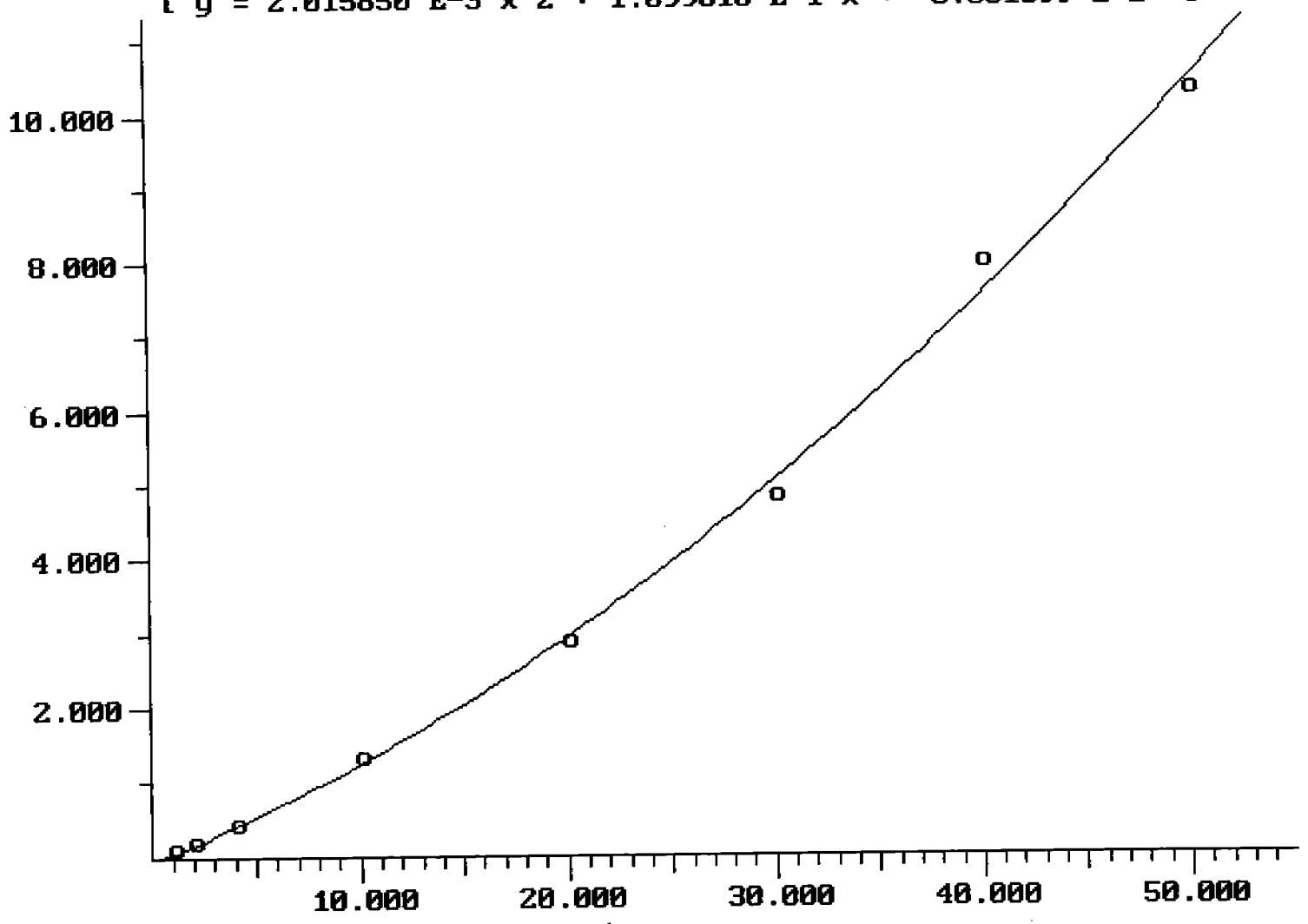
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.989
1,2-Diphenylhydrazine Compound: 63 of 96 Standard Deviation: 0.070
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -3.474694 E-3 x^2 + 2.370670 E-1 x + 1.398739 E-3]



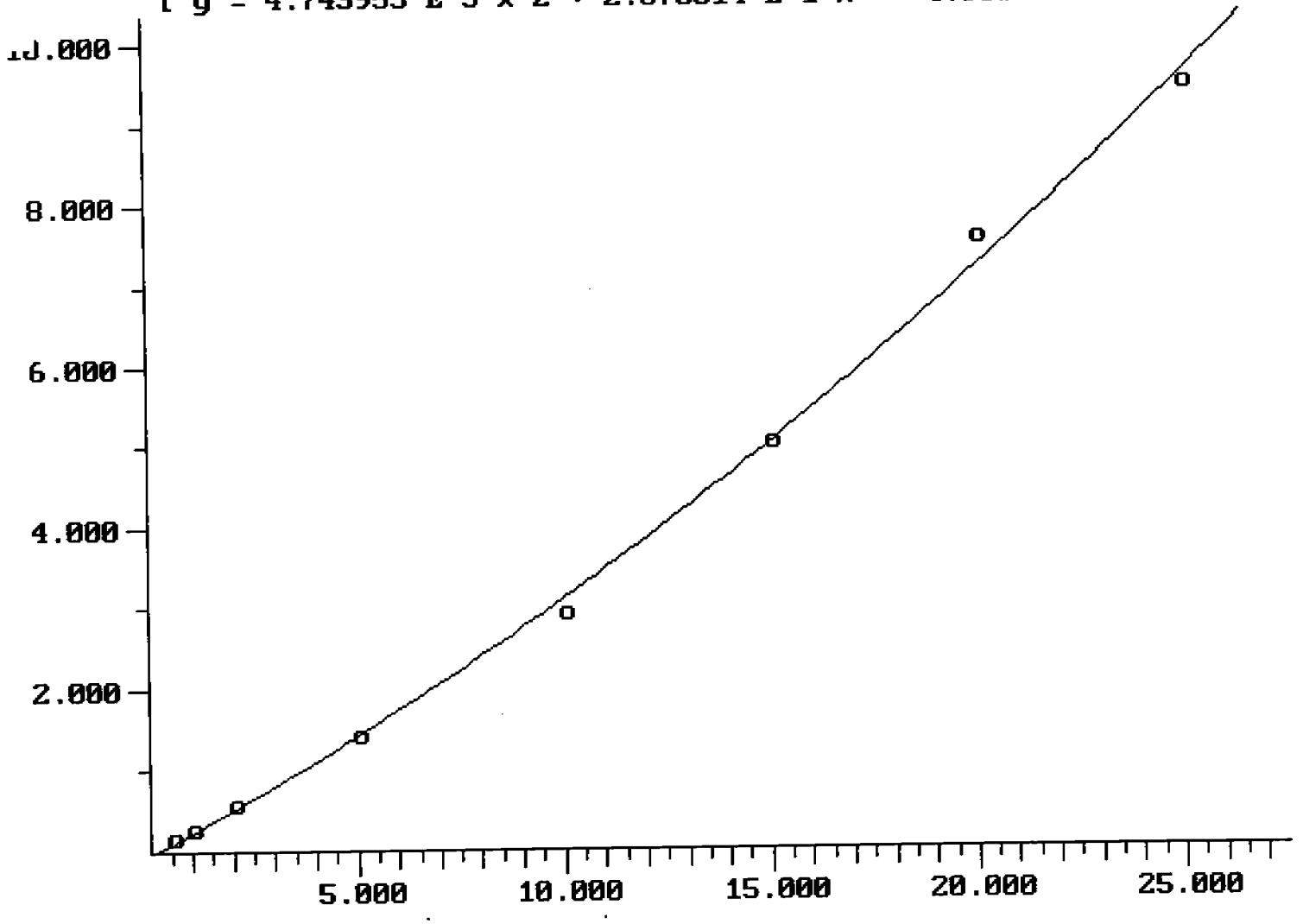
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.992
Di-n-Butyl Phthalate Compound: 70 of 96 Standard Deviation: 0.094
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -4.084027 E-3 x^2 + 3.233904 E-1 x + 1.026038 E-1]



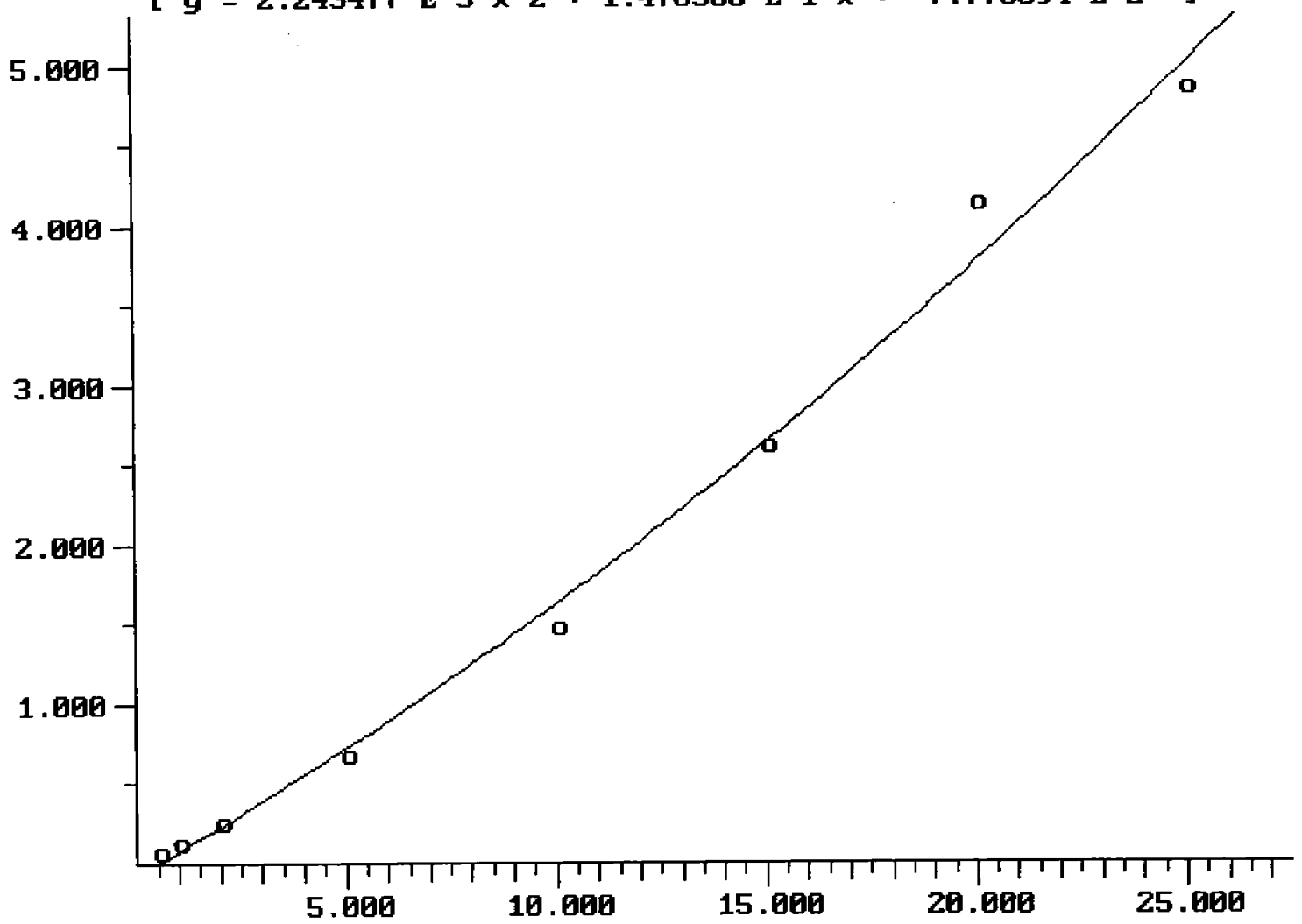
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.991
Benzidine Compound: 72 of 96 Standard Deviation: 0.187
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 2.015850 E-3 x^2 + 1.099810 E-1 x + -6.531599 E-2]



Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.996
Pyrene Compound: 73 of 96 Standard Deviation: 0.158
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 4.743955 E-3 x^2 + 2.676814 E-1 x + -4.935472 E-2]

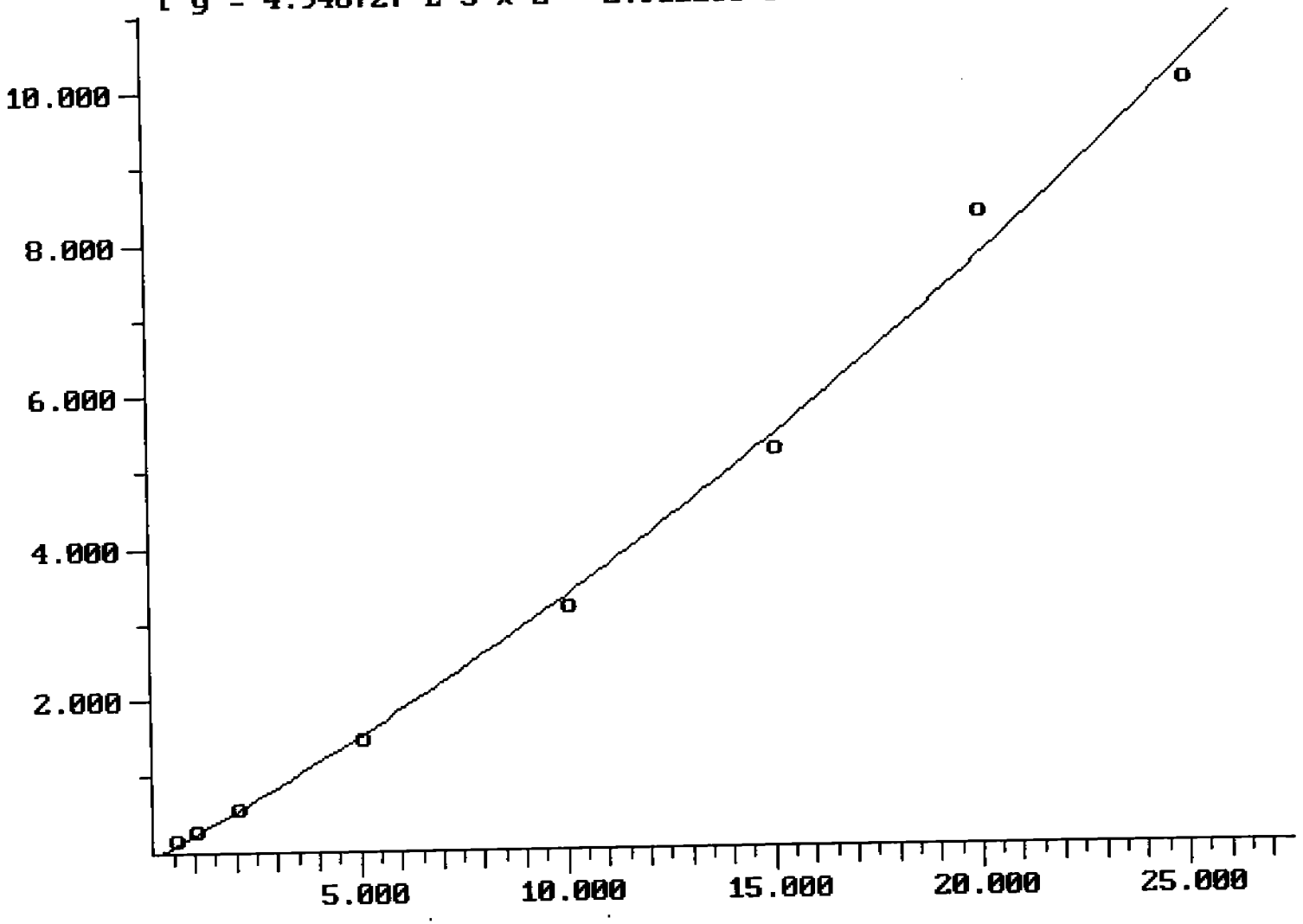


Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.994
3,3'-Dichlorobenzidine Compound: 75 of 96 Standard Deviation: 0.152
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 2.243477 E-3 x^2 + 1.476500 E-1 x + -7.776094 E-2]



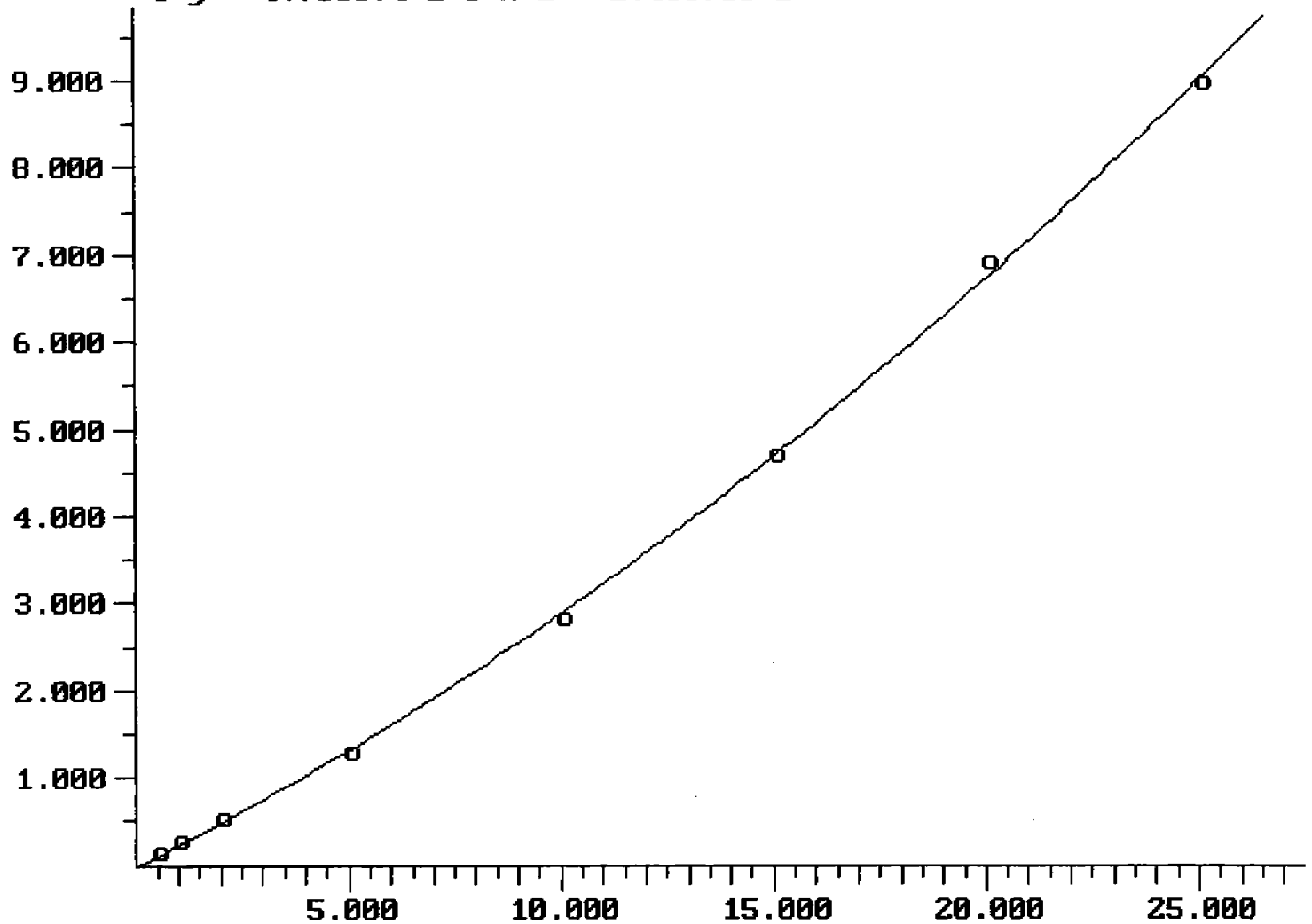
000904

Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.995
Benzo(a)Anthracene Compound: 77 of 96 Standard Deviation: 0.243
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 4.946727 E-3 x^2 + 2.912253 E-1 x + -7.798860 E-2]

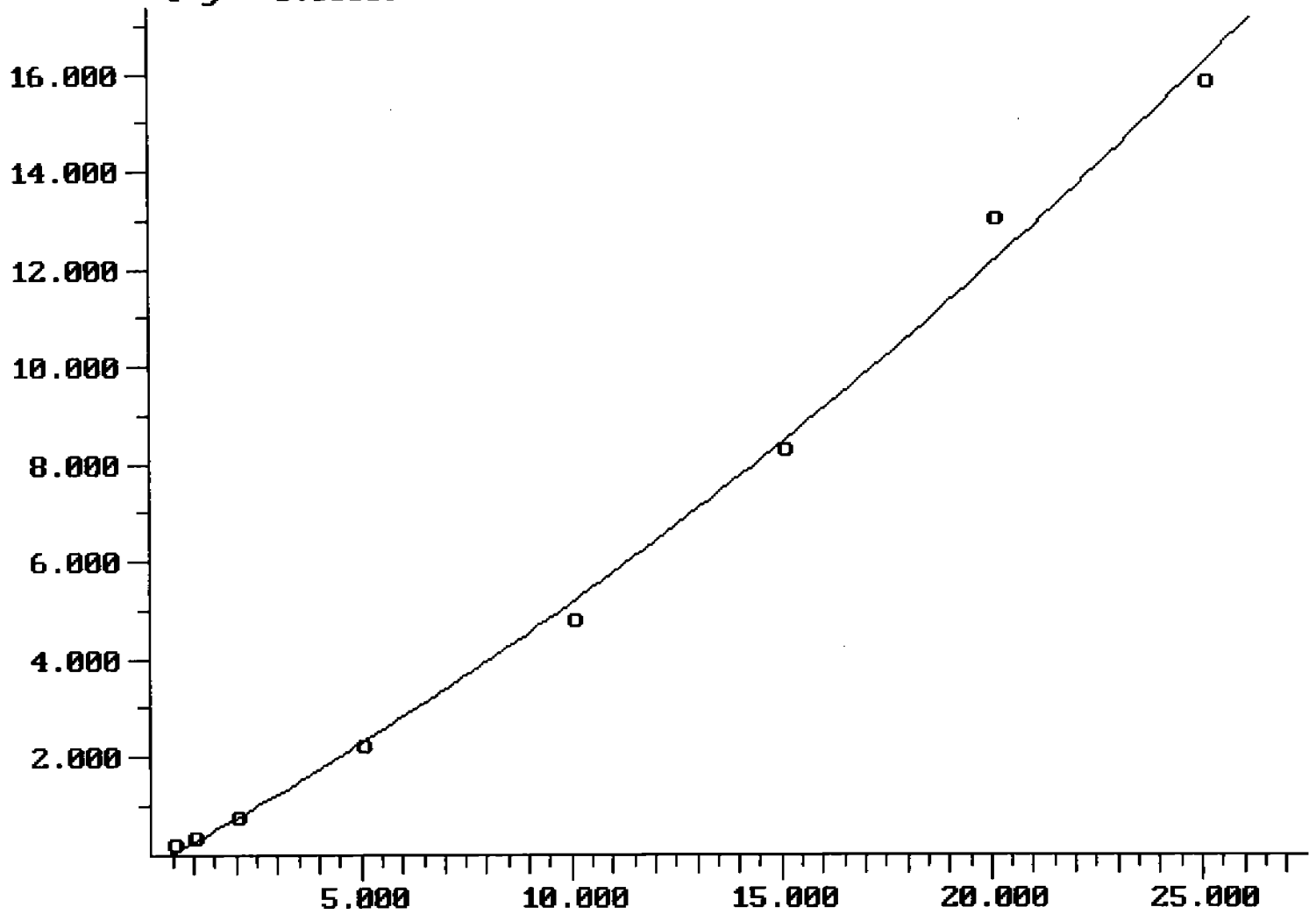


000905

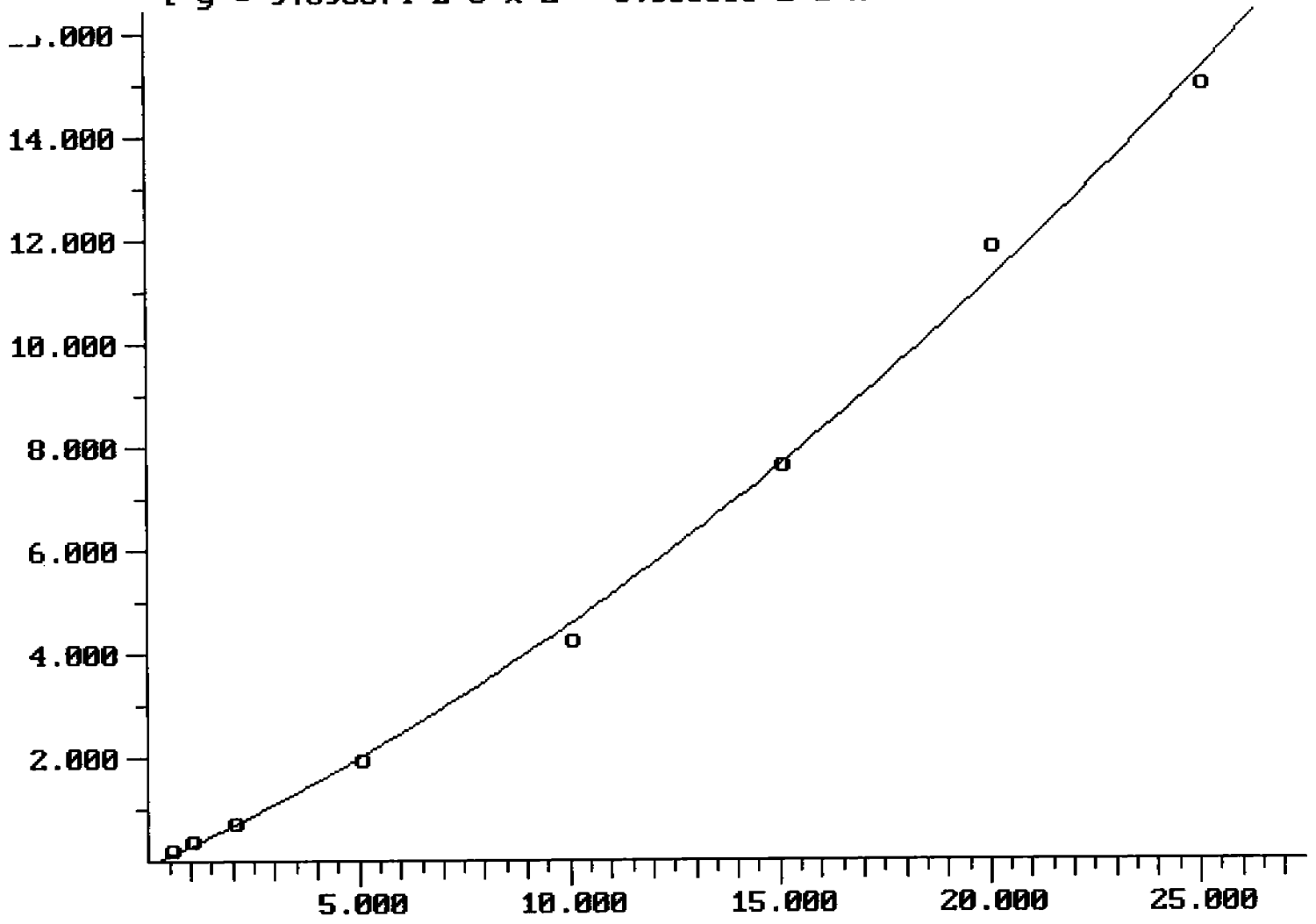
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.996
Chrysene Compound: 78 of 96 Standard Deviation: 0.073
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 4.753374 E-3 x^2 + 2.430718 E-1 x + -2.262265 E-2]



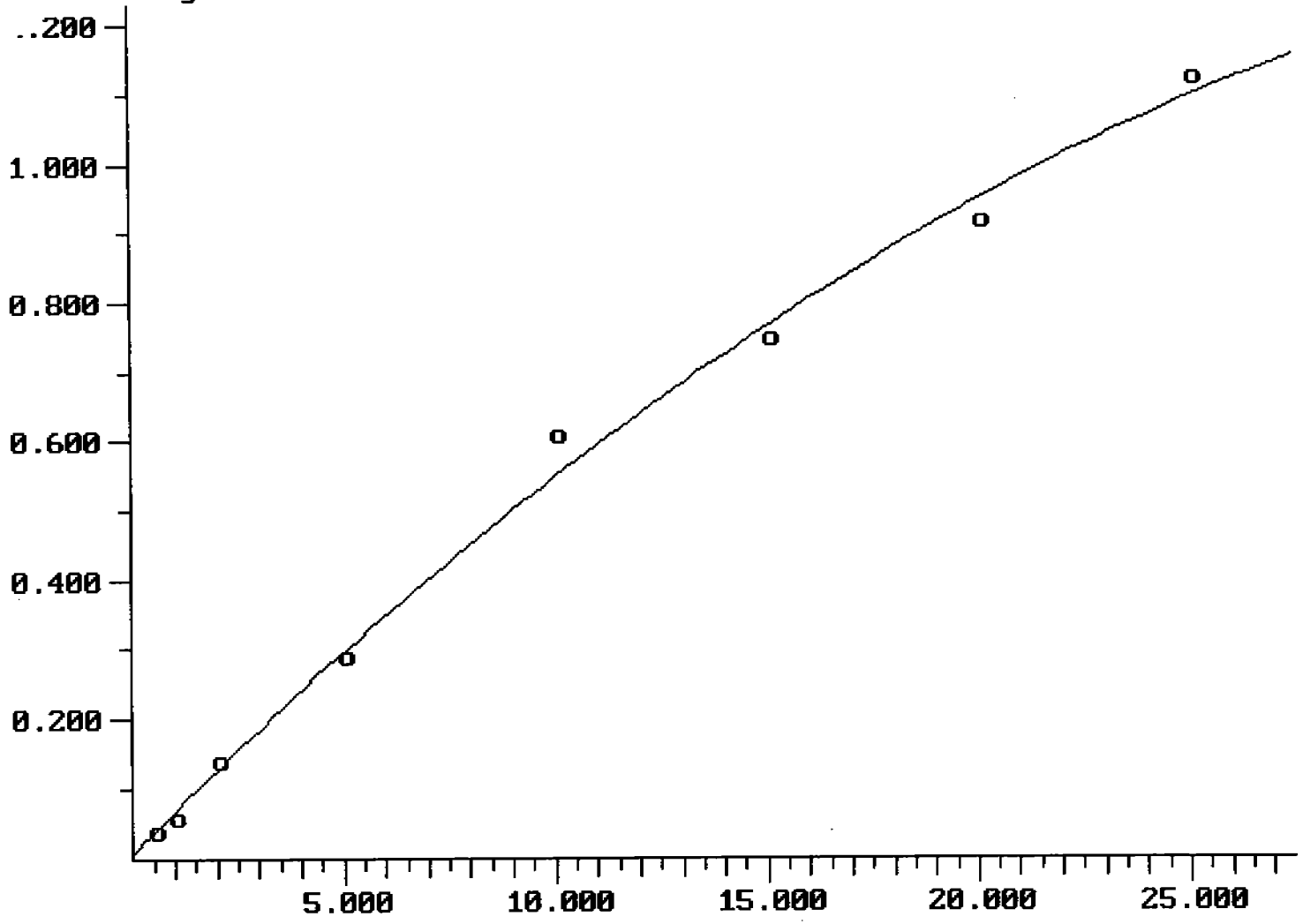
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.995
Di-n-Octylphthalate Compound: 79 of 96 Standard Deviation: 0.381
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 8.050610 E-3 x^2 + 4.561183 E-1 x + -2.175174 E-1]



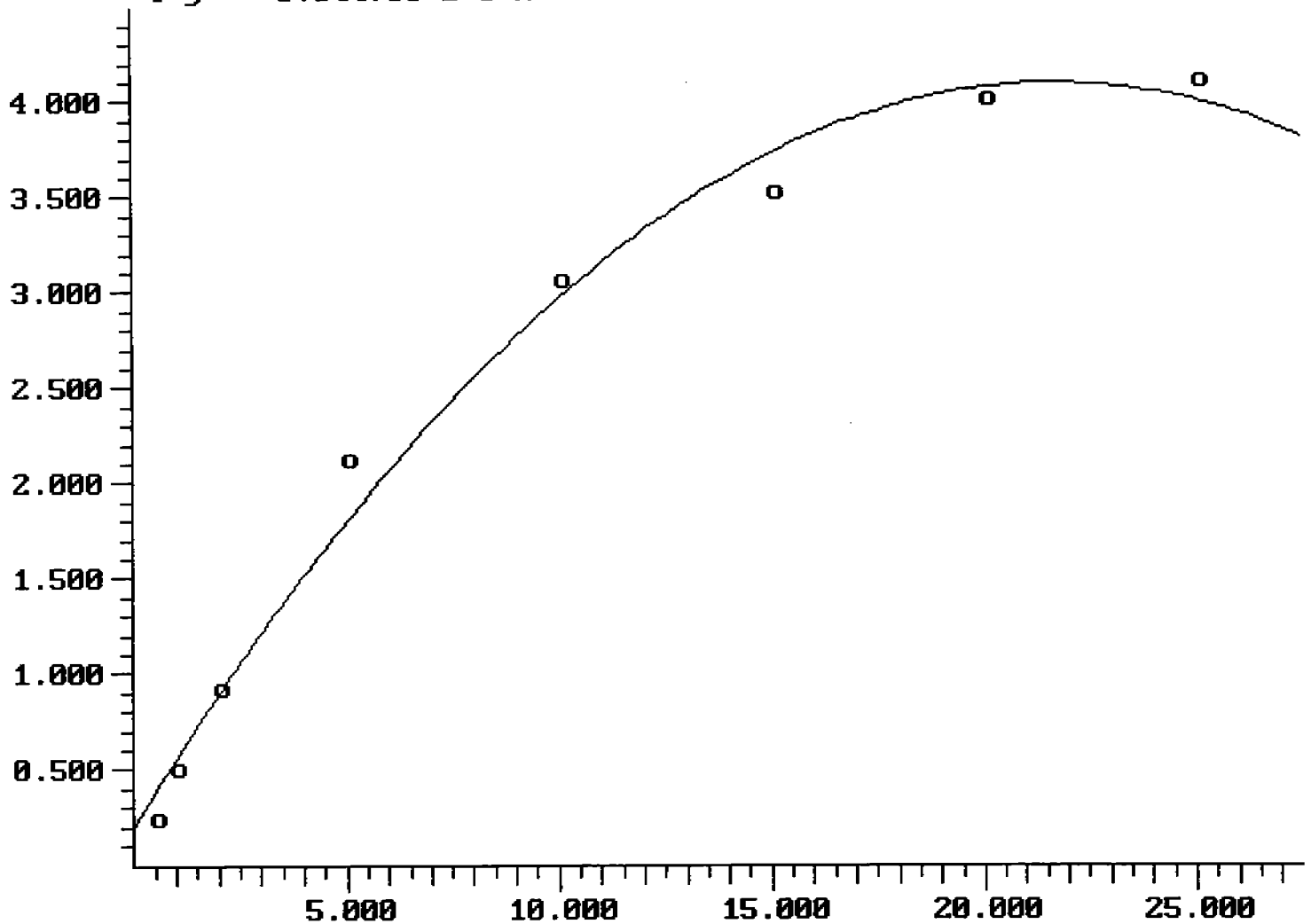
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.993
Indeno(1,2,3-cd)Pyrene Compound: 82 of 96 Standard Deviation: 0.282
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin|Lin)
[y = 9.893374 E-3 x^2 + 3.680303 E-1 x + -1.112138 E-1]



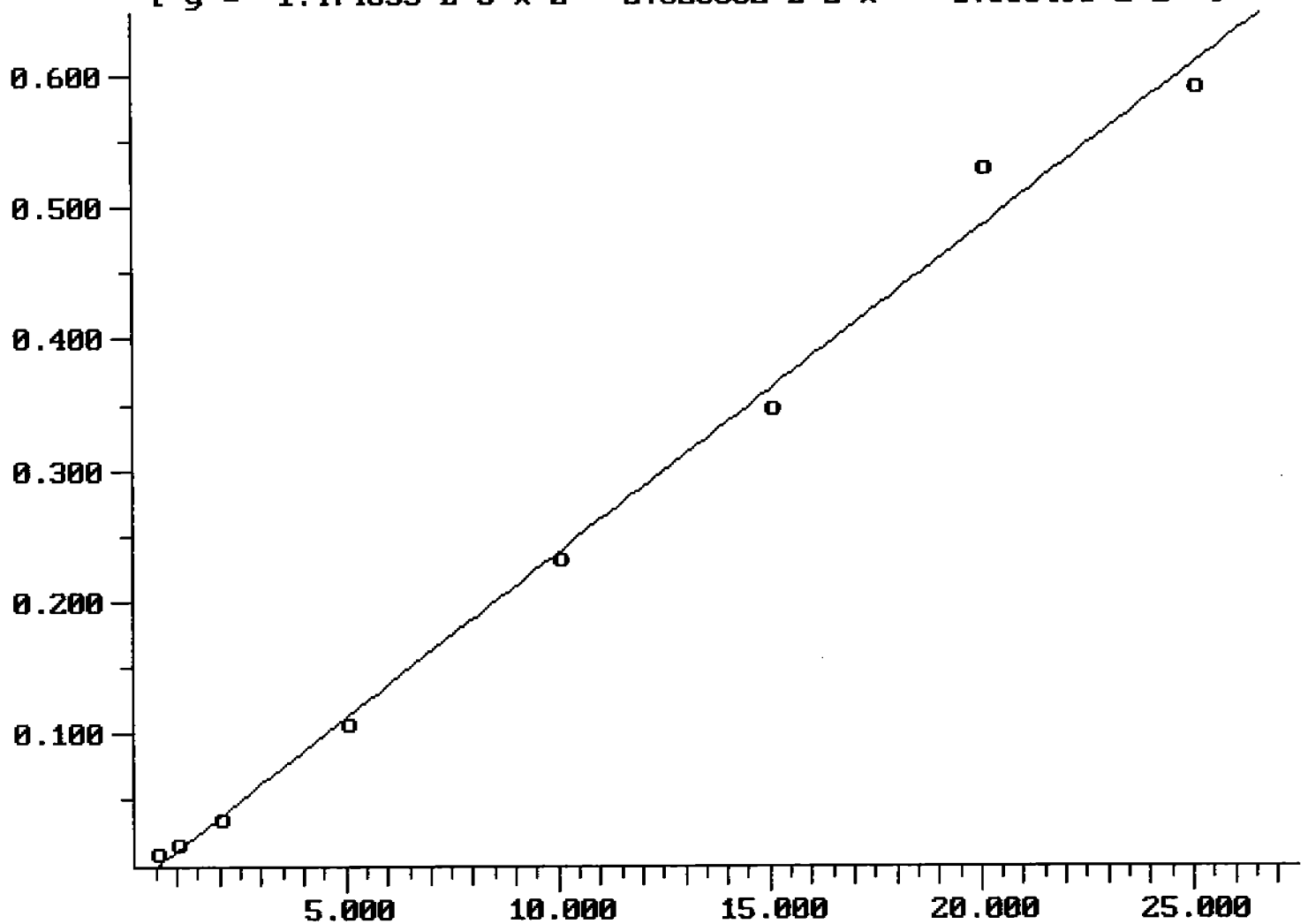
Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.992
N-Nitrosodimethylamine Compound: 85 of 96 Standard Deviation: 0.027
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -7.077291 E-4 x^2 + 6.128921 E-2 x + 7.329998 E-3]



Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.944
Benzaldehyde Compound: 92 of 96 Standard Deviation: 0.153
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -8.344760 E-3 x^2 + 3.604210 E-1 x + 2.061005 E-1]

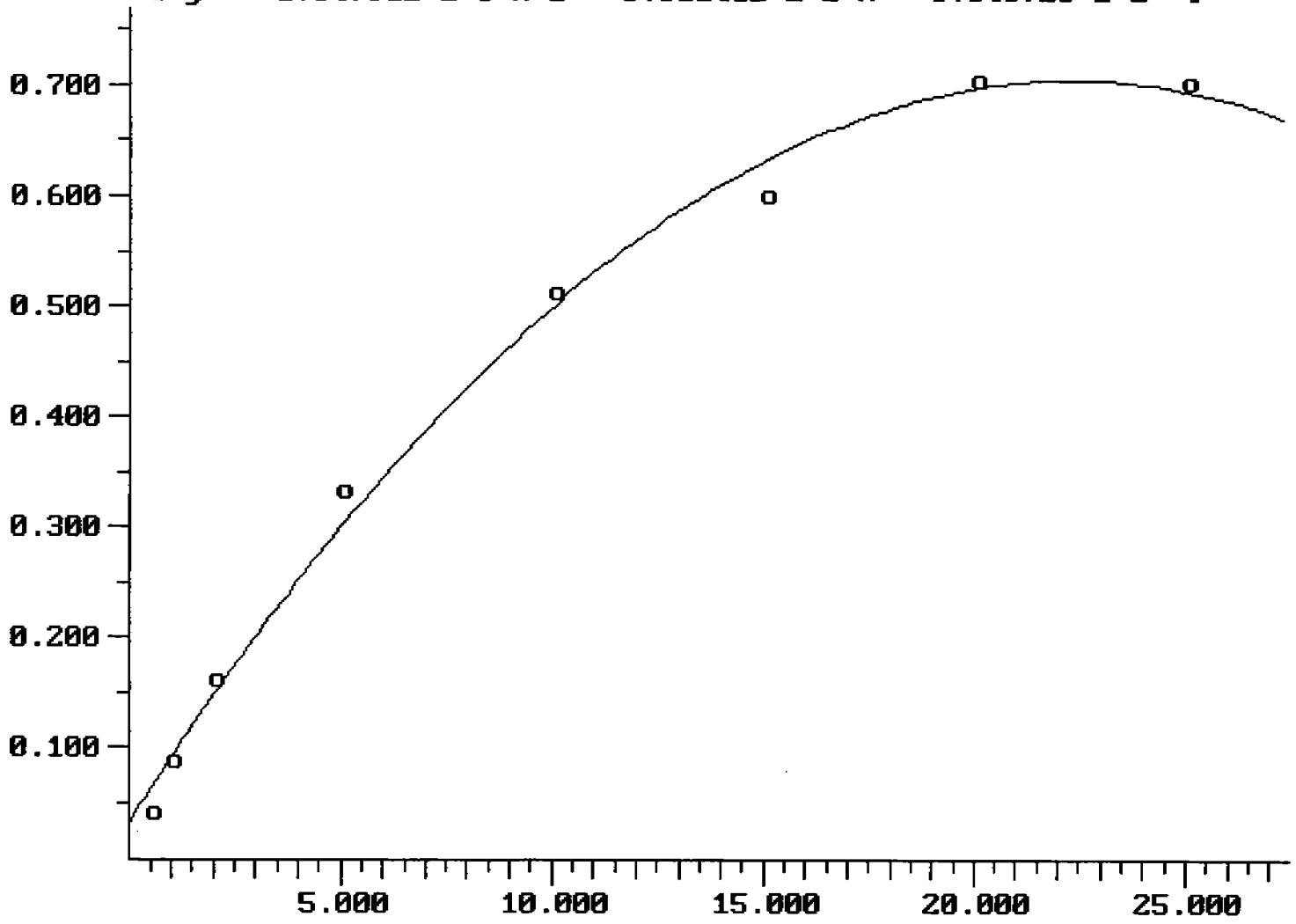


Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.997
Caprolactam Compound: 94 of 96 Standard Deviation: 0.018
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -1.474633 E-5 x^2 + 2.525852 E-2 x + -1.380498 E-2]

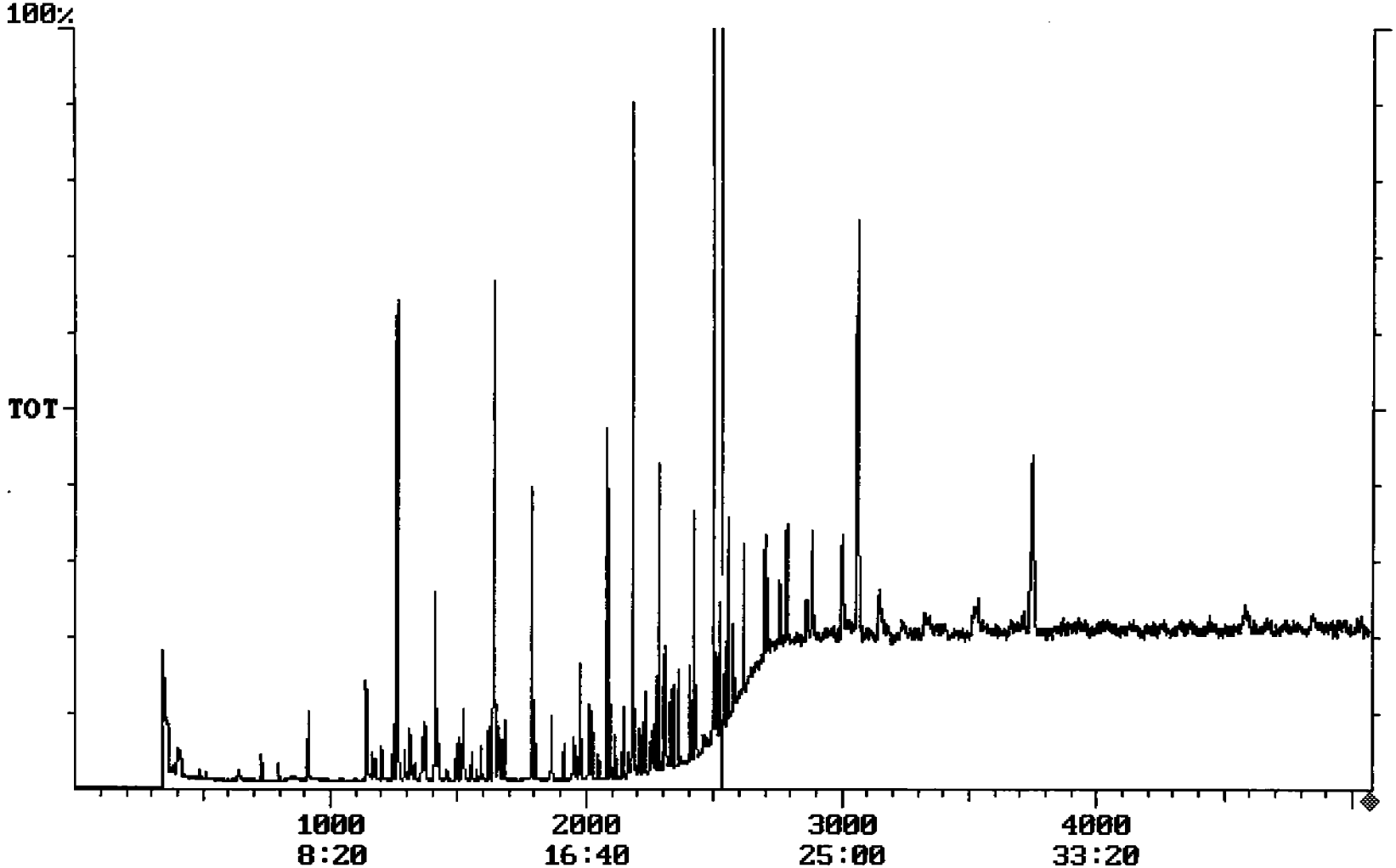


000911

Calibration Plot (Int Stds) Filename: ICC0518 Correlation Coeff: 0.953
Atrazine Compound: 96 of 96 Standard Deviation: 0.019
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -1.347912 E-3 x^2 + 6.011412 E-2 x + 3.343720 E-2]



Chromatogram Plot C:\SATURN\DATA\05IC0518 Date: 05/18/02 20:25:53
Comment: INSTRUMENT 133
Scan: 2532 Seg: 1 Group: 0 Retention: 21:06 RIC: 363861 Masses: 40-429
Plotted: 1 to 5064 Range: 1 to 5064 100% = 3943744



Operator ID: JMK1 Quant Time: 05/20/02 14:08
Output File: 05IC0518.1B2 Injected at: 05/18/02 20:25
Data File: 05IC0518.MS Dilution Factor: 1.00
Name: 05IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.51	1261	152	1694964	5.00	ng/ul	994	1.000
2)	*IS:D8-Naphthalene	13.67	1641	136	5644078	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2181	162	3526793	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.82	2498	188	5548499	5.00	ng/ul	994	1.000
5)	*IS:D12-Chrysene	25.51	3061	240	5167794	5.00	ng/ul	855	1.000
6)	*IS:D12-Perylene	31.22	3746	264	5360850	5.00	ng/ul	861	1.000
7)	ACSUR:2-Fluorophenol	7.59	911	112	502214	1.00	ng/ul	996	1.482
8)	ACSUR:D6-Phenol	9.49	1139	99	554284	1.00	ng/ul	979	1.636
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	320499	1.00	ng/ul	997	0.455
10)	BNSUR:D5-Nitrobenzene	11.82	1418	127	175898	1.00	NG/UL	965	0.156
11)	BNSUR:Decafluorobiphenyl	11.74	1409	334	1103812	1.00	ng/ul	998	0.978
12)	BNSUR:2-Fluorobiphenyl	16.47	1977	172	895802	1.00	ng/ul	998	1.270
13)	BNSUR:O-Terphenyl	21.29	2555	230	762230	1.00	ng/ul	992	0.738
14)	Pyridine	5.30	636	79	196631	0.50	ng/ul	979	1.161
15)	Phenol	9.52	1142	94	257359	0.50	ng/ul	972	1.519
16)	Aniline	9.72	1166	93	286003	0.50	ng/ul	996	1.688
17)	Bis(2-Chloroethyl)Ether	9.82	1178	92	167395	0.50	ng/ul	986	0.988
18)	2-Chlorophenol	10.00	1200	128	291931	0.50	ng/ul	998	1.723
19)	1,3-Dichlorobenzene	10.37	1245	146	311112	0.50	ng/ul	997	1.836
20)	1,4-Dichlorobenzene	10.55	1266	146	283995	0.50	ng/ul	992	1.676
21)	Benzyl Alcohol	10.76	1291	108	94552	0.50	ng/ul	992	0.558
22)	1,2-Dichlorobenzene	10.92	1310	146	278780	0.50	ng/ul	998	1.645
23)	2-Methylphenol	10.96	1316	108	208105	0.50	ng/ul	817	1.228
24)	Bis(2-Chloroisopropyl)Ether	11.07	1329	45	233202	0.50	ng/ul	961	1.376
25)	4-Methylphenol	11.31	1358	108	215876	0.50	ng/ul	999	1.274
26)	N-Nitrosodi-N-Propylamine	11.38	1366	70	129899	0.50	ng/ul	925	0.767
27)	Hexachloroethane	11.76	1411	119	120569	0.50	ng/ul	992	0.712
28)	Nitrobenzene	11.87	1425	77	344216	0.50	ng/ul	982	0.610
29)	Isophorone	12.44	1493	82	454931	0.50	ng/ul	990	0.807
30)	2-Nitrophenol	12.66	1520	109	187194	0.50	ng/ul	983	0.332

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 14:08
Output File: 05IC0518.1B2 Injected at: 05/18/02 20:25
Data File: 05IC0518.MS Dilution Factor: 1.00
Name: 05IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.68	1522	107	339860	0.50	ng/ul	992	0.603
32)	Benzoic Acid	12.95	1554	105	43099	1.00	ng/ul	244	0.039
33)	Bis(2-Chloroethoxy)Methane	12.94	1553	92	255562	0.50	ng/ul	987	0.453
34)	2,4-Dichlorophenol	13.26	1591	162	207189	0.50	ng/ul	997	0.368
35)	1,2,4-Trichlorobenzene	13.51	1621	180	239537	0.50	ng/ul	999	0.425
36)	Naphthalene	13.73	1648	128	797804	0.50	ng/ul	999	1.414
37)	4-Chloroaniline	13.82	1658	127	336641	0.50	ng/ul	984	0.597
38)	2,6-Dichlorophenol	13.84	1661	162	221644	0.50	ng/ul	984	0.393
39)	Hexachlorobutadiene	14.02	1682	225	208929	0.50	ng/ul	996	0.371
40)	4-Chloro-3-Methylphenol	15.00	1800	107	316971	0.50	ng/ul	998	0.562
41)	2-Methylnaphthalene	15.53	1864	142	385698	0.50	ng/ul	999	0.684
42)	Hexachlorocyclopentadiene	15.94	1913	237	138561	0.50	ng/ul	995	0.393
43)	2,4,6-Trichlorophenol	16.24	1949	196	159151	0.50	ng/ul	998	0.452
44)	2,4,5-Trichlorophenol	16.33	1960	196	165787	0.50	ng/ul	998	0.471
45)	2-Chloronapthalene	16.84	2021	162	498372	0.50	ng/ul	998	1.414
46)	2-Nitroaniline	17.06	2047	138	130175	0.50	ng/ul	995	0.370
47)	Dimethyl Phthalate	17.47	2096	163	719669	0.50	ng/ul	999	2.041
48)	2,6-Dinitrotoluene	17.63	2115	165	124357	0.50	ng/ul	993	0.353
49)	Acenaphthylene	17.87	2145	152	659006	0.50	ng/ul	999	1.869
50)	3-Nitroaniline	18.02	2163	138	108398	0.50	ng/ul	994	0.308
51)	Acenaphthene	18.25	2190	152	500602	0.50	ng/ul	962	1.420
52)	2,4-Dinitrophenol	18.32	2198	184	16137	0.51	ng/ul	0	0.045
53)	4-Nitrophenol	18.30	2196	65	36550	0.50	ng/ul	940	0.104
54)	Dibenzofuran	18.59	2231	168	707776	0.50	ng/ul	1000	2.007
55)	2,4-Dinitrotoluene	18.50	2220	165	209539	0.50	ng/ul	997	0.595
56)	Benzo(b)Fluoranthene	29.32	3518	252	632613	0.50	ng/ul	946	1.181
57)	Diethyl Phthalate	18.94	2273	149	883076	0.50	ng/ul	970	2.504
58)	Fluorene	19.25	2310	166	388323	0.50	ng/ul	954	1.102
59)	4-Chlorophenyl Phenyl Ether	19.21	2305	204	297326	0.50	ng/ul	950	0.844
60)	4-Nitroaniline	19.23	2308	108	291491	0.50	ng/ul	955	0.827

* Compound is ISTD

Operator ID: JMK1
Output File: 05IC0518.1B2
Data File: 05IC0518.MS
Name: 05IC0518
Sample:

Quant Time: 05/20/02 14:08
Injected at: 05/18/02 20:25
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.31	2317	198	54569	0.50	ng/ul	846	0.099
62)	N-Nitrosodiphenylamine	19.41	2329	169	292306	0.50	ng/ul	998	0.527
63)	1,2-Diphenylhydrazine	19.50	2340	77	700093	0.50	ng/ul	959	1.262
64)	4-Bromophenyl Phenyl Ether	20.06	2407	248	222653	0.50	ng/ul	997	0.402
65)	Hexachlorobenzene	20.19	2423	284	191277	0.50	ng/ul	899	0.345
66)	Pentachlorophenol	20.50	2460	266	138543	0.51	ng/ul	987	0.245
67)	Phenanthrene	20.85	2502	178	626838	0.50	ng/ul	997	1.130
68)	Anthracene	20.92	2511	178	676638	0.50	ng/ul	995	1.220
69)	Carbazole	21.12	2535	167	648770	0.50	ng/ul	959	1.170
70)	Di-n-Butyl Phthalate	21.47	2577	149	1153034	0.50	ng/ul	923	2.079
71)	Fluoranthene	22.59	2711	202	667909	0.50	ng/ul	961	1.204
72)	Benzidine	22.70	2724	184	344125	1.00	ng/ul	793	0.333
73)	Pyrene	22.99	2759	202	665853	0.50	ng/ul	948	1.289
74)	Butyl Benzyl Phthalate	23.85	2862	149	420187	0.50	ng/ul	859	0.814
75)	3,3'-Dichlorobenzidine	25.27	3033	252	272816	0.50	ng/ul	717	0.528
76)	Bis(2-Ethylhexyl)Phthalate	24.99	2999	149	879370	0.50	ng/ul	435	1.695
77)	Benzo(a)Anthracene	25.48	3058	228	708804	0.50	ng/ul	174	1.372
78)	Chrysene	25.59	3071	228	631898	0.50	ng/ul	893	1.223
79)	Di-n-Octylphthalate	26.98	3238	149	880630	0.50	ng/ul	899	1.705
80)	Benzo(k)Fluoranthene	29.43	3532	252	718688	0.50	ng/ul	915	1.341
81)	Benzo(a)Pyrene	30.93	3712	252	609621	0.50	ng/ul	884	1.138
82)	Indeno(1,2,3-cd)Pyrene	38.16	4580	276	818769	0.50	ng/ul	0	1.582
83)	Dibenzo(a,h)Anthracene	38.25	4590	278	557897	0.52	ng/ul	157	1.010
84)	Benzo(g,h,i)Perylene	40.34	4841	276	710711	0.50	ng/ul	456	1.326
85)	N-Nitrosodimethylamine	5.19	623	73	59806	0.50	ng/ul	855	0.353
86)	2,3,4,6-tetrachlorophenol	18.82	2258	232	142118	0.50	ng/ul	996	0.403
87)	2,3-Dinitrotoluene	18.41	2209	165	199507	0.50	ng/ul	994	0.566
88)	2,4-Diaminotoluene	16.69	2003	121	105365	0.50	ng/ul	991	0.187
89)	2-Chloroaniline	12.57	1508	127	353437	0.50	ng/ul	996	0.627
90)	5-Nitro-o-toluidine	19.22	2307	152	147345	0.50	ng/ul	740	0.418

* Compound is ISTD

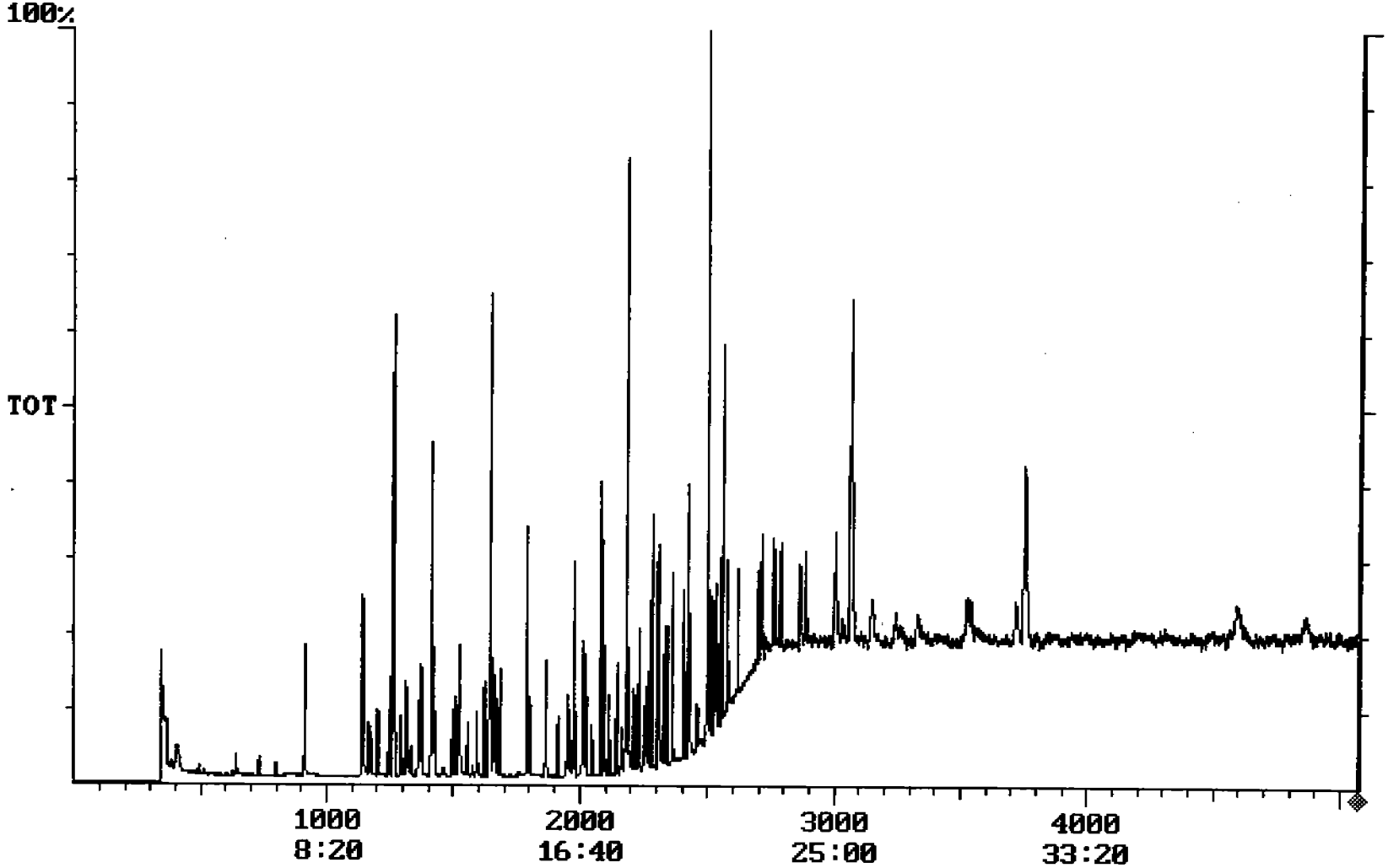
Operator ID: JMK1 Quant Time: 05/20/02 14:08
Output File: 05IC0518.1B2 Injected at: 05/18/02 20:25
Data File: 05IC0518.MS Dilution Factor: 1.00
Name: 05IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.75	2250	143	288660	0.50	ng/ul	979	0.819
92)	Benzaldehyde	9.50	1140	105	402389	0.50	ng/ul	976	2.375
93)	Acetophenone	11.43	1371	105	551083	0.50	ng/ul	987	0.977
94)	Caprolactam	14.63	1756	85	43258	0.50	ng/ul	848	0.077
95)	Biphenyl	16.76	2011	154	583383	0.50	ng/ul	997	1.655
96)	Atrazine	20.24	2429	200	225039	0.50	ng/ul	799	0.406

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\1IC0518 Date: 05/18/02 21:17:49
Comment: INSTRUMENT 133
Scan: 5064 Seg: 1 Group: 0 Retention: 42:12 RIC: 842243 Masses: 43-430
Plotted: 1 to 5064 Range: 1 to 5064 100% = 4217907



Operator ID: JMK1 Quant Time: 05/20/02 14:41
Output File: 1IC0518.1B2 Injected at: 05/18/02 21:17
Data File: 1IC0518.MS Dilution Factor: 1.00
Name: 1IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.51	1261	152	1712746	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.67	1641	136	5807408	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2181	162	3503453	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.81	2498	188	5533197	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.52	3063	240	5035971	5.00	ng/ul	833	1.000
6)	*IS:D12-Perylene	31.27	3753	264	5406535	5.00	ng/ul	873	1.000
7)	ACSUR:2-Fluorophenol	7.60	912	112	981097	2.00	ng/ul	997	1.433
8)	ACSUR:D6-Phenol	9.49	1139	99	1090258	2.00	ng/ul	980	1.592
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	650170	2.00	ng/ul	999	0.464
10)	BNSUR:D5-Nitrobenzene	11.82	1419	127	344944	2.00	NG/UL	962	0.149
11)	BNSUR:Decafluorobiphenyl	11.74	1409	334	2158787	2.00	ng/ul	998	0.930
12)	BNSUR:2-Fluorobiphenyl	16.47	1977	172	1679740	2.00	ng/ul	998	1.199
13)	BNSUR:O-Terphenyl	21.29	2555	230	1491863	2.00	ng/ul	996	0.741
14)	Pyridine	5.31	637	79	387177	1.00	ng/ul	989	1.131
15)	Phenol	9.52	1143	94	503466	1.00	ng/ul	981	1.470
16)	Aniline	9.72	1166	93	596831	1.00	ng/ul	997	1.743
17)	Bis(2-Chloroethyl)Ether	9.82	1178	92	315146	1.00	ng/ul	989	0.921
18)	2-Chlorophenol	10.00	1200	128	554630	1.00	ng/ul	999	1.620
19)	1,3-Dichlorobenzene	10.38	1246	146	574605	1.00	ng/ul	997	1.678
20)	1,4-Dichlorobenzene	10.55	1266	146	552771	1.00	ng/ul	987	1.614
21)	Benzyl Alcohol	10.76	1291	108	181308	1.00	ng/ul	991	0.530
22)	1,2-Dichlorobenzene	10.92	1310	146	533893	1.00	ng/ul	999	1.559
23)	2-Methylphenol	10.97	1316	108	425208	1.01	ng/ul	977	1.231
24)	Bis(2-Chloroisopropyl)Ether	11.07	1329	45	433459	1.00	ng/ul	946	1.266
25)	4-Methylphenol	11.32	1358	108	422674	1.00	ng/ul	999	1.234
26)	N-Nitrosodi-N-Propylamine	11.39	1367	70	235987	1.00	ng/ul	905	0.689
27)	Hexachloroethane	11.77	1412	119	235317	1.00	ng/ul	995	0.687
28)	Nitrobenzene	11.87	1425	77	644915	1.00	ng/ul	989	0.556
29)	Isophorone	12.44	1493	82	863331	1.00	ng/ul	993	0.744
30)	2-Nitrophenol	12.67	1520	109	365890	1.00	ng/ul	984	0.316

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 14:41
Output File: 1IC0518.1B2 Injected at: 05/18/02 21:17
Data File: 1IC0518.MS Dilution Factor: 1.00
Name: 1IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.67	1521	107	654991	1.00	ng/ul	990	0.564
32)	Benzoic Acid	12.73	1527	105	138540	2.00	ng/ul	868	0.060
33)	Bis(2-Chloroethoxy)Methane	12.94	1553	92	506536	1.00	ng/ul	992	0.437
34)	2,4-Dichlorophenol	13.26	1591	162	387270	1.00	ng/ul	998	0.334
35)	1,2,4-Trichlorobenzene	13.51	1621	180	459082	1.00	ng/ul	999	0.396
36)	Naphthalene	13.73	1648	128	1532199	1.00	ng/ul	999	1.320
37)	4-Chloroaniline	13.82	1658	127	650839	1.00	ng/ul	982	0.561
38)	2,6-Dichlorophenol	13.85	1662	162	422398	1.00	ng/ul	982	0.364
39)	Hexachlorobutadiene	14.02	1682	225	369179	1.00	ng/ul	996	0.318
40)	4-Chloro-3-Methylphenol	15.00	1800	107	603904	1.00	ng/ul	998	0.520
41)	2-Methylnaphthalene	15.53	1864	142	750775	1.00	ng/ul	1000	0.647
42)	Hexachlorocyclopentadiene	15.93	1912	237	268085	1.00	ng/ul	997	0.383
43)	2,4,6-Trichlorophenol	16.24	1949	196	300250	1.00	ng/ul	998	0.429
44)	2,4,5-Trichlorophenol	16.33	1960	196	332938	1.00	ng/ul	999	0.476
45)	2-Chloronapthalene	16.84	2021	162	941210	1.00	ng/ul	998	1.344
46)	2-Nitroaniline	17.06	2047	138	271952	1.00	ng/ul	993	0.389
47)	Dimethyl Phthalate	17.47	2096	163	1316831	1.00	ng/ul	999	1.880
48)	2,6-Dinitrotoluene	17.62	2115	165	246737	1.00	ng/ul	997	0.353
49)	Acenaphthylene	17.87	2145	152	1249409	1.00	ng/ul	999	1.784
50)	3-Nitroaniline	18.02	2163	138	217209	1.00	ng/ul	990	0.310
51)	Acenaphthene	18.24	2189	152	963880	1.00	ng/ul	988	1.376
52)	2,4-Dinitrophenol	18.25	2190	184	42322	1.00	ng/ul	988	0.061
53)	4-Nitrophenol	18.29	2195	65	84652	1.00	ng/ul	974	0.121
54)	Dibenzofuran	18.59	2231	168	1302889	1.00	ng/ul	999	1.860
55)	2,4-Dinitrotoluene	18.50	2220	165	372825	1.00	ng/ul	997	0.533
56)	Benzo(b)Fluoranthene	29.34	3521	252	1232821	1.00	ng/ul	881	1.141
57)	Diethyl Phthalate	18.94	2273	149	1583143	1.00	ng/ul	983	2.260
58)	Fluorene	19.25	2310	166	780105	1.00	ng/ul	972	1.114
59)	4-Chlorophenyl Phenyl Ether	19.21	2305	204	546403	1.00	ng/ul	970	0.780
60)	4-Nitroaniline	19.23	2308	108	579142	1.00	ng/ul	927	0.827

* Compound is ISTD

Operator ID: JMK1
Output File: 1IC0518.1B2
Data File: 1IC0518.MS
Name: 1IC0518
Sample:

Quant Time: 05/20/02 14:41
Injected at: 05/18/02 21:17
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.29	2315	198	124162	1.00	ng/ul	863	0.113
62)	N-Nitrosodiphenylamine	19.41	2329	169	543417	1.00	ng/ul	998	0.492
63)	1,2-Diphenylhydrazine	19.49	2339	77	1323938	1.00	ng/ul	963	1.197
64)	4-Bromophenyl Phenyl Ether	20.06	2407	248	417076	1.00	ng/ul	998	0.377
65)	Hexachlorobenzene	20.19	2423	284	355631	1.00	ng/ul	979	0.322
66)	Pentachlorophenol	20.50	2460	266	226713	1.00	ng/ul	988	0.205
67)	Phenanthrene	20.85	2502	178	1186261	1.00	ng/ul	997	1.072
68)	Anthracene	20.93	2511	178	1226431	1.00	ng/ul	997	1.109
69)	Carbazole	21.12	2535	167	1190506	1.00	ng/ul	983	1.076
70)	Di-n-Butyl Phthalate	21.47	2577	149	2163471	1.00	ng/ul	968	1.955
71)	Fluoranthene	22.60	2712	202	1268196	1.00	ng/ul	977	1.146
72)	Benzidine	22.71	2725	184	767984	2.00	ng/ul	884	0.382
73)	Pyrene	22.99	2759	202	1233573	1.00	ng/ul	962	1.225
74)	Butyl Benzyl Phthalate	23.85	2862	149	858043	1.00	ng/ul	846	0.852
75)	3,3'-Dichlorobenzidine	25.27	3032	252	510360	1.00	ng/ul	853	0.507
76)	Bis(2-Ethylhexyl)Phthalate	25.02	3002	149	1339636	1.00	ng/ul	536	1.331
77)	Benzo(a)Anthracene	25.50	3060	228	1261699	1.00	ng/ul	795	1.253
78)	Chrysene	25.60	3072	228	1191614	1.00	ng/ul	918	1.184
79)	Di-n-Octylphthalate	27.02	3243	149	1545774	1.00	ng/ul	890	1.535
80)	Benzo(k)Fluoranthene	29.47	3537	252	1275175	1.00	ng/ul	911	1.180
81)	Benzo(a)Pyrene	31.00	3720	252	1117373	1.00	ng/ul	902	1.034
82)	Indeno(1,2,3-cd)Pyrene	38.25	4590	276	1594835	1.00	ng/ul	554	1.584
83)	Dibenzo(a,h)Anthracene	38.32	4598	278	1055289	1.00	ng/ul	0	0.976
84)	Benzo(g,h,i)Perylene	40.48	4857	276	1346921	1.00	ng/ul	844	1.246
85)	N-Nitrosodimethylamine	5.20	624	73	93579	1.00	ng/ul	869	0.274
86)	2,3,4,6-tetrachlorophenol	18.81	2257	232	287846	1.00	ng/ul	997	0.411
87)	2,3-Dinitrotoluene	18.41	2209	165	400147	1.00	ng/ul	998	0.572
88)	2,4-Diaminotoluene	16.69	2003	121	207129	1.00	ng/ul	975	0.179
89)	2-Chloroaniline	12.57	1508	127	681138	1.00	ng/ul	997	0.587
90)	5-Nitro-o-toluidine	19.23	2307	152	291144	1.00	ng/ul	820	0.416

* Compound is ISTD

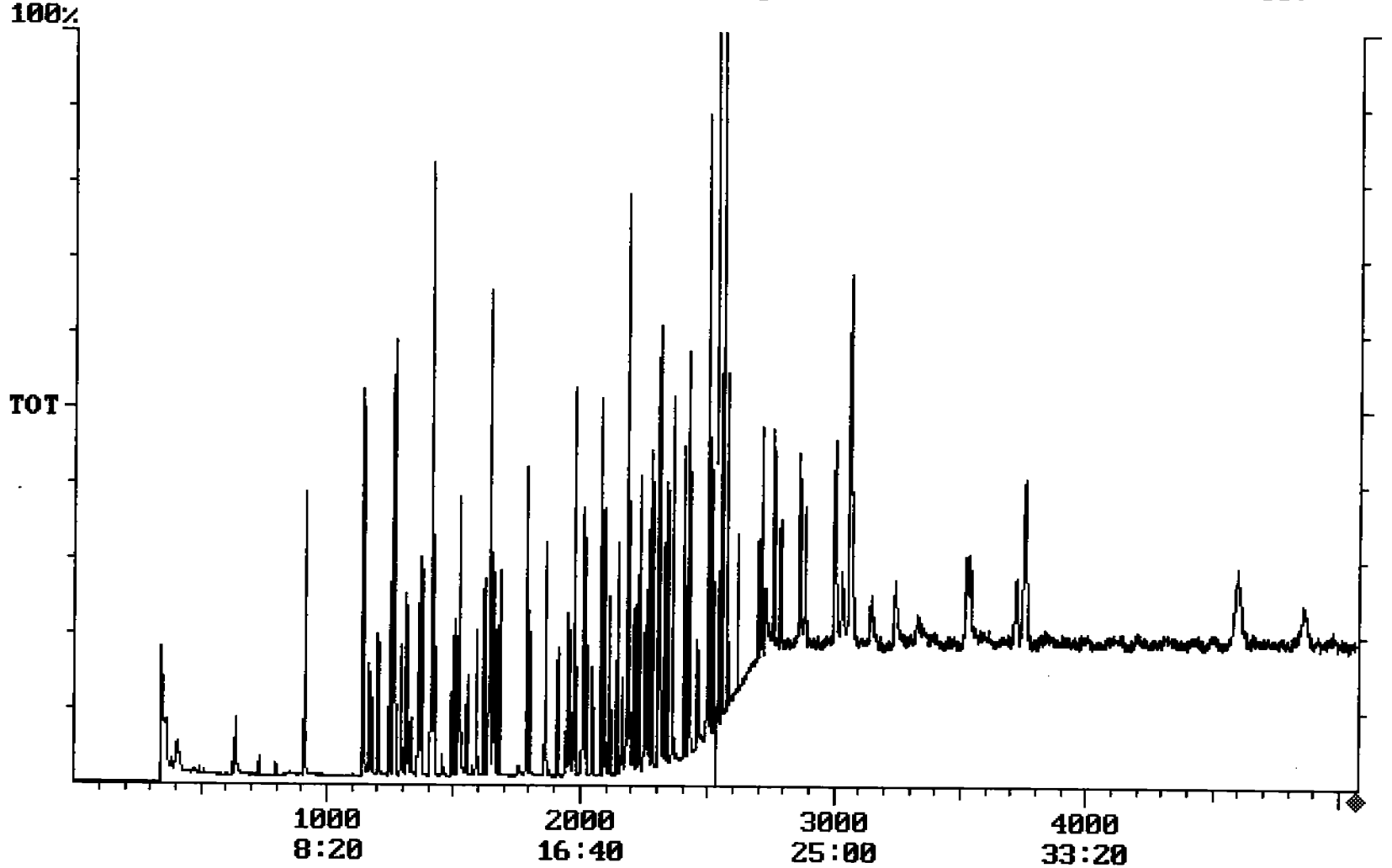
Operator ID: JMK1 Quant Time: 05/20/02 14:41
Output File: 1IC0518.1B2 Injected at: 05/18/02 21:17
Data File: 1IC0518.MS Dilution Factor: 1.00
Name: 1IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.74	2249	143	564712	1.00	ng/ul	982	0.806
92)	Benzaldehyde	9.51	1141	105	838362	1.00	ng/ul	966	2.448
93)	Acetophenone	11.42	1371	105	1165087	1.00	ng/ul	995	1.004
94)	Caprolactam	14.64	1757	85	91049	1.00	ng/ul	919	0.079
95)	Biphenyl	16.76	2011	154	1194052	1.00	ng/ul	998	1.705
96)	Atrazine	20.23	2428	200	483774	1.00	ng/ul	863	0.438

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\2IC0518 Date: 05/18/02 22:09:53
Comment: INSTRUMENT 133
Scan: 2532 Seg: 1 Group: 0 Retention: 21:06 RIC: 505279 Masses: 43-415
Plotted: 1 to 5064 Range: 1 to 5064 100% = 4265557



000923

Operator ID: JMK1
Output File: 2IC0518.1B2
Data File: 2IC0518.MS
Name: 2IC0518
Sample:

Quant Time: 05/20/02 14:49
Injected at: 05/18/02 22:09
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.51	1261	152	1680790	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.68	1642	136	5670651	5.00	ng/ul	1000	1.000
3)	*IS:D10-Acenaphthene	18.17	2181	162	3392987	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	5333467	5.00	ng/ul	982	1.000
5)	*IS:D12-Chrysene	25.52	3063	240	4805945	5.00	ng/ul	868	1.000
6)	*IS:D12-Perylene	31.27	3752	264	5451897	5.00	ng/ul	864	1.000
7)	ACSUR:2-Fluorophenol	7.60	912	112	1989225	4.00	ng/ul	997	1.480
8)	ACSUR:D6-Phenol	9.49	1139	99	2352927	4.00	ng/ul	987	1.750
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	1329552	4.00	ng/ul	998	0.490
10)	BNSUR:D5-Nitrobenzene	11.82	1418	127	643088	4.00	NG/UL	985	0.142
11)	BNSUR:Decafluorobiphenyl	11.74	1409	334	4160123	4.00	ng/ul	999	0.918
12)	BNSUR:2-Fluorobiphenyl	16.46	1976	172	3356106	4.00	ng/ul	999	1.237
13)	BNSUR:O-Terphenyl	21.29	2555	230	2959674	4.00	ng/ul	987	0.770
14)	Pyridine	5.30	636	79	786940	2.00	ng/ul	992	1.171
15)	Phenol	9.52	1143	94	1062885	2.00	ng/ul	990	1.581
16)	Aniline	9.72	1166	93	1241497	2.00	ng/ul	998	1.847
17)	Bis(2-Chloroethyl)Ether	9.82	1178	92	576936	2.00	ng/ul	990	0.859
18)	2-Chlorophenol	10.00	1200	128	1197502	2.00	ng/ul	999	1.782
19)	1,3-Dichlorobenzene	10.38	1246	146	1160372	2.00	ng/ul	997	1.726
20)	1,4-Dichlorobenzene	10.55	1266	146	1156840	2.00	ng/ul	997	1.721
21)	Benzyl Alcohol	10.76	1291	108	365680	2.00	ng/ul	995	0.544
22)	1,2-Dichlorobenzene	10.92	1310	146	1046796	2.00	ng/ul	999	1.557
23)	2-Methylphenol	10.97	1316	108	849588	2.00	ng/ul	970	1.264
24)	Bis(2-Chloroisopropyl)Ether	11.07	1329	45	822669	2.00	ng/ul	969	1.224
25)	4-Methylphenol	11.32	1358	108	795644	2.00	ng/ul	999	1.184
26)	N-Nitrosodi-N-Propylamine	11.38	1366	70	481936	2.00	ng/ul	908	0.717
27)	Hexachloroethane	11.76	1411	119	461369	2.00	ng/ul	994	0.687
28)	Nitrobenzene	11.87	1424	77	1283124	2.00	ng/ul	996	0.566
29)	Isophorone	12.44	1493	82	1724778	2.00	ng/ul	995	0.761
30)	2-Nitrophenol	12.67	1520	109	732584	2.00	ng/ul	987	0.323

* Compound is ISTD

Operator ID: JMK1
Output File: 2IC0518.1B2
Data File: 2IC0518.MS
Name: 2IC0518
Sample:

Quant Time: 05/20/02 14:49
Injected at: 05/18/02 22:09
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.67	1521	107	1328813	2.00	ng/ul	994	0.586
32)	Benzoic Acid	12.72	1526	105	459278	4.00	ng/ul	963	0.102
33)	Bis(2-Chloroethoxy)Methane	12.94	1553	92	994300	2.00	ng/ul	993	0.439
34)	2,4-Dichlorophenol	13.26	1591	162	832047	2.00	ng/ul	998	0.367
35)	1,2,4-Trichlorobenzene	13.51	1621	180	940866	2.00	ng/ul	999	0.415
36)	Naphthalene	13.73	1648	128	3066222	2.00	ng/ul	999	1.352
37)	4-Chloroaniline	13.82	1658	127	1351510	2.00	ng/ul	991	0.596
38)	2,6-Dichlorophenol	13.85	1662	162	876660	2.00	ng/ul	991	0.387
39)	Hexachlorobutadiene	14.02	1682	225	760045	2.00	ng/ul	998	0.336
40)	4-Chloro-3-Methylphenol	15.00	1800	107	1226389	2.00	ng/ul	999	0.541
41)	2-Methylnaphthalene	15.53	1864	142	1493749	2.00	ng/ul	1000	0.659
42)	Hexachlorocyclopentadiene	15.94	1913	237	587601	2.00	ng/ul	998	0.433
43)	2,4,6-Trichlorophenol	16.24	1949	196	635642	2.00	ng/ul	998	0.469
44)	2,4,5-Trichlorophenol	16.33	1960	196	682422	2.00	ng/ul	998	0.503
45)	2-Chloronapthalene	16.84	2021	162	1859658	2.00	ng/ul	999	1.371
46)	2-Nitroaniline	17.06	2047	138	556577	2.00	ng/ul	995	0.411
47)	Dimethyl Phthalate	17.47	2096	163	2824077	2.00	ng/ul	1000	2.081
48)	2,6-Dinitrotoluene	17.62	2115	165	512396	2.00	ng/ul	995	0.378
49)	Acenaphthylene	17.87	2145	152	2500029	2.00	ng/ul	999	1.843
50)	3-Nitroaniline	18.02	2162	138	454441	2.00	ng/ul	995	0.335
51)	Acenaphthene	18.24	2189	152	2062024	2.00	ng/ul	995	1.520
52)	2,4-Dinitrophenol	18.25	2190	184	148973	2.00	ng/ul	995	0.110
53)	4-Nitrophenol	18.29	2195	65	200633	2.00	ng/ul	984	0.148
54)	Dibenzofuran	18.59	2231	168	2591765	2.00	ng/ul	999	1.910
55)	2,4-Dinitrotoluene	18.50	2220	165	805120	2.00	ng/ul	998	0.594
56)	Benzo(b)Fluoranthene	29.35	3522	252	2256222	2.00	ng/ul	892	1.035
57)	Diethyl Phthalate	18.94	2273	149	3274445	2.00	ng/ul	990	2.413
58)	Fluorene	19.25	2310	166	1564892	2.00	ng/ul	976	1.154
59)	4-Chlorophenyl Phenyl Ether	19.21	2305	204	1171535	2.00	ng/ul	976	0.864
60)	4-Nitroaniline	19.23	2308	108	1189889	2.00	ng/ul	940	0.877

* Compound is ISTD

Operator ID: JMK1
Output File: 2IC0518.1B2
Data File: 2IC0518.MS
Name: 2IC0518
Sample:

Quant Time: 05/20/02 14:49
Injected at: 05/18/02 22:09
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.28	2314	198	324719	2.00	ng/ul	882	0.153
62)	N-Nitrosodiphenylamine	19.41	2329	169	1077476	2.00	ng/ul	999	0.506
63)	1,2-Diphenylhydrazine	19.49	2339	77	2594385	2.00	ng/ul	964	1.217
64)	4-Bromophenyl Phenyl Ether	20.06	2407	248	865356	2.00	ng/ul	997	0.406
65)	Hexachlorobenzene	20.19	2423	284	669518	2.00	ng/ul	991	0.314
66)	Pentachlorophenol	20.49	2459	266	465815	2.00	ng/ul	988	0.219
67)	Phenanthrene	20.85	2502	178	2388513	2.00	ng/ul	970	1.120
68)	Anthracene	20.92	2511	178	2550537	2.00	ng/ul	994	1.196
69)	Carbazole	21.12	2535	167	2335122	2.00	ng/ul	966	1.095
70)	Di-n-Butyl Phthalate	21.47	2577	149	4136811	2.00	ng/ul	972	1.940
71)	Fluoranthene	22.60	2712	202	2568429	2.00	ng/ul	967	1.204
72)	Benzidine	22.71	2725	184	1953954	4.00	ng/ul	870	0.509
73)	Pyrene	22.99	2759	202	2554060	2.00	ng/ul	953	1.329
74)	Butyl Benzyl Phthalate	23.84	2861	149	1832506	2.00	ng/ul	887	0.954
75)	3,3'-Dichlorobenzidine	25.25	3030	252	1144738	2.00	ng/ul	817	0.596
76)	Bis(2-Ethylhexyl)Phthalate	25.00	3000	149	2741668	2.00	ng/ul	703	1.427
77)	Benzo(a)Anthracene	25.49	3059	228	2623219	2.00	ng/ul	829	1.365
78)	Chrysene	25.59	3071	228	2463090	2.00	ng/ul	860	1.282
79)	Di-n-Octylphthalate	27.01	3241	149	3386130	2.00	ng/ul	879	1.762
80)	Benzo(k)Fluoranthene	29.47	3536	252	2821663	2.00	ng/ul	810	1.294
81)	Benzo(a)Pyrene	31.01	3721	252	2278056	2.00	ng/ul	877	1.045
82)	Indeno(1,2,3-cd)Pyrene	38.28	4594	276	3342234	2.00	ng/ul	675	1.739
83)	Dibenzo(a,h)Anthracene	38.35	4602	278	2245303	2.00	ng/ul	856	1.030
84)	Benzo(g,h,i)Perylene	40.51	4861	276	2736101	2.00	ng/ul	757	1.255
85)	N-Nitrosodimethylamine	5.18	622	73	229864	2.00	ng/ul	897	0.342
86)	2,3,4,6-tetrachlorophenol	18.81	2257	232	604164	2.00	ng/ul	998	0.446
87)	2,3-Dinitrotoluene	18.41	2209	165	769151	2.00	ng/ul	998	0.567
88)	2,4-Diaminotoluene	16.69	2003	121	465911	2.00	ng/ul	983	0.206
89)	2-Chloroaniline	12.57	1508	127	1385540	2.00	ng/ul	998	0.611
90)	5-Nitro-o-toluidine	19.22	2307	152	610153	2.00	ng/ul	878	0.450

* Compound is ISTD

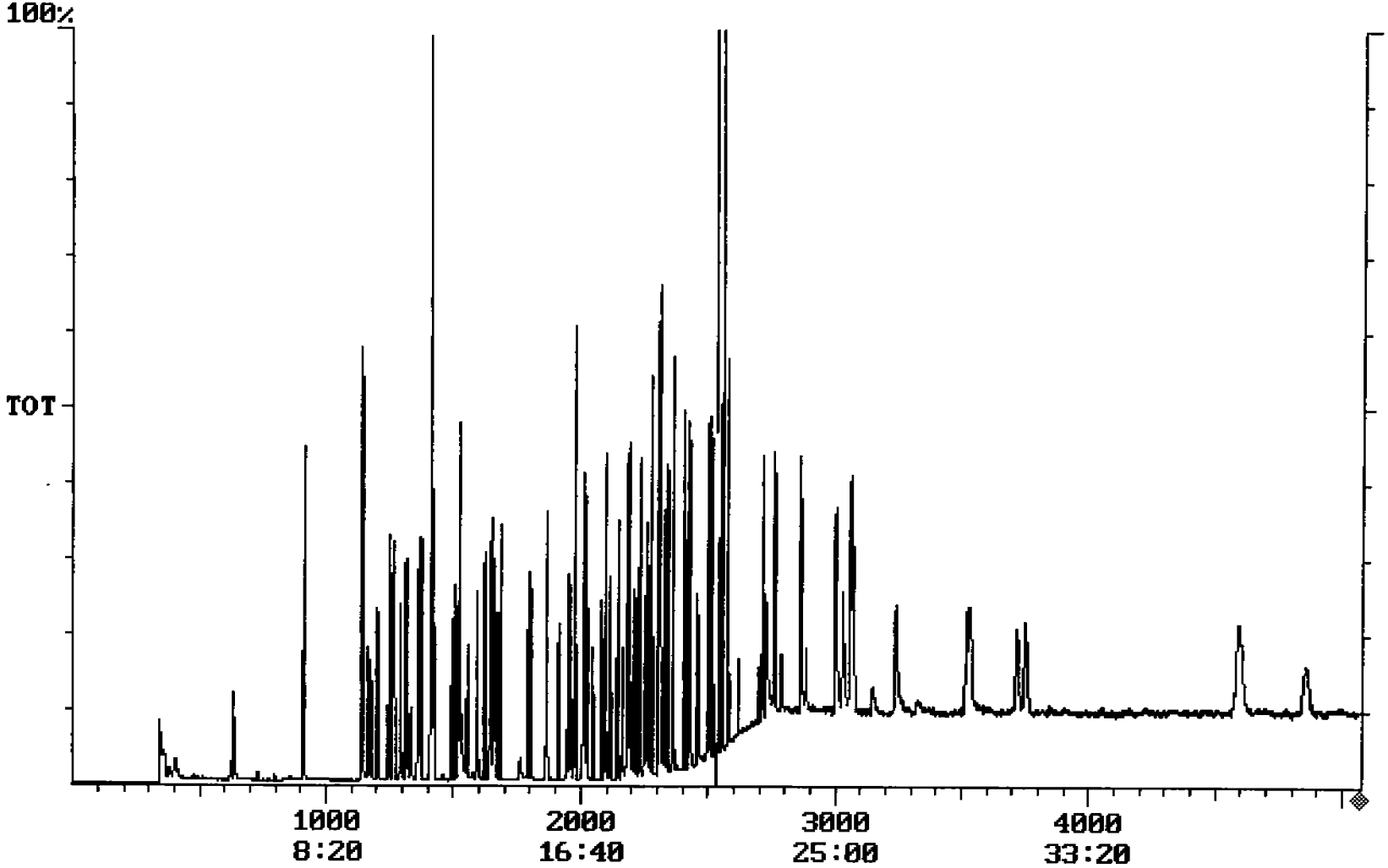
Operator ID: JMK1 Quant Time: 05/20/02 14:49
Output File: 2IC0518.1B2 Injected at: 05/18/02 22:09
Data File: 2IC0518.MS Dilution Factor: 1.00
Name: 2IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.74	2249	143	1082100	2.00	ng/ul	982	0.798
92)	Benzaldehyde	9.51	1141	105	1539574	2.00	ng/ul	968	2.290
93)	Acetophenone	11.42	1371	105	2157169	2.00	ng/ul	998	0.952
94)	Caprolactam	14.64	1757	85	189956	2.00	ng/ul	874	0.084
95)	Biphenyl	16.75	2010	154	2219343	2.00	ng/ul	998	1.636
96)	Atrazine	20.23	2428	200	851064	2.00	ng/ul	933	0.399

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\SIC0518 Date: 05/18/02 23:02:02
Comment: INSTRUMENT 133
Scan: 2532 Seg: 1 Group: 0 Retention: 21:06 RIC: 652598 Masses: 40-415
Plotted: 1 to 5064 Range: 1 to 5064 100% = 8367082



000928

Operator ID: JMK1
Output File: 5IC0518.1B2
Data File: 5IC0518.MS
Name: 5IC0518
Sample:

Quant Time: 05/20/02 14:55
Injected at: 05/18/02 23:02
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.51	1261	152	1659430	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.67	1641	136	5513423	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2181	162	3440676	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	5450399	5.00	ng/ul	981	1.000
5)	*IS:D12-Chrysene	25.52	3062	240	4453360	5.00	ng/ul	846	1.000
6)	*IS:D12-Perylene	31.26	3751	264	5278916	5.00	ng/ul	869	1.000
7)	ACSUR:2-Fluorophenol	7.60	912	112	5063177	10.00	ng/ul	998	1.526
8)	ACSUR:D6-Phenol	9.49	1139	99	5742733	10.00	ng/ul	992	1.731
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	3191505	10.00	ng/ul	999	0.464
10)	BNSUR:D5-Nitrobenzene	11.82	1419	127	1610975	10.00	NG/UL	998	0.147
11)	BNSUR:Decafluorobiphenyl	11.74	1409	334	9744940	10.00	ng/ul	998	0.884
12)	BNSUR:2-Fluorobiphenyl	16.47	1977	172	7872404	10.00	ng/ul	999	1.145
13)	BNSUR:O-Terphenyl	21.29	2555	230	6960502	10.00	ng/ul	995	0.782
14)	Pyridine	5.28	633	79	1947193	5.00	ng/ul	992	1.174
15)	Phenol	9.52	1143	94	2630278	5.00	ng/ul	979	1.586
16)	Aniline	9.72	1166	93	2928984	5.00	ng/ul	998	1.766
17)	Bis(2-Chloroethyl)Ether	9.82	1178	92	1374579	5.00	ng/ul	989	0.829
18)	2-Chlorophenol	10.00	1200	128	2754605	5.00	ng/ul	999	1.660
19)	1,3-Dichlorobenzene	10.38	1246	146	2747363	5.00	ng/ul	998	1.656
20)	1,4-Dichlorobenzene	10.55	1266	146	2753499	5.00	ng/ul	999	1.660
21)	Benzyl Alcohol	10.76	1291	108	917026	5.00	ng/ul	997	0.553
22)	1,2-Dichlorobenzene	10.92	1310	146	2570572	5.00	ng/ul	999	1.550
23)	2-Methylphenol	10.97	1316	108	2114908	5.00	ng/ul	953	1.275
24)	Bis(2-Chloroisopropyl)Ether	11.08	1330	45	1941606	5.00	ng/ul	971	1.171
25)	4-Methylphenol	11.32	1358	108	2004891	5.00	ng/ul	999	1.209
26)	N-Nitrosodi-N-Propylamine	11.39	1367	70	1151790	5.00	ng/ul	891	0.695
27)	Hexachloroethane	11.76	1411	119	1076508	5.00	ng/ul	996	0.649
28)	Nitrobenzene	11.87	1425	77	2927491	5.00	ng/ul	998	0.531
29)	Isophorone	12.44	1493	82	4010299	5.00	ng/ul	995	0.728
30)	2-Nitrophenol	12.67	1520	109	1690265	5.00	ng/ul	995	0.307

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 14:55
Output File: 5IC0518.1B2 Injected at: 05/18/02 23:02
Data File: 5IC0518.MS Dilution Factor: 1.00
Name: 5IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.67	1521	107	3079661	5.00	ng/ul	994	0.559
32)	Benzoic Acid	12.75	1530	105	1818472	10.00	ng/ul	979	0.165
33)	Bis(2-Chloroethoxy)Methane	12.94	1553	92	2404006	5.00	ng/ul	991	0.437
34)	2,4-Dichlorophenol	13.25	1590	162	2004016	5.00	ng/ul	999	0.364
35)	1,2,4-Trichlorobenzene	13.51	1621	180	2215582	5.00	ng/ul	999	0.402
36)	Naphthalene	13.73	1648	128	7181917	5.00	ng/ul	998	1.303
37)	4-Chloroaniline	13.82	1658	127	3470879	5.00	ng/ul	990	0.630
38)	2,6-Dichlorophenol	13.84	1661	162	1966397	5.00	ng/ul	990	0.357
39)	Hexachlorobutadiene	14.02	1682	225	1745921	5.00	ng/ul	997	0.317
40)	4-Chloro-3-Methylphenol	15.00	1800	107	3048098	5.00	ng/ul	998	0.553
41)	2-Methylnaphthalene	15.53	1864	142	3586497	5.00	ng/ul	1000	0.651
42)	Hexachlorocyclopentadiene	15.94	1913	237	1446546	5.00	ng/ul	998	0.421
43)	2,4,6-Trichlorophenol	16.23	1948	196	1574072	5.00	ng/ul	998	0.458
44)	2,4,5-Trichlorophenol	16.33	1960	196	1701542	5.00	ng/ul	998	0.495
45)	2-Chloronapthalene	16.84	2021	162	4555052	5.00	ng/ul	999	1.324
46)	2-Nitroaniline	17.06	2047	138	1406590	5.00	ng/ul	998	0.409
47)	Dimethyl Phthalate	17.47	2096	163	6816058	5.00	ng/ul	999	1.982
48)	2,6-Dinitrotoluene	17.63	2116	165	1214827	5.00	ng/ul	998	0.354
49)	Acenaphthylene	17.87	2144	152	5661254	5.00	ng/ul	999	1.646
50)	3-Nitroaniline	18.02	2163	138	1136890	5.00	ng/ul	997	0.331
51)	Acenaphthene	18.24	2189	152	5077561	5.00	ng/ul	999	1.476
52)	2,4-Dinitrophenol	18.24	2189	184	479114	5.00	ng/ul	999	0.140
53)	4-Nitrophenol	18.29	2195	65	545532	5.00	ng/ul	974	0.159
54)	Dibenzofuran	18.60	2232	168	5947291	5.00	ng/ul	1000	1.729
55)	2,4-Dinitrotoluene	18.50	2220	165	1855976	5.00	ng/ul	999	0.540
56)	Benzo(b)Fluoranthene	29.35	3522	252	5555261	5.00	ng/ul	831	1.053
57)	Diethyl Phthalate	18.94	2273	149	7419566	5.00	ng/ul	998	2.157
58)	Fluorene	19.25	2310	166	3640352	5.00	ng/ul	974	1.059
59)	4-Chlorophenyl Phenyl Ether	19.21	2305	204	2801783	5.00	ng/ul	979	0.815
60)	4-Nitroaniline	19.23	2308	108	2515970	5.00	ng/ul	950	0.732

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 14:55
Output File: 5IC0518.1B2 Injected at: 05/18/02 23:02
Data File: 5IC0518.MS Dilution Factor: 1.00
Name: 5IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.28	2314	198	953506	5.00	ng/ul	896	0.175
62)	N-Nitrosodiphenylamine	19.41	2329	169	2672470	5.00	ng/ul	999	0.491
63)	1,2-Diphenylhydrazine	19.49	2339	77	5806329	5.00	ng/ul	966	1.066
64)	4-Bromophenyl Phenyl Ether	20.06	2407	248	2027735	5.00	ng/ul	999	0.373
65)	Hexachlorobenzene	20.20	2424	284	1641972	5.00	ng/ul	996	0.302
66)	Pentachlorophenol	20.48	2458	266	1171848	5.00	ng/ul	986	0.216
67)	Phenanthrene	20.85	2502	178	5698466	5.00	ng/ul	997	1.046
68)	Anthracene	20.92	2511	178	6272966	5.00	ng/ul	993	1.151
69)	Carbazole	21.12	2535	167	5733830	5.00	ng/ul	984	1.053
70)	Di-n-Butyl Phthalate	21.47	2577	149	9197182	5.00	ng/ul	975	1.688
71)	Fluoranthene	22.60	2712	202	5817890	5.00	ng/ul	963	1.068
72)	Benzidine	22.71	2725	184	5820133	10.00	ng/ul	856	0.654
73)	Pyrene	22.99	2759	202	6153985	5.00	ng/ul	928	1.382
74)	Butyl Benzyl Phthalate	23.84	2861	149	4540057	5.00	ng/ul	920	1.020
75)	3,3'-Dichlorobenzidine	25.25	3030	252	2919993	5.00	ng/ul	867	0.656
76)	Bis(2-Ethylhexyl)Phthalate	25.00	3000	149	6693103	5.00	ng/ul	912	1.503
77)	Benzo(a)Anthracene	25.49	3059	228	6384502	5.00	ng/ul	778	1.434
78)	Chrysene	25.59	3071	228	5609710	5.00	ng/ul	860	1.260
79)	Di-n-Octylphthalate	27.00	3240	149	9658111	5.00	ng/ul	921	2.169
80)	Benzo(k)Fluoranthene	29.45	3534	252	6873880	5.00	ng/ul	872	1.303
81)	Benzo(a)Pyrene	30.98	3718	252	5572669	5.00	ng/ul	840	1.056
82)	Indeno(1,2,3-cd)Pyrene	38.22	4587	276	8520314	5.00	ng/ul	771	1.913
83)	Dibenzo(a,h)Anthracene	38.31	4597	278	5515861	5.00	ng/ul	822	1.045
84)	Benzo(g,h,i)Perylene	40.47	4857	276	6875678	5.00	ng/ul	647	1.303
85)	N-Nitrosodimethylamine	5.17	620	73	474909	5.00	ng/ul	952	0.287
86)	2,3,4,6-tetrachlorophenol	18.81	2257	232	1570218	5.00	ng/ul	999	0.457
87)	2,3-Dinitrotoluene	18.41	2209	165	1855140	5.00	ng/ul	997	0.540
88)	2,4-Diaminotoluene	16.69	2003	121	1199643	5.00	ng/ul	991	0.218
89)	2-Chloroaniline	12.57	1508	127	3340815	5.00	ng/ul	999	0.606
90)	5-Nitro-o-toluidine	19.22	2307	152	1494503	5.00	ng/ul	775	0.435

* Compound is ISTD

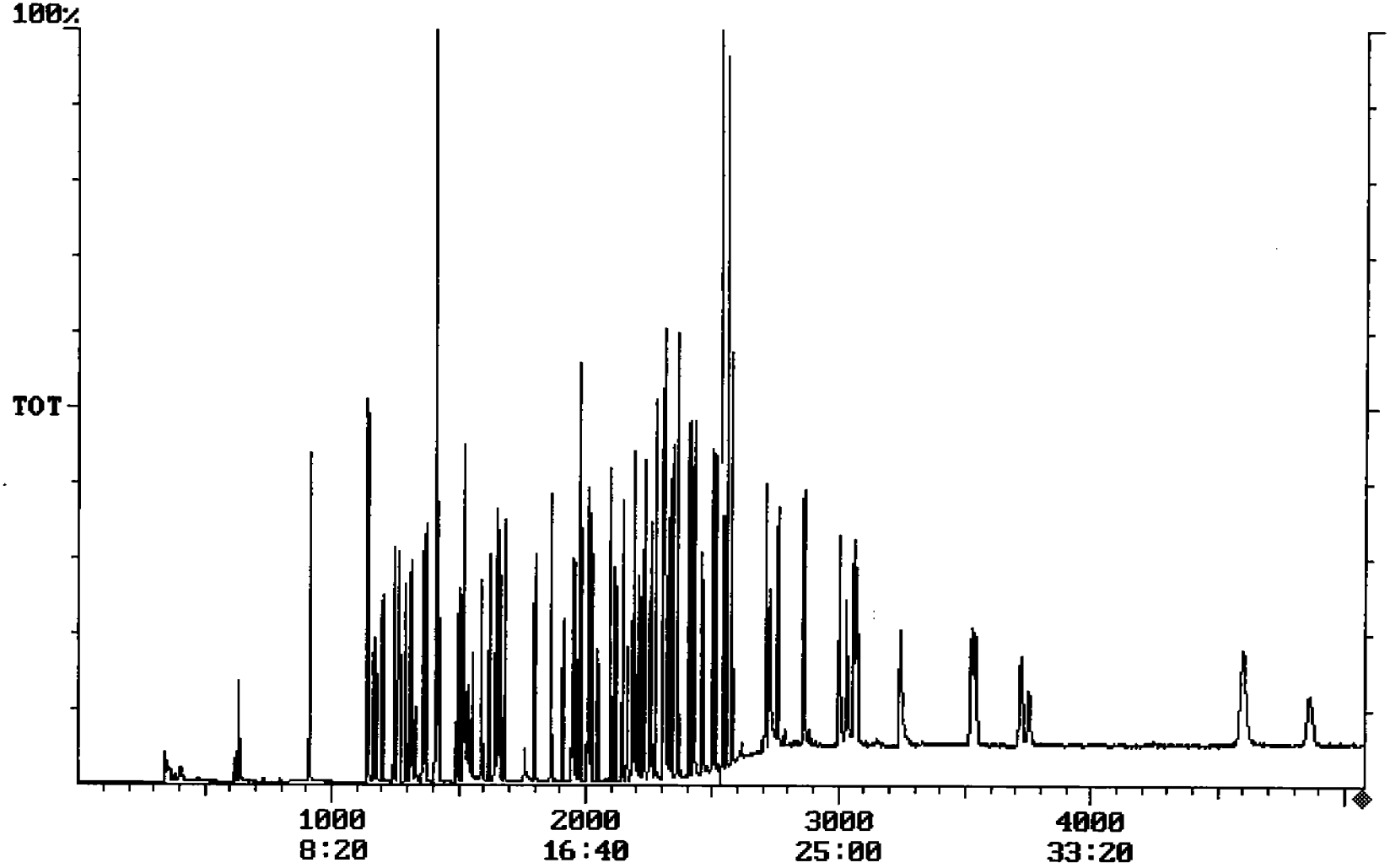
Operator ID: JMK1 Quant Time: 05/20/02 14:55
Output File: 5IC0518.1B2 Injected at: 05/18/02 23:02
Data File: 5IC0518.MS Dilution Factor: 1.00
Name: 5IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.74	2249	143	2619643	5.00	ng/ul	982	0.762
92)	Benzaldehyde	9.51	1141	105	3500160	5.00	ng/ul	986	2.110
93)	Acetophenone	11.42	1371	105	4904042	5.00	ng/ul	999	0.890
94)	Caprolactam	14.65	1758	85	582218	5.00	ng/ul	883	0.106
95)	Biphenyl	16.75	2010	154	5195121	5.00	ng/ul	999	1.510
96)	Atrazine	20.23	2428	200	1805687	5.00	ng/ul	993	0.332

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\10IC0518 Date: 05/18/02 19:33:55
Comment: INSTRUMENT 133
Scan: 2532 Seg: 1 Group: 0 Retention: 21:06 RIC: 698348 Masses: 41-387
Plotted: 1 to 5063 Range: 1 to 5063 100% = 15149239



Operator ID: JMK1
Output File: 10IC0518.1B2
Data File: 10IC0518.MS
Name: 10IC0518
Sample:

Quant Time: 05/20/02 15:02
Injected at: 05/18/02 19:33
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.52	1262	152	1686637	5.00	ng/ul	995	1.000
2)	*IS:D8-Naphthalene	13.68	1642	136	5397932	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2181	162	3334631	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.82	2498	188	5347410	5.00	ng/ul	988	1.000
5)	*IS:D12-Chrysene	25.53	3064	240	4113584	5.00	ng/ul	834	1.000
6)	*IS:D12-Perylene	31.27	3752	264	5368224	5.00	ng/ul	831	1.000
7)	ACSUR:2-Fluorophenol	7.60	912	112	9906359	20.00	ng/ul	998	1.469
8)	ACSUR:D6-Phenol	9.50	1140	99	10897303	20.00	ng/ul	988	1.616
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	6207219	20.00	ng/ul	998	0.466
10)	BNSUR:D5-Nitrobenzene	11.82	1419	127	3240672	20.00	NG/UL	993	0.151
11)	BNSUR:Decafluorobiphenyl	11.75	1410	334	18564982	20.00	ng/ul	993	0.860
12)	BNSUR:2-Fluorobiphenyl	16.48	1978	172	14988202	20.00	ng/ul	999	1.124
13)	BNSUR:O-Terphenyl	21.30	2556	230	13898782	20.00	ng/ul	995	0.845
14)	Pyridine	5.27	632	79	3874792	10.00	ng/ul	991	1.149
15)	Phenol	9.52	1143	94	5101046	10.00	ng/ul	965	1.513
16)	Aniline	9.72	1166	93	6039614	10.00	ng/ul	998	1.791
17)	Bis(2-Chloroethyl)Ether	9.82	1178	92	2647297	10.00	ng/ul	998	0.785
18)	2-Chlorophenol	10.01	1201	128	5284112	10.00	ng/ul	998	1.567
19)	1,3-Dichlorobenzene	10.39	1247	146	5414524	10.00	ng/ul	999	1.606
20)	1,4-Dichlorobenzene	10.56	1267	146	5232301	10.00	ng/ul	999	1.552
21)	Benzyl Alcohol	10.76	1291	108	1820019	10.00	ng/ul	997	0.540
22)	1,2-Dichlorobenzene	10.92	1311	146	4772586	10.00	ng/ul	999	1.415
23)	2-Methylphenol	10.96	1316	108	4203537	10.00	ng/ul	957	1.247
24)	Bis(2-Chloroisopropyl)Ether	11.08	1330	45	3468607	10.00	ng/ul	977	1.029
25)	4-Methylphenol	11.32	1359	108	4000825	10.00	ng/ul	999	1.187
26)	N-Nitrosodi-N-Propylamine	11.39	1367	70	2057254	10.00	ng/ul	928	0.610
27)	Hexachloroethane	11.77	1412	119	1899489	10.00	ng/ul	995	0.564
28)	Nitrobenzene	11.87	1425	77	5210594	10.00	ng/ul	996	0.483
29)	Isophorone	12.45	1494	82	7532868	10.00	ng/ul	997	0.698
30)	2-Nitrophenol	12.67	1521	109	2923660	10.00	ng/ul	977	0.271

* Compound is ISTD

Operator ID: JMK1
Output File: 10IC0518.1B2
Data File: 10IC0518.MS
Name: 10IC0518
Sample:

Quant Time: 05/20/02 15:02
Injected at: 05/18/02 19:33
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.68	1522	107	5478174	10.00	ng/ul	986	0.508
32)	Benzoic Acid	12.79	1535	105	5885476	20.00	ng/ul	991	0.273
33)	Bis(2-Chloroethoxy)Methane	12.95	1554	92	4736542	10.00	ng/ul	986	0.439
34)	2,4-Dichlorophenol	13.26	1591	162	4044333	10.00	ng/ul	998	0.375
35)	1,2,4-Trichlorobenzene	13.51	1621	180	4391382	10.00	ng/ul	999	0.407
36)	Naphthalene	13.74	1649	128	13731849	10.00	ng/ul	997	1.272
37)	4-Chloroaniline	13.82	1658	127	7929913	10.00	ng/ul	992	0.735
38)	2,6-Dichlorophenol	13.85	1662	162	3692746	10.00	ng/ul	992	0.343
39)	Hexachlorobutadiene	14.02	1683	225	3343565	10.00	ng/ul	998	0.310
40)	4-Chloro-3-Methylphenol	15.01	1801	107	5902619	10.00	ng/ul	998	0.547
41)	2-Methylnaphthalene	15.54	1865	142	6914491	10.00	ng/ul	999	0.641
42)	Hexachlorocyclopentadiene	15.94	1913	237	2762296	10.00	ng/ul	997	0.415
43)	2,4,6-Trichlorophenol	16.24	1949	196	3133773	10.00	ng/ul	998	0.470
44)	2,4,5-Trichlorophenol	16.33	1960	196	3356666	10.00	ng/ul	998	0.504
45)	2-Chloronapthalene	16.84	2021	162	8480421	10.00	ng/ul	998	1.272
46)	2-Nitroaniline	17.07	2048	138	2836854	10.00	ng/ul	998	0.426
47)	Dimethyl Phthalate	17.48	2097	163	12542027	10.00	ng/ul	999	1.881
48)	2,6-Dinitrotoluene	17.63	2116	165	2347672	10.00	ng/ul	997	0.353
49)	Acenaphthylene	17.87	2145	152	11036387	10.00	ng/ul	1000	1.655
50)	3-Nitroaniline	18.02	2163	138	2264087	10.00	ng/ul	994	0.340
51)	Acenaphthene	18.25	2190	152	10012089	10.00	ng/ul	998	1.502
52)	2,4-Dinitrophenol	18.25	2190	184	1029999	10.00	ng/ul	998	0.155
53)	4-Nitrophenol	18.30	2196	65	1146784	10.00	ng/ul	974	0.172
54)	Dibenzofuran	18.60	2232	168	11100933	10.00	ng/ul	1000	1.665
55)	2,4-Dinitrotoluene	18.51	2221	165	3683698	10.00	ng/ul	997	0.553
56)	Benzo(b)Fluoranthene	29.36	3523	252	11626093	10.00	ng/ul	883	1.083
57)	Diethyl Phthalate	18.95	2274	149	14318185	10.00	ng/ul	997	2.147
58)	Fluorene	19.26	2311	166	7476212	10.00	ng/ul	966	1.121
59)	4-Chlorophenyl Phenyl Ether	19.22	2306	204	5100715	10.00	ng/ul	981	0.765
60)	4-Nitroaniline	19.24	2309	108	4910114	10.00	ng/ul	976	0.737

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 15:02
Output File: 10IC0518.1B2 Injected at: 05/18/02 19:33
Data File: 10IC0518.MS Dilution Factor: 1.00
Name: 10IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.29	2315	198	1877342	10.00	ng/ul	886	0.176
62)	N-Nitrosodiphenylamine	19.42	2330	169	5468797	10.00	ng/ul	999	0.512
63)	1,2-Diphenylhydrazine	19.50	2340	77	10815855	10.00	ng/ul	968	1.012
64)	4-Bromophenyl Phenyl Ether	20.07	2408	248	3950437	10.00	ng/ul	998	0.370
65)	Hexachlorobenzene	20.20	2424	284	3409802	10.00	ng/ul	972	0.319
66)	Pentachlorophenol	20.49	2459	266	2571801	10.00	ng/ul	984	0.241
67)	Phenanthrene	20.85	2502	178	10954744	10.00	ng/ul	998	1.025
68)	Anthracene	20.92	2511	178	12169670	10.00	ng/ul	997	1.138
69)	Carbazole	21.13	2536	167	11282808	10.00	ng/ul	980	1.055
70)	Di-n-Butyl Phthalate	21.47	2577	149	16139332	10.00	ng/ul	976	1.510
71)	Fluoranthene	22.60	2712	202	11472820	10.00	ng/ul	932	1.073
72)	Benzidine	22.71	2725	184	11748345	20.00	ng/ul	845	0.714
73)	Pyrene	22.99	2759	202	11888711	10.00	ng/ul	930	1.446
74)	Butyl Benzyl Phthalate	23.84	2861	149	8814521	10.00	ng/ul	877	1.072
75)	3,3'-Dichlorobenzidine	25.26	3031	252	6026654	10.00	ng/ul	737	0.733
76)	Bis(2-Ethylhexyl)Phthalate	25.01	3001	149	13330647	10.00	ng/ul	933	1.621
77)	Benzo(a)Anthracene	25.50	3060	228	12980940	10.00	ng/ul	812	1.578
78)	Chrysene	25.61	3073	228	11549696	10.00	ng/ul	926	1.404
79)	Di-n-Octylphthalate	27.02	3242	149	19651211	10.00	ng/ul	865	2.389
80)	Benzo(k)Fluoranthene	29.48	3538	252	13671661	10.00	ng/ul	885	1.274
81)	Benzo(a)Pyrene	31.00	3720	252	11300071	10.00	ng/ul	901	1.053
82)	Indeno(1,2,3-cd)Pyrene	38.29	4595	276	17290602	10.00	ng/ul	879	2.102
83)	Dibenzo(a,h)Anthracene	38.35	4602	278	10610273	10.00	ng/ul	834	0.989
84)	Benzo(g,h,i)Perylene	40.50	4860	276	13819489	10.00	ng/ul	848	1.287
85)	N-Nitrosodimethylamine	5.15	618	73	1018837	10.00	ng/ul	1000	0.303
86)	2,3,4,6-tetrachlorophenol	18.81	2257	232	2856210	10.00	ng/ul	1000	0.429
87)	2,3-Dinitrotoluene	18.42	2210	165	3688069	10.00	ng/ul	998	0.553
88)	2,4-Diaminotoluene	16.70	2004	121	1938653	9.99	ng/ul	982	0.180
89)	2-Chloroaniline	12.57	1508	127	6680335	10.00	ng/ul	998	0.619
90)	5-Nitro-o-toluidine	19.23	2308	152	2910462	10.00	ng/ul	921	0.437

* Compound is ISTD

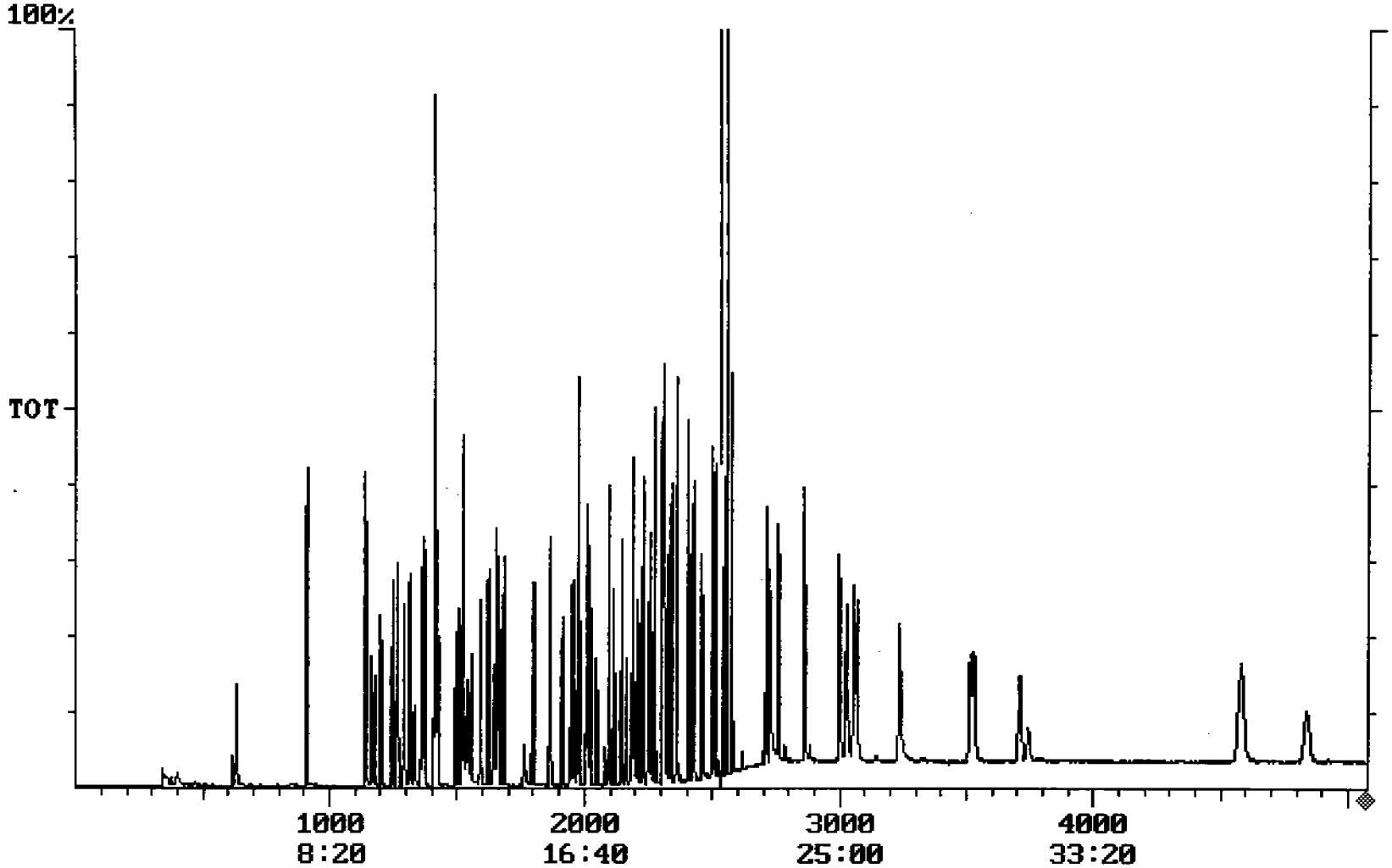
Operator ID: JMK1 Quant Time: 05/20/02 15:02
Output File: 10IC0518.1B2 Injected at: 05/18/02 19:33
Data File: 10IC0518.MS Dilution Factor: 1.00
Name: 10IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.75	2250	143	5103790	10.00	ng/ul	982	0.766
92)	Benzaldehyde	9.51	1141	105	5141298	10.00	ng/ul	980	1.525
93)	Acetophenone	11.43	1372	105	9523664	10.00	ng/ul	997	0.883
94)	Caprolactam	14.68	1761	85	1244633	10.00	ng/ul	952	0.116
95)	Biphenyl	16.76	2011	154	9439239	10.00	ng/ul	998	1.416
96)	Atrazine	20.24	2429	200	2729807	10.00	ng/ul	986	0.256

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\15IC0518 Date: 05/18/02 23:54:07
Comment: INSTRUMENT 133
Scan: 2532 Seg: 1 Group: 0 Retention: 21:06 RIC: 1268116 Masses: 43-374
Plotted: 1 to 5064 Range: 1 to 5064 100% = 24200171



Operator ID: JMK1 Quant Time: 05/20/02 15:07
Output File: 15IC0518.1B2 Injected at: 05/18/02 23:54
Data File: 15IC0518.MS Dilution Factor: 1.00
Name: 15IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.50	1260	152	1733099	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.68	1641	136	5896348	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2181	162	3620821	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.82	2498	188	5843956	5.00	ng/ul	987	1.000
5)	*IS:D12-Chrysene	25.51	3061	240	3844820	5.00	ng/ul	852	1.000
6)	*IS:D12-Perylene	31.18	3742	264	5699790	5.00	ng/ul	829	1.000
7)	ACSUR:2-Fluorophenol	7.58	910	112	15105780	30.00	ng/ul	999	1.453
8)	ACSUR:D6-Phenol	9.49	1139	99	16862280	30.00	ng/ul	960	1.622
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	9584197	30.00	ng/ul	998	0.442
10)	BNSUR:D5-Nitrobenzene	11.82	1419	127	4544846	30.00	NG/UL	995	0.129
11)	BNSUR:Decafluorobiphenyl	11.74	1409	334	28489417	30.00	ng/ul	993	0.806
12)	BNSUR:2-Fluorobiphenyl	16.47	1976	172	24572570	30.00	ng/ul	998	1.132
13)	BNSUR:O-Terphenyl	21.29	2555	230	23802129	30.00	ng/ul	993	1.032
14)	Pyridine	5.24	629	79	5814188	15.00	ng/ul	991	1.119
15)	Phenol	9.51	1142	94	8275418	15.00	ng/ul	906	1.592
16)	Aniline	9.71	1165	93	9751443	15.00	ng/ul	998	1.876
17)	Bis(2-Chloroethyl)Ether	9.81	1177	92	3974746	15.00	ng/ul	996	0.765
18)	2-Chlorophenol	9.99	1199	128	8518364	15.00	ng/ul	999	1.639
19)	1,3-Dichlorobenzene	10.38	1245	146	8470412	15.00	ng/ul	998	1.630
20)	1,4-Dichlorobenzene	10.54	1265	146	8273210	15.00	ng/ul	999	1.592
21)	Benzyl Alcohol	10.75	1290	108	2734666	15.00	ng/ul	997	0.526
22)	1,2-Dichlorobenzene	10.92	1310	146	7230679	15.00	ng/ul	999	1.391
23)	2-Methylphenol	10.96	1315	108	6922920	15.00	ng/ul	956	1.332
24)	Bis(2-Chloroisopropyl)Ether	11.07	1329	45	5305275	15.00	ng/ul	962	1.021
25)	4-Methylphenol	11.32	1358	108	6536555	15.00	ng/ul	999	1.258
26)	N-Nitrosodi-N-Propylamine	11.38	1366	70	3436476	15.00	ng/ul	894	0.661
27)	Hexachloroethane	11.76	1411	119	2690875	15.00	ng/ul	995	0.518
28)	Nitrobenzene	11.87	1424	77	8146183	15.00	ng/ul	983	0.461
29)	Isophorone	12.44	1493	82	11349107	15.00	ng/ul	994	0.642
30)	2-Nitrophenol	12.66	1519	109	4463059	15.00	ng/ul	960	0.253

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 15:07
Output File: 15IC0518.1B2 Injected at: 05/18/02 23:54
Data File: 15IC0518.MS Dilution Factor: 1.00
Name: 15IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.67	1521	107	8479513	15.00	ng/ul	985	0.480
32)	Benzoic Acid	12.83	1539	105	10679677	29.95	ng/ul	994	0.303
33)	Bis(2-Chloroethoxy)Methane	12.94	1553	92	7601823	15.00	ng/ul	985	0.430
34)	2,4-Dichlorophenol	13.25	1590	162	6101725	15.00	ng/ul	997	0.345
35)	1,2,4-Trichlorobenzene	13.51	1621	180	6758191	15.00	ng/ul	999	0.383
36)	Naphthalene	13.73	1648	128	21809301	15.00	ng/ul	999	1.233
37)	4-Chloroaniline	13.82	1658	127	13295260	15.00	ng/ul	980	0.752
38)	2,6-Dichlorophenol	13.84	1661	162	5415826	15.00	ng/ul	980	0.307
39)	Hexachlorobutadiene	14.02	1682	225	4995109	15.00	ng/ul	997	0.283
40)	4-Chloro-3-Methylphenol	15.01	1801	107	8957120	15.00	ng/ul	998	0.507
41)	2-Methylnaphthalene	15.53	1864	142	10424675	15.00	ng/ul	1000	0.590
42)	Hexachlorocyclopentadiene	15.93	1912	237	4556271	15.00	ng/ul	998	0.420
43)	2,4,6-Trichlorophenol	16.24	1949	196	4670867	15.00	ng/ul	998	0.431
44)	2,4,5-Trichlorophenol	16.33	1960	196	5298807	15.00	ng/ul	998	0.488
45)	2-Chloronapthalene	16.84	2021	162	13309793	15.00	ng/ul	999	1.226
46)	2-Nitroaniline	17.06	2047	138	4421112	15.00	ng/ul	998	0.408
47)	Dimethyl Phthalate	17.47	2096	163	19270275	15.00	ng/ul	999	1.775
48)	2,6-Dinitrotoluene	17.63	2116	165	3567440	15.00	ng/ul	996	0.329
49)	Acenaphthylene	17.87	2145	152	17048096	15.00	ng/ul	1000	1.570
50)	3-Nitroaniline	18.02	2163	138	3836530	15.00	ng/ul	997	0.354
51)	Acenaphthene	18.25	2190	152	16450520	15.00	ng/ul	998	1.515
52)	2,4-Dinitrophenol	18.24	2189	184	1475734	15.00	ng/ul	998	0.136
53)	4-Nitrophenol	18.30	2196	65	1876621	15.00	ng/ul	954	0.173
54)	Dibenzofuran	18.60	2232	168	17620821	15.00	ng/ul	1000	1.623
55)	2,4-Dinitrotoluene	18.51	2221	165	5644977	15.00	ng/ul	998	0.520
56)	Benzo(b)Fluoranthene	29.30	3516	252	18518640	15.00	ng/ul	856	1.084
57)	Diethyl Phthalate	18.94	2273	149	21796281	15.00	ng/ul	997	2.007
58)	Fluorene	19.25	2310	166	12749148	15.00	ng/ul	981	1.174
59)	4-Chlorophenyl Phenyl Ether	19.22	2306	204	7919650	15.00	ng/ul	936	0.730
60)	4-Nitroaniline	19.24	2309	108	6914791	15.00	ng/ul	939	0.637

* Compound is ISTD

Operator ID: JMK1
Output File: 15IC0518.1B2
Data File: 15IC0518.MS
Name: 15IC0518
Sample:

Quant Time: 05/20/02 15:07
Injected at: 05/18/02 23:54
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.29	2315	198	3062183	15.00	ng/ul	899	0.175
62)	N-Nitrosodiphenylamine	19.42	2330	169	8650895	15.00	ng/ul	998	0.494
63)	1,2-Diphenylhydrazine	19.50	2340	77	15712501	15.00	ng/ul	964	0.897
64)	4-Bromophenyl Phenyl Ether	20.06	2407	248	6477969	15.00	ng/ul	997	0.370
65)	Hexachlorobenzene	20.20	2424	284	4775432	15.00	ng/ul	994	0.273
66)	Pentachlorophenol	20.49	2459	266	4138452	15.00	ng/ul	993	0.237
67)	Phenanthrene	20.85	2502	178	18241297	15.00	ng/ul	993	1.041
68)	Anthracene	20.93	2512	178	20650310	15.00	ng/ul	993	1.178
69)	Carbazole	21.13	2535	167	18276595	15.00	ng/ul	974	1.043
70)	Di-n-Butyl Phthalate	21.47	2577	149	22377174	15.00	ng/ul	971	1.277
71)	Fluoranthene	22.60	2712	202	18853344	15.00	ng/ul	969	1.076
72)	Benzidine	22.71	2725	184	18479439	30.00	ng/ul	670	0.802
73)	Pyrene	22.99	2759	202	19293850	15.00	ng/ul	940	1.673
74)	Butyl Benzyl Phthalate	23.84	2861	149	12979856	15.00	ng/ul	937	1.126
75)	3,3'-Dichlorobenzidine	25.23	3028	252	9992076	15.00	ng/ul	827	0.867
76)	Bis(2-Ethylhexyl)Phthalate	24.98	2998	149	20113402	15.00	ng/ul	813	1.744
77)	Benzo(a)Anthracene	25.47	3056	228	20091941	15.00	ng/ul	776	1.742
78)	Chrysene	25.57	3069	228	18017018	15.00	ng/ul	872	1.563
79)	Di-n-Octylphthalate	26.96	3236	149	31811138	15.00	ng/ul	898	2.758
80)	Benzo(k)Fluoranthene	29.42	3530	252	21184535	15.00	ng/ul	950	1.239
81)	Benzo(a)Pyrene	30.92	3711	252	18412144	15.00	ng/ul	901	1.077
82)	Indeno(1,2,3-cd)Pyrene	38.15	4578	276	29197898	15.00	ng/ul	945	2.532
83)	Dibenzo(a,h)Anthracene	38.21	4585	278	16875029	15.00	ng/ul	943	0.987
84)	Benzo(g,h,i)Perylene	40.32	4838	276	22257317	14.98	ng/ul	909	1.304
85)	N-Nitrosodimethylamine	5.12	615	73	1290242	15.00	ng/ul	986	0.249
86)	2,3,4,6-tetrachlorophenol	18.81	2257	232	4523879	15.00	ng/ul	997	0.417
87)	2,3-Dinitrotoluene	18.42	2210	165	5400969	15.00	ng/ul	997	0.498
88)	2,4-Diaminotoluene	16.69	2003	121	3069591	15.00	ng/ul	986	0.174
89)	2-Chloroaniline	12.57	1508	127	10536871	15.00	ng/ul	999	0.596
90)	5-Nitro-o-toluidine	19.23	2308	152	4759955	15.00	ng/ul	695	0.439

* Compound is ISTD

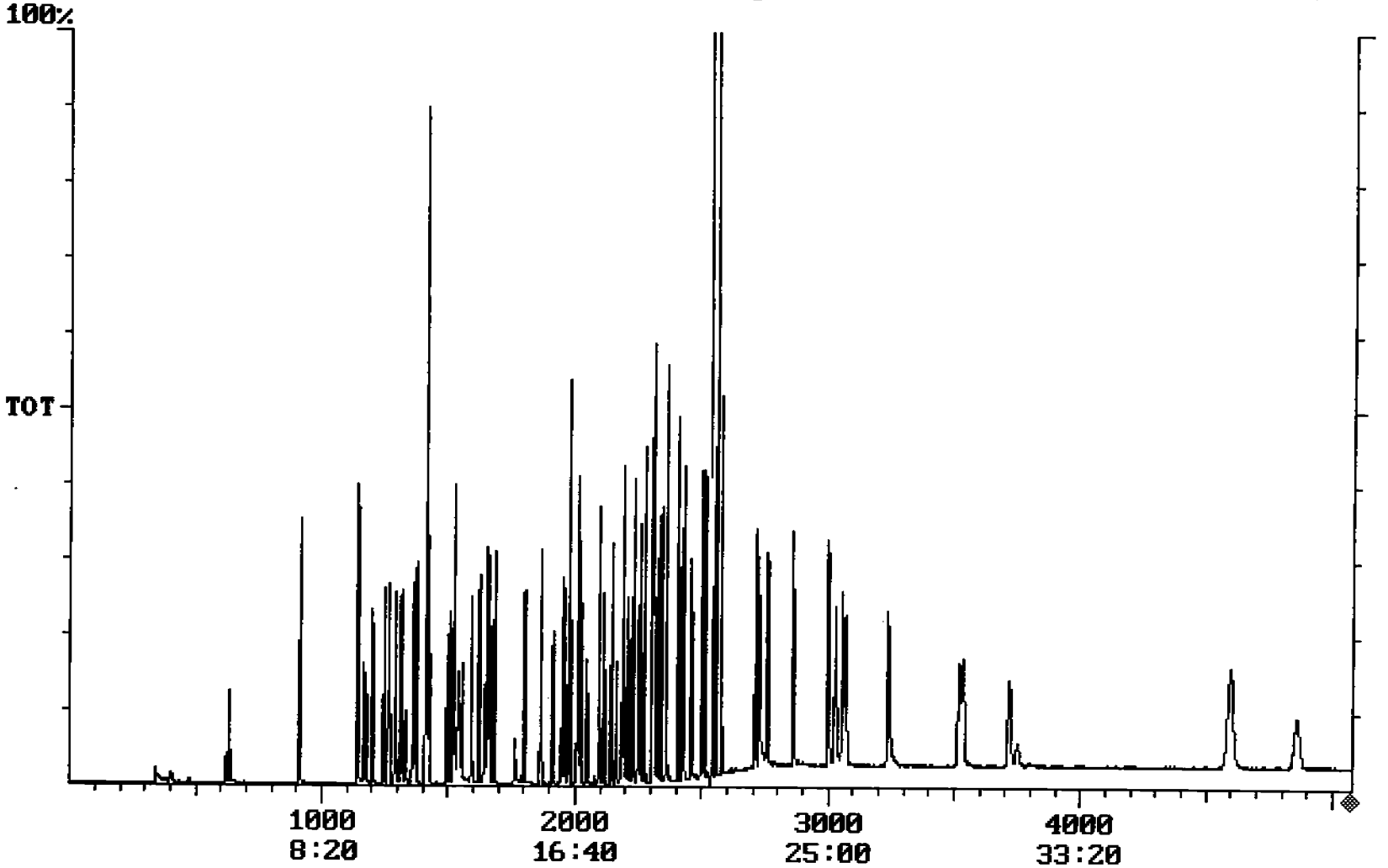
Operator ID: JMK1 Quant Time: 05/20/02 15:07
Output File: 15IC0518.1B2 Injected at: 05/18/02 23:54
Data File: 15IC0518.MS Dilution Factor: 1.00
Name: 15IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.74	2249	143	9635814	15.00	ng/ul	983	0.888
92)	Benzaldehyde	9.50	1140	105	6104798	15.00	ng/ul	943	1.175
93)	Acetophenone	11.42	1371	105	15172073	15.00	ng/ul	998	0.858
94)	Caprolactam	14.68	1762	85	2042274	15.00	ng/ul	885	0.116
95)	Biphenyl	16.75	2010	154	15334335	15.00	ng/ul	998	1.412
96)	Atrazine	20.24	2429	200	3493438	15.00	ng/ul	993	0.200

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\20IC0518 Date: 05/19/02 00:46:17
Comment: INSTRUMENT 133
Scan: 2532 Seg: 1 Group: 0 Retention: 21:06 RIC: 1673215 Masses: 43-374
Plotted: 1 to 5064 Range: 1 to 5064 100% = 29721566



Operator ID: JMK1 Quant Time: 05/20/02 15:16
Output File: 20IC0518.1B2 Injected at: 05/19/02 00:46
Data File: 20IC0518.MS Dilution Factor: 1.00
Name: 20IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.51	1261	152	1551545	5.00	ng/ul	997	1.000
2)	*IS:D8-Naphthalene	13.67	1641	136	4931933	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2181	162	3186276	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.82	2498	188	5246423	5.00	ng/ul	991	1.000
5)	*IS:D12-Chrysene	25.52	3063	240	3179976	5.00	ng/ul	840	1.000
6)	*IS:D12-Perylene	31.23	3748	264	5367638	5.00	ng/ul	910	1.000
7)	ACSUR:2-Fluorophenol	7.59	911	112	18090362	40.00	ng/ul	997	1.458
8)	ACSUR:D6-Phenol	9.50	1140	99	21774078	40.00	ng/ul	947	1.755
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	12789921	40.00	ng/ul	999	0.502
10)	BNSUR:D5-Nitrobenzene	11.82	1419	127	5600965	40.00	NG/UL	992	0.142
11)	BNSUR:Decafluorobiphenyl	11.74	1409	334	34088165	40.00	ng/ul	998	0.864
12)	BNSUR:2-Fluorobiphenyl	16.47	1977	172	29576524	40.00	ng/ul	999	1.161
13)	BNSUR:O-Terphenyl	21.29	2555	230	29693800	40.00	ng/ul	984	1.168
14)	Pyridine	5.26	631	79	7093400	20.00	ng/ul	992	1.143
15)	Phenol	9.52	1143	94	10086381	20.00	ng/ul	864	1.626
16)	Aniline	9.72	1166	93	11740811	20.00	ng/ul	998	1.892
17)	Bis(2-Chloroethyl)Ether	9.82	1178	92	4752832	20.00	ng/ul	988	0.766
18)	2-Chlorophenol	10.00	1200	128	10314035	20.00	ng/ul	998	1.662
19)	1,3-Dichlorobenzene	10.38	1246	146	9703672	20.00	ng/ul	998	1.564
20)	1,4-Dichlorobenzene	10.55	1266	146	9616643	20.00	ng/ul	986	1.550
21)	Benzyl Alcohol	10.76	1291	108	3664044	20.00	ng/ul	997	0.591
22)	1,2-Dichlorobenzene	10.92	1310	146	8845283	20.00	ng/ul	999	1.426
23)	2-Methylphenol	10.96	1316	108	8586459	20.00	ng/ul	975	1.384
24)	Bis(2-Chloroisopropyl)Ether	11.08	1330	45	6030197	20.00	ng/ul	965	0.972
25)	4-Methylphenol	11.32	1358	108	7934661	20.00	ng/ul	998	1.279
26)	N-Nitrosodi-N-Propylamine	11.40	1368	70	3942424	20.00	ng/ul	872	0.636
27)	Hexachloroethane	11.77	1412	119	3095048	20.00	ng/ul	995	0.499
28)	Nitrobenzene	11.87	1425	77	8729620	20.00	ng/ul	984	0.443
29)	Isophorone	12.45	1494	82	13985871	20.00	ng/ul	994	0.709
30)	2-Nitrophenol	12.67	1520	109	4952073	20.00	ng/ul	954	0.252

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 15:16
Output File: 20IC0518.1B2 Injected at: 05/19/02 00:46
Data File: 20IC0518.MS Dilution Factor: 1.00
Name: 20IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.68	1522	107	9728607	20.00	ng/ul	974	0.494
32)	Benzoic Acid	12.84	1541	105	15433964	40.00	ng/ul	984	0.392
33)	Bis(2-Chloroethoxy)Methane	12.94	1553	92	9320775	20.00	ng/ul	983	0.473
34)	2,4-Dichlorophenol	13.25	1590	162	7516991	20.00	ng/ul	998	0.382
35)	1,2,4-Trichlorobenzene	13.51	1621	180	7801139	20.00	ng/ul	999	0.396
36)	Naphthalene	13.73	1648	128	26062842	20.00	ng/ul	998	1.322
37)	4-Chloroaniline	13.82	1658	127	17016668	20.00	ng/ul	992	0.863
38)	2,6-Dichlorophenol	13.84	1661	162	6475684	20.00	ng/ul	992	0.329
39)	Hexachlorobutadiene	14.02	1682	225	5836251	20.00	ng/ul	996	0.296
40)	4-Chloro-3-Methylphenol	15.01	1801	107	11124707	20.00	ng/ul	998	0.564
41)	2-Methylnaphthalene	15.54	1865	142	12879533	20.00	ng/ul	1000	0.653
42)	Hexachlorocyclopentadiene	15.94	1913	237	5510076	20.00	ng/ul	997	0.433
43)	2,4,6-Trichlorophenol	16.24	1949	196	5810909	20.00	ng/ul	998	0.456
44)	2,4,5-Trichlorophenol	16.33	1960	196	6059090	20.00	ng/ul	998	0.476
45)	2-Chloronapthalene	16.84	2021	162	16703978	20.00	ng/ul	999	1.311
46)	2-Nitroaniline	17.06	2047	138	5546198	20.00	ng/ul	998	0.436
47)	Dimethyl Phthalate	17.47	2096	163	23676165	20.00	ng/ul	999	1.858
48)	2,6-Dinitrotoluene	17.62	2115	165	4622916	20.00	ng/ul	994	0.363
49)	Acenaphthylene	17.87	2145	152	21951411	20.00	ng/ul	1000	1.723
50)	3-Nitroaniline	18.02	2163	138	4671836	20.00	ng/ul	998	0.367
51)	Acenaphthene	18.24	2189	152	20612147	20.00	ng/ul	997	1.618
52)	2,4-Dinitrophenol	18.25	2190	184	1611605	20.00	ng/ul	997	0.127
53)	4-Nitrophenol	18.30	2196	65	2273427	20.00	ng/ul	965	0.179
54)	Dibenzofuran	18.60	2232	168	21950758	20.00	ng/ul	1000	1.723
55)	2,4-Dinitrotoluene	18.51	2221	165	6856449	20.00	ng/ul	996	0.538
56)	Benzo(b)Fluoranthene	29.33	3520	252	24558090	20.00	ng/ul	873	1.144
57)	Diethyl Phthalate	18.95	2274	149	26205267	20.00	ng/ul	998	2.057
58)	Fluorene	19.25	2310	166	16407284	20.00	ng/ul	978	1.288
59)	4-Chlorophenyl Phenyl Ether	19.22	2306	204	9528333	20.00	ng/ul	927	0.748
60)	4-Nitroaniline	19.24	2309	108	8491722	20.00	ng/ul	904	0.667

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 15:16
Output File: 20IC0518.1B2 Injected at: 05/19/02 00:46
Data File: 20IC0518.MS Dilution Factor: 1.00
Name: 20IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.28	2314	198	3877289	20.00	ng/ul	882	0.185
62)	N-Nitrosodiphenylamine	19.41	2329	169	11137940	20.00	ng/ul	999	0.531
63)	1,2-Diphenylhydrazine	19.49	2339	77	18416947	20.00	ng/ul	964	0.878
64)	4-Bromophenyl Phenyl Ether	20.06	2407	248	8253410	20.00	ng/ul	998	0.394
65)	Hexachlorobenzene	20.19	2423	284	5939839	20.00	ng/ul	974	0.284
66)	Pentachlorophenol	20.48	2458	266	5263304	20.00	ng/ul	989	0.251
67)	Phenanthrene	20.85	2502	178	23124499	20.00	ng/ul	980	1.102
68)	Anthracene	20.92	2511	178	26284698	20.00	ng/ul	993	1.253
69)	Carbazole	21.13	2535	167	22113240	20.00	ng/ul	973	1.054
70)	Di-n-Butyl Phthalate	21.47	2577	149	26424587	20.00	ng/ul	974	1.260
71)	Fluoranthene	22.60	2712	202	22917218	20.00	ng/ul	976	1.093
72)	Benzidine	22.70	2724	184	25382627	40.00	ng/ul	777	0.998
73)	Pyrene	22.99	2759	202	23999983	20.00	ng/ul	941	1.887
74)	Butyl Benzyl Phthalate	23.83	2860	149	14604244	20.00	ng/ul	850	1.149
75)	3,3'-Dichlorobenzidine	25.24	3029	252	13097879	20.00	ng/ul	786	1.030
76)	Bis(2-Ethylhexyl)Phthalate	24.99	2999	149	24539144	20.00	ng/ul	889	1.930
77)	Benzo(a)Anthracene	25.48	3058	228	26384952	20.00	ng/ul	779	2.075
78)	Chrysene	25.60	3072	228	21939757	20.00	ng/ul	887	1.725
79)	Di-n-Octylphthalate	26.99	3239	149	41342031	20.00	ng/ul	787	3.251
80)	Benzo(k)Fluoranthene	29.45	3534	252	25566722	20.00	ng/ul	869	1.191
81)	Benzo(a)Pyrene	30.98	3717	252	23566753	20.00	ng/ul	901	1.098
82)	Indeno(1,2,3-cd)Pyrene	38.28	4594	276	37621198	20.00	ng/ul	508	2.958
83)	Dibenzo(a,h)Anthracene	38.35	4602	278	20949535	20.00	ng/ul	653	0.976
84)	Benzo(g,h,i)Perylene	40.47	4857	276	27873115	20.02	ng/ul	940	1.298
85)	N-Nitrosodimethylamine	5.15	618	73	1417767	20.00	ng/ul	984	0.229
86)	2,3,4,6-tetrachlorophenol	18.81	2257	232	6088139	20.00	ng/ul	998	0.478
87)	2,3-Dinitrotoluene	18.42	2210	165	6836037	20.00	ng/ul	995	0.537
88)	2,4-Diaminotoluene	16.69	2003	121	3553753	20.03	ng/ul	984	0.180
89)	2-Chloroaniline	12.57	1508	127	12753598	20.00	ng/ul	999	0.647
90)	5-Nitro-o-toluidine	19.23	2308	152	5897628	20.00	ng/ul	666	0.463

* Compound is ISTD

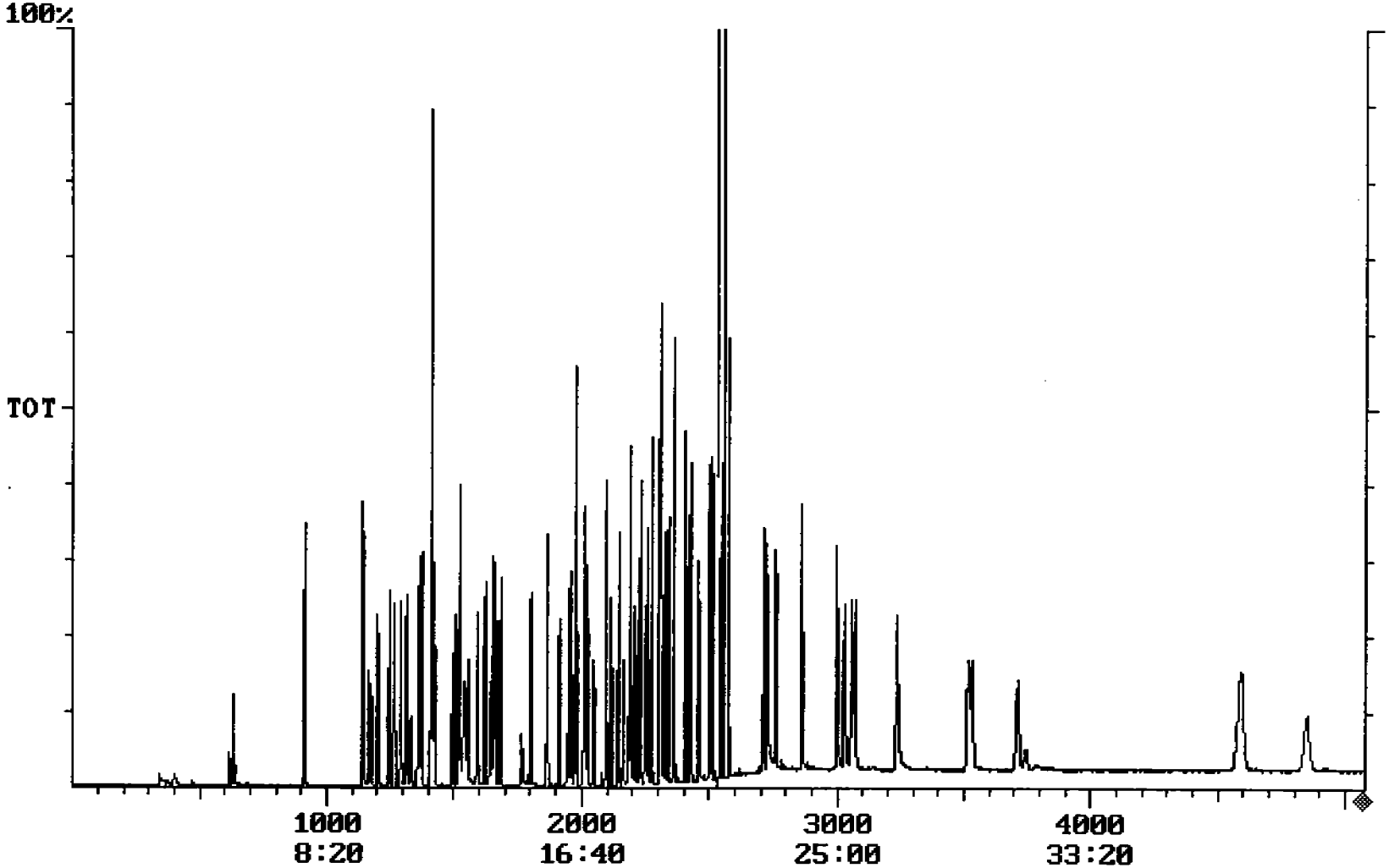
Operator ID: JMK1 Quant Time: 05/20/02 15:16
Output File: 20IC0518.1B2 Injected at: 05/19/02 00:46
Data File: 20IC0518.MS Dilution Factor: 1.00
Name: 20IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.74	2249	143	13400622	20.00	ng/ul	982	1.052
92)	Benzaldehyde	9.50	1140	105	6212087	20.00	ng/ul	908	1.001
93)	Acetophenone	11.43	1372	105	17396446	20.00	ng/ul	997	0.882
94)	Caprolactam	14.69	1763	85	2601588	20.00	ng/ul	901	0.132
95)	Biphenyl	16.75	2010	154	19240998	20.00	ng/ul	998	1.510
96)	Atrazine	20.23	2428	200	3683125	20.00	ng/ul	990	0.176

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\25IC0518 Date: 05/19/02 01:38:32
Comment: INSTRUMENT 133
Scan: 2532 Seg: 1 Group: 0 Retention: 21:06 RIC: 1785268 Masses: 43-374
Plotted: 1 to 5064 Range: 1 to 5064 100% = 35082995



Operator ID: JMK1 Quant Time: 05/20/02 15:22
Output File: 25IC0518.1B2 Injected at: 05/19/02 01:38
Data File: 25IC0518.MS Dilution Factor: 1.00
Name: 25IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.50	1260	152	1479486	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.67	1641	136	5271136	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.17	2181	162	3317667	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.82	2498	188	5391130	5.00	ng/ul	990	1.000
5)	*IS:D12-Chrysene	25.51	3061	240	3170408	5.00	ng/ul	817	1.000
6)	*IS:D12-Perylene	31.20	3744	264	5566918	5.00	ng/ul	856	1.000
7)	ACSUR:2-Fluorophenol	7.59	911	112	21659660	50.00	ng/ul	998	1.464
8)	ACSUR:D6-Phenol	9.49	1139	99	26479669	50.00	ng/ul	932	1.790
9)	ACSUR:2,4,6-Tribromophenol	19.67	2361	330	15606104	50.00	ng/ul	999	0.471
10)	BNSUR:D5-Nitrobenzene	11.82	1419	127	6930462	50.00	NG/UL	991	0.132
11)	BNSUR:Decafluorobiphenyl	11.74	1409	334	40937163	50.00	ng/ul	991	0.777
12)	BNSUR:2-Fluorobiphenyl	16.47	1977	172	36290756	50.00	ng/ul	999	1.094
13)	BNSUR:O-Terphenyl	21.29	2555	230	36760464	50.00	ng/ul	996	1.160
14)	Pyridine	5.25	630	79	8271691	25.00	ng/ul	991	1.119
15)	Phenol	9.52	1143	94	12502226	25.00	ng/ul	804	1.691
16)	Aniline	9.71	1165	93	14559898	25.00	ng/ul	999	1.969
17)	Bis(2-Chloroethyl)Ether	9.81	1177	92	5580503	25.00	ng/ul	997	0.755
18)	2-Chlorophenol	10.00	1200	128	12083656	25.00	ng/ul	999	1.634
19)	1,3-Dichlorobenzene	10.37	1245	146	11698511	25.00	ng/ul	998	1.582
20)	1,4-Dichlorobenzene	10.54	1265	146	11544045	25.00	ng/ul	981	1.561
21)	Benzyl Alcohol	10.76	1291	108	4373311	25.00	ng/ul	996	0.592
22)	1,2-Dichlorobenzene	10.91	1309	146	10659976	25.00	ng/ul	997	1.442
23)	2-Methylphenol	10.97	1316	108	10595134	25.00	ng/ul	985	1.433
24)	Bis(2-Chloroisopropyl)Ether	11.07	1329	45	6783171	25.00	ng/ul	967	0.917
25)	4-Methylphenol	11.32	1359	108	9955804	25.00	ng/ul	999	1.346
26)	N-Nitrosodi-N-Propylamine	11.40	1368	70	4762983	25.00	ng/ul	805	0.644
27)	Hexachloroethane	11.76	1411	119	3870303	25.00	ng/ul	992	0.524
28)	Nitrobenzene	11.87	1424	77	10169266	25.00	ng/ul	980	0.386
29)	Isophorone	12.45	1494	82	16402117	25.00	ng/ul	993	0.623
30)	2-Nitrophenol	12.66	1519	109	6053593	25.00	ng/ul	934	0.230

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 15:22
Output File: 25IC0518.1B2 Injected at: 05/19/02 01:38
Data File: 25IC0518.MS Dilution Factor: 1.00
Name: 25IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.67	1521	107	11736494	25.00	ng/ul	975	0.446
32)	Benzoic Acid	12.86	1543	105	19349100	50.00	ng/ul	976	0.368
33)	Bis(2-Chloroethoxy)Methane	12.94	1553	92	10951633	25.00	ng/ul	974	0.416
34)	2,4-Dichlorophenol	13.25	1590	162	9143030	25.00	ng/ul	998	0.347
35)	1,2,4-Trichlorobenzene	13.51	1621	180	9533500	25.00	ng/ul	999	0.362
36)	Naphthalene	13.73	1648	128	31346310	25.00	ng/ul	998	1.190
37)	4-Chloroaniline	13.82	1658	127	22432901	25.00	ng/ul	981	0.852
38)	2,6-Dichlorophenol	13.85	1662	162	7261940	25.00	ng/ul	981	0.276
39)	Hexachlorobutadiene	14.02	1682	225	6945485	25.00	ng/ul	998	0.264
40)	4-Chloro-3-Methylphenol	15.01	1801	107	12533408	25.00	ng/ul	997	0.476
41)	2-Methylnaphthalene	15.53	1864	142	15462843	25.00	ng/ul	999	0.587
42)	Hexachlorocyclopentadiene	15.93	1912	237	6890601	25.00	ng/ul	997	0.416
43)	2,4,6-Trichlorophenol	16.24	1949	196	7273135	25.00	ng/ul	999	0.439
44)	2,4,5-Trichlorophenol	16.33	1960	196	7903246	25.00	ng/ul	998	0.477
45)	2-Chloronapthalene	16.84	2021	162	19114747	25.00	ng/ul	998	1.153
46)	2-Nitroaniline	17.06	2047	138	7088221	25.00	ng/ul	998	0.428
47)	Dimethyl Phthalate	17.47	2097	163	30747808	25.00	ng/ul	999	1.854
48)	2,6-Dinitrotoluene	17.63	2116	165	5370440	25.00	ng/ul	998	0.324
49)	Acenaphthylene	17.87	2145	152	27036480	25.00	ng/ul	1000	1.630
50)	3-Nitroaniline	18.02	2163	138	5904513	25.00	ng/ul	997	0.356
51)	Acenaphthene	18.25	2190	152	26063755	25.00	ng/ul	998	1.572
52)	2,4-Dinitrophenol	18.23	2188	184	1794138	25.00	ng/ul	998	0.109
53)	4-Nitrophenol	18.30	2196	65	2832833	25.00	ng/ul	943	0.171
54)	Dibenzofuran	18.60	2232	168	27491286	25.00	ng/ul	999	1.658
55)	2,4-Dinitrotoluene	18.51	2221	165	8348425	25.00	ng/ul	997	0.504
56)	Benzo(b)Fluoranthene	29.32	3518	252	29133489	25.00	ng/ul	909	1.047
57)	Diethyl Phthalate	18.95	2274	149	32246301	25.00	ng/ul	998	1.944
58)	Fluorene	19.25	2310	166	21160456	25.00	ng/ul	959	1.276
59)	4-Chlorophenyl Phenyl Ether	19.22	2306	204	11855037	25.00	ng/ul	932	0.715
60)	4-Nitroaniline	19.24	2309	108	9658479	25.00	ng/ul	834	0.583

* Compound is ISTD

Operator ID: JMK1 Quant Time: 05/20/02 15:22
Output File: 25IC0518.1B2 Injected at: 05/19/02 01:38
Data File: 25IC0518.MS Dilution Factor: 1.00
Name: 25IC0518 Instrument ID: 133
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.29	2315	198	4643711	25.00	ng/ul	900	0.173
62)	N-Nitrosodiphenylamine	19.41	2329	169	14101805	25.00	ng/ul	999	0.524
63)	1,2-Diphenylhydrazine	19.50	2340	77	19890443	25.00	ng/ul	960	0.738
64)	4-Bromophenyl Phenyl Ether	20.06	2407	248	10191669	25.00	ng/ul	999	0.379
65)	Hexachlorobenzene	20.20	2424	284	7492893	25.00	ng/ul	984	0.278
66)	Pentachlorophenol	20.49	2459	266	6473298	25.00	ng/ul	987	0.241
67)	Phenanthrene	20.85	2502	178	28777144	25.00	ng/ul	293	1.068
68)	Anthracene	20.92	2511	178	32860583	25.00	ng/ul	997	1.220
69)	Carbazole	21.12	2535	167	28367289	25.00	ng/ul	969	1.053
70)	Di-n-Butyl Phthalate	21.47	2577	149	30346178	25.00	ng/ul	981	1.126
71)	Fluoranthene	22.59	2711	202	28052761	25.00	ng/ul	976	1.041
72)	Benzidine	22.71	2725	184	32659642	50.00	ng/ul	860	1.031
73)	Pyrene	22.99	2759	202	29888235	25.00	ng/ul	927	1.886
74)	Butyl Benzyl Phthalate	23.83	2860	149	17770834	25.00	ng/ul	888	1.122
75)	3,3'-Dichlorobenzidine	25.22	3027	252	15339137	25.00	ng/ul	834	0.968
76)	Bis(2-Ethylhexyl)Phthalate	24.97	2997	149	28719095	25.00	ng/ul	917	1.812
77)	Benzo(a)Anthracene	25.47	3056	228	31780896	25.00	ng/ul	778	2.005
78)	Chrysene	25.58	3070	228	28346273	25.00	ng/ul	897	1.789
79)	Di-n-Octylphthalate	26.96	3235	149	50026428	25.00	ng/ul	872	3.156
80)	Benzo(k)Fluoranthene	29.43	3532	252	32494994	25.00	ng/ul	866	1.168
81)	Benzo(a)Pyrene	30.93	3712	252	29250334	25.00	ng/ul	925	1.051
82)	Indeno(1,2,3-cd)Pyrene	38.21	4585	276	47399914	25.00	ng/ul	845	2.990
83)	Dibenzo(a,h)Anthracene	38.28	4594	278	25131473	25.01	ng/ul	741	0.903
84)	Benzo(g,h,i)Perylene	40.42	4850	276	34863633	25.00	ng/ul	904	1.253
85)	N-Nitrosodimethylamine	5.14	617	73	1659767	25.00	ng/ul	988	0.225
86)	2,3,4,6-tetrachlorophenol	18.81	2257	232	6996080	25.00	ng/ul	997	0.422
87)	2,3-Dinitrotoluene	18.42	2210	165	8113128	25.00	ng/ul	997	0.490
88)	2,4-Diaminotoluene	16.70	2004	121	3800856	25.02	ng/ul	978	0.145
89)	2-Chloroaniline	12.57	1508	127	15988122	25.00	ng/ul	999	0.607
90)	5-Nitro-o-toluidine	19.23	2308	152	6994041	25.00	ng/ul	597	0.422

* Compound is ISTD

Operator ID: JMK1
Output File: 25IC0518.1B2
Data File: 25IC0518.MS
Name: 25IC0518
Sample:

Quant Time: 05/20/02 15:22
Injected at: 05/19/02 01:38
Dilution Factor: 1.00
Instrument ID: 133

ID File: CCC8270.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.75	2250	143	17281832	25.00	ng/ul	982	1.042
92)	Benzaldehyde	9.49	1139	105	6068277	25.00	ng/ul	860	0.821
93)	Acetophenone	11.43	1372	105	21812413	25.00	ng/ul	997	0.828
94)	Caprolactam	14.70	1764	85	3105942	25.00	ng/ul	896	0.118
95)	Biphenyl	16.76	2011	154	23242704	25.00	ng/ul	997	1.402
96)	Atrazine	20.23	2428	200	3774859	25.00	ng/ul	963	0.141

* Compound is ISTD

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

Standard File: 10C0521A Date: 05/21/02

Time: 07:59

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
ACSUR:2-Fluorophenol	1.470	1.457	0.87		
ACSUR:D6-Phenol	1.686	1.676	0.60		
ACSUR:2,4,6-Tribromophenol	0.469	0.442	5.71		
BNSUR:D5-Nitrobenzene	0.143	0.146	-2.41		
BNSUR:Decafluorobiphenyl	0.877	0.803	8.43		
BNSUR:2-Fluorobiphenyl	1.170	1.125	3.81		
BNSUR:O-Terphenyl	0.904	0.835	7.68		
Pyridine	1.145	1.075	6.14		
Phenol	1.572	1.587	-1.00	PASS	
Aniline	1.821	1.792	1.61		
Bis(2-Chloroethyl)Ether	0.833	0.809	2.84		
2-Chlorophenol	1.660	1.615	2.76		
1,3-Dichlorobenzene	1.659	1.543	6.98		
1,4-Dichlorobenzene	1.615	1.529	5.31	PASS	
Benzyl Alcohol	0.554	0.526	5.09		
1,2-Dichlorobenzene	1.498	1.419	5.28		
2-Methylphenol	1.299	1.318	-1.52		
Bis(2-Chloroisopropyl)Ether	1.122	1.055	5.93		
4-Methylphenol	1.246	1.207	3.09		
N-Nitrosodi-N-Propylamine	0.677	0.651	3.82		PASS
Hexachloroethane	0.604	0.519	14.21		
Nitrobenzene	0.504	0.458	9.13		
Isophorone	0.713	0.705	1.13		
2-Nitrophenol	0.285	0.287	-0.65	PASS	
2,4-Dimethylphenol	0.529	0.534	-0.83		
Benzoic Acid	0.212	0.241	-13.57		
Bis(2-Chloroethoxy)Methane	0.440	0.433	1.51		
2,4-Dichlorophenol	0.360	0.371	-3.09	PASS	
1,2,4-Trichlorobenzene	0.398	0.391	1.66		
Naphthalene	1.300	1.369	-5.27		

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

Standard File: 10C0521A Date: 05/21/02

Time: 07:59

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
4-Chloroaniline	0.698	0.755	-8.17		
2,6-Dichlorophenol	0.344	0.325	5.39		
Hexachlorobutadiene	0.311	0.297	4.67	PASS	
4-Chloro-3-Methylphenol	0.533	0.544	-1.96	PASS	
2-Methylnaphthalene	0.639	0.639	0.00		
Hexachlorocyclopentadiene	0.414	0.397	4.11		PASS
2,4,6-Trichlorophenol	0.450	0.451	-0.31	PASS	
2,4,5-Trichlorophenol	0.486	0.493	-1.44		
2-Chloronapthalene	1.301	1.247	4.19		
2-Nitroaniline	0.409	0.419	-2.40		
Dimethyl Phthalate	1.918	1.735	9.58		
2,6-Dinitrotoluene	0.350	0.345	1.53		
Acenaphthylene	1.714	1.688	1.54		
3-Nitroaniline	0.337	0.324	3.89		
Acenaphthene	1.499	1.558	-3.93	PASS	
2,4-Dinitrophenol	0.110	0.108	1.38		PASS
4-Nitrophenol	0.153	0.171	-11.88		PASS
Dibenzofuran	1.771	1.647	7.04		
2,4-Dinitrotoluene	0.547	0.525	3.94		
Benzo(b)Fluoranthene	1.095	1.115	-1.79		
Diethyl Phthalate	2.186	1.961	10.30		
Fluorene	1.160	1.018	12.31		
4-Chlorophenyl Phenyl Ether	0.782	0.699	10.61		
4-Nitroaniline	0.735	0.653	11.25		
4,6-Dinitro-2-Methylphenol	0.156	0.188	-20.63		
N-Nitrosodiphenylamine	0.509	0.478	6.08	PASS	
1,2-Diphenylhydrazine	1.033	0.964	6.64		
4-Bromophenyl Phenyl Ether	0.383	0.364	5.03		
Hexachlorobenzene	0.304	0.298	1.95		
Pentachlorophenol	0.231	0.225	2.74	PASS	

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

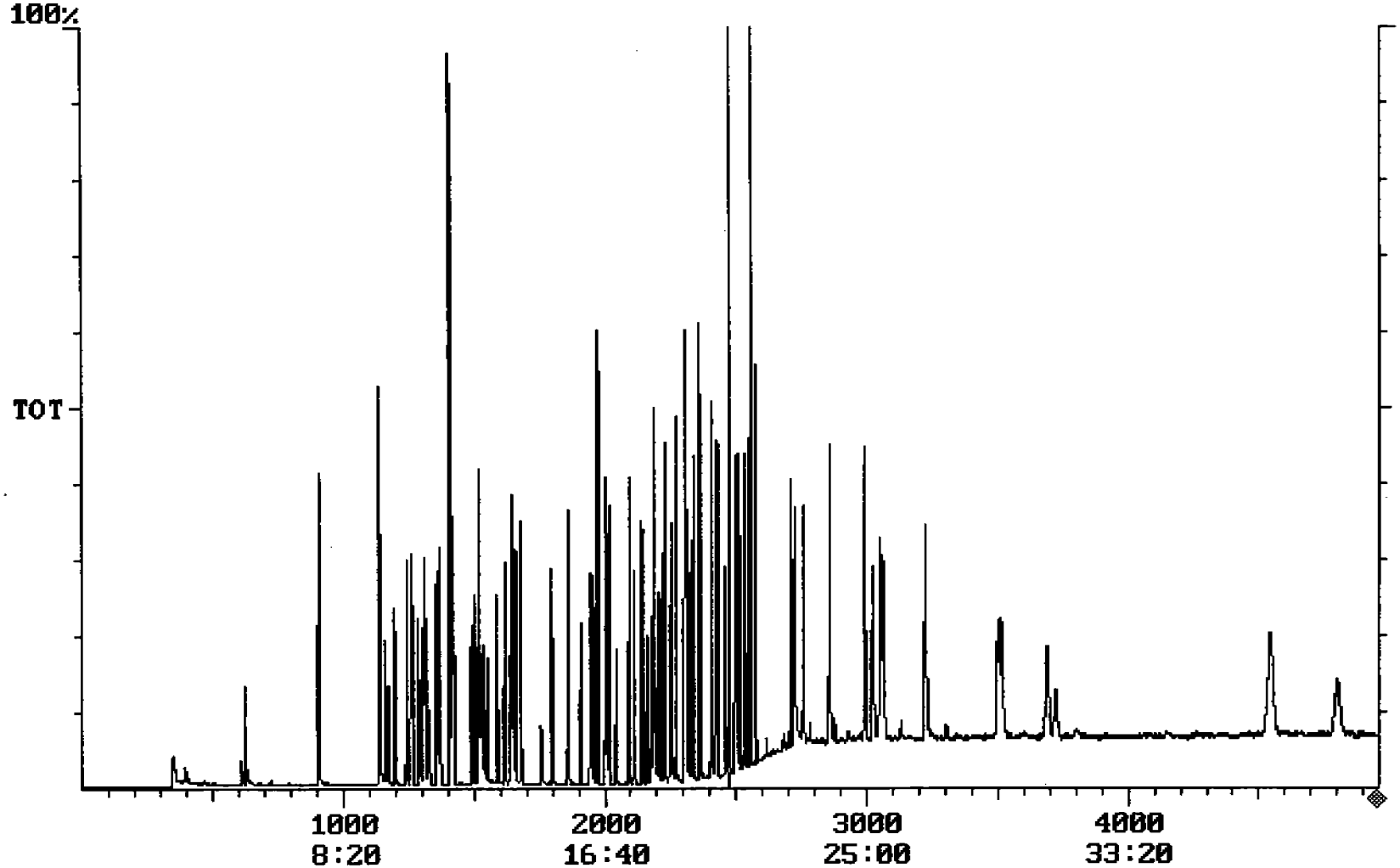
Standard File: 10C0521A Date: 05/21/02

Time: 07:59

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Phenanthrene	1.075	1.040	3.29		
Anthracene	1.183	1.125	4.85		
Carbazole	1.074	1.039	3.32		
Di-n-Butyl Phthalate	1.604	1.406	12.34		
Fluoranthene	1.113	1.057	5.02	PASS	
Benzidine	0.677	0.794	-17.16		
Pyrene	1.514	1.457	3.81		
Butyl Benzyl Phthalate	1.013	1.085	-7.13		
3,3'-Dichlorobenzidine	0.735	0.808	-9.83		
Bis(2-Ethylhexyl)Phthalate	1.632	1.687	-3.36		
Benzo(a)Anthracene	1.603	1.609	-0.38		
Chrysene	1.428	1.408	1.39		
Di-n-Octylphthalate	2.340	2.779	-18.74	PASS	
Benzo(k)Fluoranthene	1.248	1.203	3.65		
Benzo(a)Pyrene	1.069	1.065	0.36	PASS	
Indeno(1,2,3-cd)Pyrene	2.175	2.212	-1.71		
Dibenzo(a,h)Anthracene	0.989	1.018	-2.95		
Benzo(g,h,i)Perylene	1.284	1.293	-0.76		
N-Nitrosodimethylamine	0.282	0.262	7.24		
2,3,4,6-tetrachlorophenol	0.432	0.449	-3.82		
2,3-Dinitrotoluene	0.540	0.518	4.02		
2,4-Diaminotoluene	0.183	0.176	3.78		
2-Chloroaniline	0.612	0.608	0.64		
5-Nitro-o-toluidine	0.435	0.400	7.89		
1-Naphthylamine	0.866	0.771	10.94		
Benzaldehyde	1.718	1.499	12.70		
Acetophenone	0.909	0.852	6.21		
Caprolactam	0.103	0.095	8.29		
Biphenyl	1.530	1.423	6.98		
Atrazine	0.293	0.247	15.65		

Chromatogram Plot C:\SATURN\DATA\10C0521A Date: 05/21/02 07:59:48
Comment: INSTRUMENT 133
Scan: 2472 Seg: 1 Group: 0 Retention: 20:36 RIC: 343983 Masses: 41-387
Plotted: 1 to 4944 Range: 1 to 4944 100% = 15964321



SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0521A DFTPP Injection Date: 05/21/02

Instrument ID: DFTPP Injection Time: 07:33

GC Column: ID: 0.000(mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	34.3
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	29.0
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	26.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	28.6
365	Greater than 0.75% of mass 198	4.9
441	Present, but less than mass 443	9.2
442	40.0% - 110.0% of mass 198	51.8
443	15.0 - 24.0% of mass 442	11.1 (21.4) 2

1-Value is % mass 69 2-Value is % mass 442

Operator ID: JMK
Output File: 10C0521A.1B2
Data File: 10C0521A.MS
Name: 10C0521A
Sample:

Quant Time: 05/21/02 11:24
Injected at: 05/21/02 07:59
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1750910	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	5581814	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	3582998	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	5662879	5.00	ng/ul	986	1.000
5)	*IS:D12-Chrysene	25.47	3056	240	4245717	5.00	ng/ul	872	1.000
6)	*IS:D12-Perylene	31.02	3722	264	5607326	5.00	ng/ul	863	1.000
7)	ACSUR:2-Fluorophenol	7.56	907	112	10204990	19.82	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1137	99	11737207	19.88	ng/ul	986	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	6335461	18.86	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	3270196	20.48	NG/UL	990	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	17924663	18.31	ng/ul	998	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	16125251	19.24	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.27	2553	230	14174506	18.75	ng/ul	994	0.891
14)	Pyridine	5.19	623	79	3764424	9.39	ng/ul	993	1.146
15)	Phenol	9.50	1140	94	5558962	10.10	ng/ul	847	1.572
16)	Aniline	9.68	1162	93	6273393	9.84	ng/ul	997	1.821
17)	Bis(2-Chloroethyl)Ether	9.78	1174	92	2833238	9.71	ng/ul	994	0.833
18)	2-Chlorophenol	9.97	1197	128	5653876	9.72	ng/ul	999	1.661
19)	1,3-Dichlorobenzene	10.35	1242	146	5404835	9.30	ng/ul	999	1.660
20)	1,4-Dichlorobenzene	10.52	1262	146	5355838	9.47	ng/ul	999	1.616
21)	Benzyl Alcohol	10.73	1288	108	1840721	9.49	ng/ul	999	0.554
22)	1,2-Dichlorobenzene	10.89	1307	146	4967775	9.47	ng/ul	999	1.498
23)	2-Methylphenol	10.94	1313	108	4616974	10.15	ng/ul	962	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.05	1326	45	3694656	9.41	ng/ul	980	1.122
25)	4-Methylphenol	11.30	1356	108	4228032	9.69	ng/ul	999	1.246
26)	N-Nitrosodi-N-Propylamine	11.37	1364	70	2280192	9.62	ng/ul	861	0.678
27)	Hexachloroethane	11.73	1408	119	1816067	8.58	ng/ul	993	0.605
28)	Nitrobenzene	11.85	1422	77	5114341	9.09	ng/ul	991	0.505
29)	Isophorone	12.42	1490	82	7874971	9.89	ng/ul	993	0.714
30)	2-Nitrophenol	12.64	1517	109	3202492	10.07	ng/ul	979	0.286

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 11:24
Output File: 10C0521A.1B2 Injected at: 05/21/02 07:59
Data File: 10C0521A.MS Dilution Factor: 1.00
Name: 10C0521A Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.66	1519	107	5959574	10.08	ng/ul	990	0.530
32)	Benzoic Acid	12.77	1532	105	5381309	20.32	ng/ul	978	0.238
33)	Bis(2-Chloroethoxy)Methane	12.91	1550	92	4837573	9.85	ng/ul	984	0.440
34)	2,4-Dichlorophenol	13.23	1588	162	4140830	10.31	ng/ul	999	0.360
35)	1,2,4-Trichlorobenzene	13.48	1618	180	4366813	9.83	ng/ul	999	0.398
36)	Naphthalene	13.71	1645	128	15281861	10.53	ng/ul	999	1.301
37)	4-Chloroaniline	13.79	1655	127	8425616	10.47	ng/ul	994	0.721
38)	2,6-Dichlorophenol	13.82	1659	162	3632497	9.46	ng/ul	994	0.344
39)	Hexachlorobutadiene	13.99	1679	225	3314061	9.53	ng/ul	964	0.312
40)	4-Chloro-3-Methylphenol	14.98	1798	107	6072167	10.20	ng/ul	999	0.534
41)	2-Methylnaphthalene	15.51	1861	142	7128539	10.00	ng/ul	999	0.639
42)	Hexachlorocyclopentadiene	15.92	1910	237	2843224	9.59	ng/ul	976	0.414
43)	2,4,6-Trichlorophenol	16.22	1946	196	3234633	10.03	ng/ul	998	0.450
44)	2,4,5-Trichlorophenol	16.31	1957	196	3530651	10.14	ng/ul	998	0.486
45)	2-Chloronapthalene	16.82	2018	162	8934596	9.58	ng/ul	999	1.302
46)	2-Nitroaniline	17.03	2044	138	3000415	10.24	ng/ul	997	0.409
47)	Dimethyl Phthalate	17.45	2094	163	12431256	9.04	ng/ul	999	1.919
48)	2,6-Dinitrotoluene	17.61	2113	165	2471821	9.85	ng/ul	996	0.351
49)	Acenaphthylene	17.85	2142	152	12096648	9.85	ng/ul	999	1.715
50)	3-Nitroaniline	18.00	2160	138	2322617	9.61	ng/ul	987	0.338
51)	Acenaphthene	18.23	2187	152	11166131	10.39	ng/ul	997	1.500
52)	2,4-Dinitrophenol	18.23	2187	184	776470	7.21	ng/ul	997	0.151
53)	4-Nitrophenol	18.28	2194	65	1227375	9.96	ng/ul	974	0.172
54)	Dibenzofuran	18.57	2229	168	11799725	9.30	ng/ul	1000	1.772
55)	2,4-Dinitrotoluene	18.49	2219	165	3761841	9.61	ng/ul	997	0.547
56)	Benzo(b)Fluoranthene	29.17	3500	252	12497818	10.17	ng/ul	827	1.096
57)	Diethyl Phthalate	18.93	2271	149	14050451	8.97	ng/ul	996	2.186
58)	Fluorene	19.23	2308	166	7291897	8.77	ng/ul	976	1.161
59)	4-Chlorophenyl Phenyl Ether	19.20	2304	204	5009461	8.94	ng/ul	953	0.783
60)	4-Nitroaniline	19.22	2306	108	4676446	8.88	ng/ul	945	0.736

* Compound is ISTD

Operator ID: JMK
Output File: 10C0521A.1B2
Data File: 10C0521A.MS
Name: 10C0521A
Sample:

Quant Time: 05/21/02 11:24
Injected at: 05/21/02 07:59
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.27	2312	198	2125981	10.33	ng/ul	904	0.182
62)	N-Nitrosodiphenylamine	19.40	2328	169	5414410	9.39	ng/ul	999	0.509
63)	1,2-Diphenylhydrazine	19.47	2337	77	10920919	9.66	ng/ul	966	0.999
64)	4-Bromophenyl Phenyl Ether	20.04	2405	248	4122274	9.50	ng/ul	998	0.384
65)	Hexachlorobenzene	20.18	2422	284	3377692	9.80	ng/ul	995	0.305
66)	Pentachlorophenol	20.48	2457	266	2547742	9.73	ng/ul	991	0.232
67)	Phenanthrene	20.83	2500	178	11776485	9.67	ng/ul	978	1.076
68)	Anthracene	20.91	2509	178	12745541	9.52	ng/ul	997	1.183
69)	Carbazole	21.11	2533	167	11764265	9.67	ng/ul	968	1.075
70)	Di-n-Butyl Phthalate	21.45	2574	149	15921972	9.40	ng/ul	974	1.497
71)	Fluoranthene	22.57	2709	202	11969913	9.50	ng/ul	932	1.113
72)	Benzidine	22.68	2722	184	13476865	21.62	ng/ul	928	0.735
73)	Pyrene	22.97	2756	202	12368551	9.66	ng/ul	940	1.508
74)	Butyl Benzyl Phthalate	23.81	2857	149	9217673	10.72	ng/ul	943	1.013
75)	3,3'-Dichlorobenzidine	25.18	3022	252	6856917	10.41	ng/ul	936	0.776
76)	Bis(2-Ethylhexyl)Phthalate	24.94	2993	149	14327059	10.34	ng/ul	932	1.633
77)	Benzo(a)Anthracene	25.43	3052	228	13670819	10.00	ng/ul	737	1.610
78)	Chrysene	25.53	3064	228	11959479	9.90	ng/ul	859	1.423
79)	Di-n-Octylphthalate	26.87	3225	149	23596393	10.96	ng/ul	775	2.537
80)	Benzo(k)Fluoranthene	29.28	3513	252	13487725	9.63	ng/ul	864	1.249
81)	Benzo(a)Pyrene	30.77	3692	252	11940882	9.96	ng/ul	913	1.069
82)	Indeno(1,2,3-cd)Pyrene	37.84	4541	276	18780711	10.05	ng/ul	914	2.202
83)	Dibenzo(a,h)Anthracene	37.90	4548	278	11351770	10.23	ng/ul	900	0.990
84)	Benzo(g,h,i)Perylene	39.99	4799	276	14503688	10.08	ng/ul	882	1.284
85)	N-Nitrosodimethylamine	5.08	610	73	916480	9.25	ng/ul	986	0.284
86)	2,3,4,6-tetrachlorophenol	18.79	2255	232	3217089	10.38	ng/ul	998	0.433
87)	2,3-Dinitrotoluene	18.39	2207	165	3712536	9.60	ng/ul	998	0.540
88)	2,4-Diaminotoluene	16.67	2000	121	1968016	9.63	ng/ul	960	0.184
89)	2-Chloroaniline	12.54	1505	127	6789478	9.94	ng/ul	998	0.613
90)	5-Nitro-o-toluidine	19.22	2306	152	2868222	9.21	ng/ul	810	0.435

* Compound is ISTD

Operator ID: JMK
Output File: 10C0521A.1B2
Data File: 10C0521A.MS
Name: 10C0521A
Sample:

Quant Time: 05/21/02 11:24
Injected at: 05/21/02 07:59
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.72	2247	143	5527537	8.91	ng/ul	977	0.867
92)	Benzaldehyde	9.47	1137	105	5250481	9.42	ng/ul	974	1.593
93)	Acetophenone	11.40	1368	105	9514501	9.38	ng/ul	999	0.909
94)	Caprolactam	14.64	1757	85	1058171	8.63	ng/ul	909	0.110
95)	Biphenyl	16.72	2007	154	10199793	9.30	ng/ul	999	1.531
96)	Atrazine	20.22	2426	200	2798043	9.39	ng/ul	983	0.264

* Compound is ISTD

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

Standard File: 10C0521B Date: 05/21/02

Time: 20:13

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
ACSUR:2-Fluorophenol	1.470	1.466	0.29		
ACSUR:D6-Phenol	1.686	1.696	-0.58		
ACSUR:2,4,6-Tribromophenol	0.469	0.481	-2.55		
BNSUR:D5-Nitrobenzene	0.143	0.150	-4.80		
BNSUR:Decafluorobiphenyl	0.877	0.806	8.12		
BNSUR:2-Fluorobiphenyl	1.170	1.132	3.21		
BNSUR:O-Terphenyl	0.904	0.882	2.39		
Pyridine	1.145	0.915	20.07		
Phenol	1.572	1.533	2.49	PASS	
Aniline	1.821	1.662	8.73		
Bis(2-Chloroethyl)Ether	0.833	0.897	-7.67		
2-Chlorophenol	1.660	1.627	2.00		
1,3-Dichlorobenzene	1.659	1.569	5.42		
1,4-Dichlorobenzene	1.615	1.519	5.95	PASS	
Benzyl Alcohol	0.554	0.447	19.22		
1,2-Dichlorobenzene	1.498	1.455	2.83		
2-Methylphenol	1.299	1.417	-9.14		
Bis(2-Chloroisopropyl)Ether	1.122	1.049	6.45		
4-Methylphenol	1.246	1.271	-2.05		
N-Nitrosodi-N-Propylamine	0.677	0.609	9.99		PASS
Hexachloroethane	0.604	0.569	5.79		
Nitrobenzene	0.504	0.472	6.29		
Isophorone	0.713	0.722	-1.23		
2-Nitrophenol	0.285	0.307	-7.65	PASS	
2,4-Dimethylphenol	0.529	0.547	-3.37		
Benzoic Acid	0.212	0.279	-31.53		
Bis(2-Chloroethoxy)Methane	0.440	0.439	0.18		
2,4-Dichlorophenol	0.360	0.366	-1.60	PASS	
1,2,4-Trichlorobenzene	0.398	0.387	2.77		
Naphthalene	1.300	1.330	-2.28		

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

Standard File: 10C0521B Date: 05/21/02

Time: 20:13

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
4-Chloroaniline	0.698	0.777	-11.32		
2,6-Dichlorophenol	0.344	0.316	8.21		
Hexachlorobutadiene	0.311	0.311	0.22	PASS	
4-Chloro-3-Methylphenol	0.533	0.561	-5.10	PASS	
2-Methylnaphthalene	0.639	0.646	-1.14		
Hexachlorocyclopentadiene	0.414	0.413	0.12		PASS
2,4,6-Trichlorophenol	0.450	0.454	-0.89	PASS	
2,4,5-Trichlorophenol	0.486	0.514	-5.77		
2-Chloronapthalene	1.301	1.250	3.93		
2-Nitroaniline	0.409	0.423	-3.55		
Dimethyl Phthalate	1.918	1.782	7.09		
2,6-Dinitrotoluene	0.350	0.349	0.29		
Acenaphthylene	1.714	1.604	6.44		
3-Nitroaniline	0.337	0.311	7.81		
Acenaphthene	1.499	1.516	-1.14	PASS	
2,4-Dinitrophenol	0.110	0.113	-2.90		PASS
4-Nitrophenol	0.153	0.162	-5.75		PASS
Dibenzofuran	1.771	1.703	3.84		
2,4-Dinitrotoluene	0.547	0.528	3.41		
Benzo(b)Fluoranthene	1.095	1.137	-3.75		
Diethyl Phthalate	2.186	2.078	4.93		
Fluorene	1.160	1.061	8.54		
4-Chlorophenyl Phenyl Ether	0.782	0.795	-1.60		
4-Nitroaniline	0.735	0.711	3.24		
4,6-Dinitro-2-Methylphenol	0.156	0.178	-14.14		
N-Nitrosodiphenylamine	0.509	0.488	4.17	PASS	
1,2-Diphenylhydrazine	1.033	0.946	8.36		
4-Bromophenyl Phenyl Ether	0.383	0.361	5.86		
Hexachlorobenzene	0.304	0.311	-2.12		
Pentachlorophenol	0.231	0.253	-9.21	PASS	

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

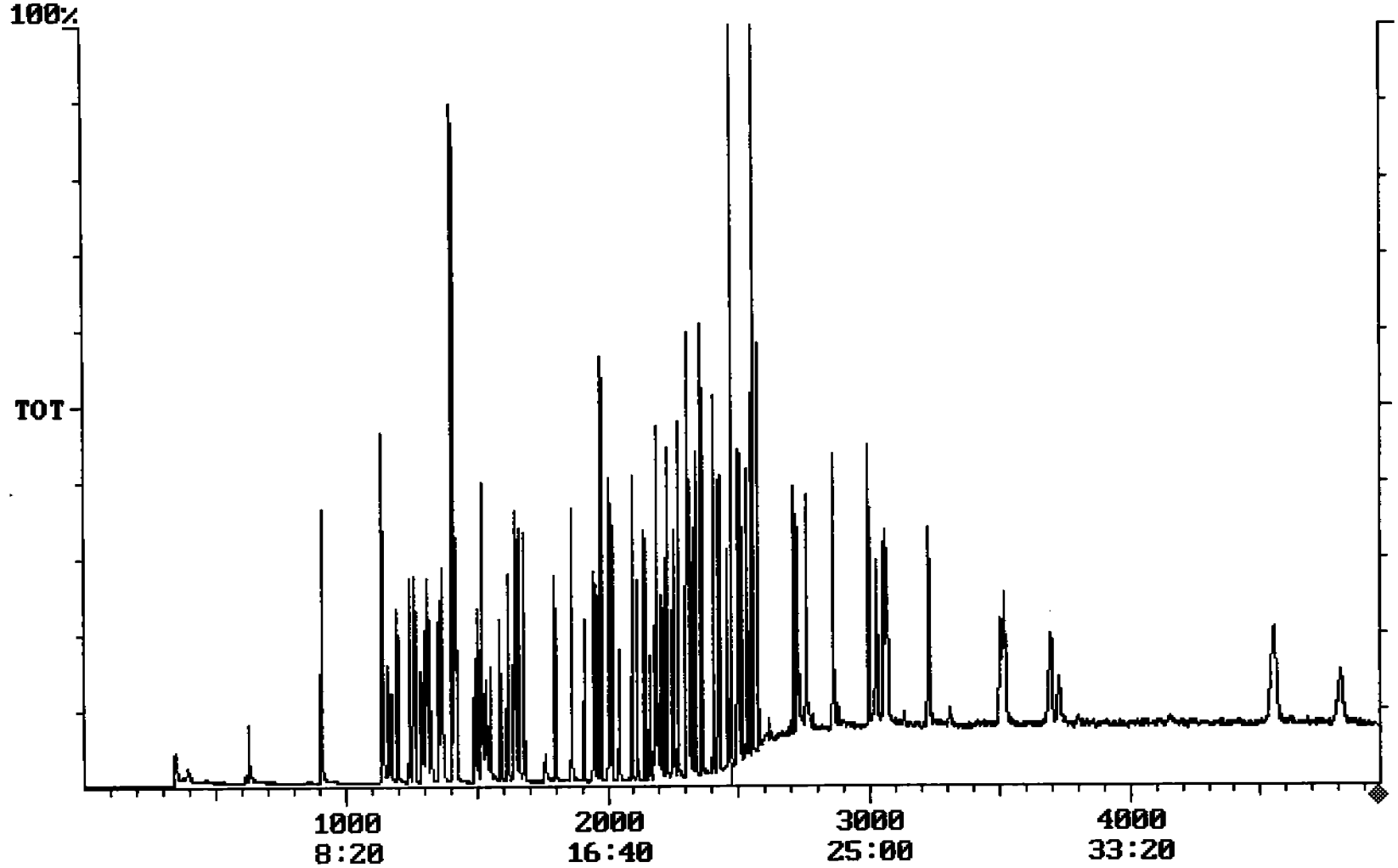
Standard File: 10C0521B Date: 05/21/02

Time: 20:13

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Phenanthrene	1.075	1.024	4.79		
Anthracene	1.183	1.102	6.79		
Carbazole	1.074	1.040	3.18		
Di-n-Butyl Phthalate	1.604	1.533	4.40		
Fluoranthene	1.113	1.067	4.15	PASS	
Benzidine	0.677	0.746	-10.16		
Pyrene	1.514	1.538	-1.60		
Butyl Benzyl Phthalate	1.013	1.028	-1.48		
3,3'-Dichlorobenzidine	0.735	0.806	-9.60		
Bis(2-Ethylhexyl)Phthalate	1.632	1.720	-5.36		
Benzo(a)Anthracene	1.603	1.599	0.20		
Chrysene	1.428	1.415	0.91		
Di-n-Octylphthalate	2.340	2.743	-17.21	PASS	
Benzo(k)Fluoranthene	1.248	1.304	-4.44		
Benzo(a)Pyrene	1.069	1.108	-3.69	PASS	
Indeno(1,2,3-cd)Pyrene	2.175	2.197	-1.05		
Dibenzo(a,h)Anthracene	0.989	1.017	-2.79		
Benzo(g,h,i)Perylene	1.284	1.314	-2.39		
N-Nitrosodimethylamine	0.282	0.253	10.49		
2,3,4,6-tetrachlorophenol	0.432	0.457	-5.77		
2,3-Dinitrotoluene	0.540	0.523	3.19		
2,4-Diaminotoluene	0.183	0.153	16.67		
2-Chloroaniline	0.612	0.593	3.16		
5-Nitro-o-toluidine	0.435	0.394	9.43		
1-Naphthylamine	0.866	0.754	12.90		
Benzaldehyde	1.718	1.598	6.95		
Acetophenone	0.909	0.865	4.76		
Caprolactam	0.103	0.114	-10.71		
Biphenyl	1.530	1.452	5.11		
Atrazine	0.293	0.246	16.15		

Chromatogram Plot C:\SATURN\DATA\10C0521B Date: 05/21/02 20:13:17
Comment: INSTRUMENT 133
Scan: 2472 Seg: 1 Group: 0 Retention: 20:36 RIC: 399045 Masses: 40-415
Plotted: 1 to 4944 Range: 1 to 4944 100% = 13797251



000965

Operator ID: JMK
Output File: 10C0521B.1B2
Data File: 10C0521B.MS
Name: 10C0521B
Sample:

Quant Time: 05/22/02 08:03
Injected at: 05/21/02 20:13
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1404769	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	4605356	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2982560	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4788885	5.00	ng/ul	990	1.000
5)	*IS:D12-Chrysene	25.49	3059	240	3558808	5.00	ng/ul	848	1.000
6)	*IS:D12-Perylene	31.06	3727	264	4670648	5.00	ng/ul	770	1.000
7)	ACSUR:2-Fluorophenol	7.56	907	112	8234442	19.94	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	9527304	20.11	ng/ul	989	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	5736026	20.51	ng/ul	999	0.469
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	2761222	20.96	NG/UL	992	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	14839250	18.38	ng/ul	996	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	13507429	19.36	ng/ul	998	1.170
13)	BNSUR:O-Terphenyl	21.27	2553	230	12561545	19.62	ng/ul	994	0.900
14)	Pyridine	5.20	624	79	2705720	8.41	ng/ul	986	1.146
15)	Phenol	9.50	1140	94	4305643	9.75	ng/ul	890	1.572
16)	Aniline	9.68	1162	93	4668284	9.13	ng/ul	998	1.821
17)	Bis(2-Chloroethyl)Ether	9.78	1174	92	2519718	10.77	ng/ul	983	0.833
18)	2-Chlorophenol	9.97	1197	128	4571394	9.80	ng/ul	998	1.661
19)	1,3-Dichlorobenzene	10.35	1242	146	4408898	9.46	ng/ul	999	1.660
20)	1,4-Dichlorobenzene	10.52	1262	146	4267820	9.40	ng/ul	999	1.616
21)	Benzyl Alcohol	10.74	1289	108	1256938	8.08	ng/ul	999	0.554
22)	1,2-Dichlorobenzene	10.89	1307	146	4088634	9.72	ng/ul	999	1.498
23)	2-Methylphenol	10.94	1313	108	3982418	10.91	ng/ul	951	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.05	1326	45	2947787	9.36	ng/ul	974	1.122
25)	4-Methylphenol	11.31	1357	108	3571994	10.20	ng/ul	999	1.246
26)	N-Nitrosodi-N-Propylamine	11.37	1364	70	1712004	9.00	ng/ul	933	0.678
27)	Hexachloroethane	11.73	1408	119	1599946	9.42	ng/ul	990	0.605
28)	Nitrobenzene	11.85	1422	77	4351810	9.37	ng/ul	986	0.505
29)	Isophorone	12.42	1491	82	6652055	10.12	ng/ul	989	0.714
30)	2-Nitrophenol	12.64	1517	109	2825830	10.76	ng/ul	983	0.286

* Compound is ISTD

Operator ID: JMK
Output File: 10C0521B.1B2
Data File: 10C0521B.MS
Name: 10C0521B
Sample:

Quant Time: 05/22/02 08:03
Injected at: 05/21/02 20:13
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.66	1519	107	5041279	10.34	ng/ul	987	0.530
32)	Benzoic Acid	12.77	1533	105	5140365	21.63	ng/ul	981	0.259
33)	Bis(2-Chloroethoxy)Methane	12.92	1551	92	4045040	9.98	ng/ul	991	0.440
34)	2,4-Dichlorophenol	13.23	1588	162	3366903	10.16	ng/ul	999	0.360
35)	1,2,4-Trichlorobenzene	13.48	1618	180	3562330	9.72	ng/ul	999	0.398
36)	Naphthalene	13.71	1645	128	12249720	10.23	ng/ul	996	1.301
37)	4-Chloroaniline	13.80	1656	127	7154435	10.72	ng/ul	988	0.725
38)	2,6-Dichlorophenol	13.82	1659	162	2907746	9.18	ng/ul	988	0.344
39)	Hexachlorobutadiene	13.99	1679	225	2861866	9.98	ng/ul	974	0.312
40)	4-Chloro-3-Methylphenol	14.99	1799	107	5164031	10.51	ng/ul	998	0.534
41)	2-Methylnaphthalene	15.52	1862	142	5948193	10.11	ng/ul	1000	0.639
42)	Hexachlorocyclopentadiene	15.92	1910	237	2465281	9.99	ng/ul	978	0.414
43)	2,4,6-Trichlorophenol	16.22	1946	196	2708070	10.09	ng/ul	998	0.450
44)	2,4,5-Trichlorophenol	16.32	1958	196	3064290	10.58	ng/ul	998	0.486
45)	2-Chloronapthalene	16.82	2018	162	7457537	9.61	ng/ul	998	1.302
46)	2-Nitroaniline	17.04	2045	138	2525614	10.36	ng/ul	997	0.409
47)	Dimethyl Phthalate	17.45	2094	163	10632396	9.29	ng/ul	999	1.919
48)	2,6-Dinitrotoluene	17.61	2113	165	2083496	9.97	ng/ul	997	0.351
49)	Acenaphthylene	17.85	2142	152	9568663	9.36	ng/ul	999	1.715
50)	3-Nitroaniline	18.00	2160	138	1854531	9.22	ng/ul	991	0.338
51)	Acenaphthene	18.23	2187	152	9044921	10.11	ng/ul	999	1.500
52)	2,4-Dinitrophenol	18.24	2189	184	824044	8.73	ng/ul	999	0.159
53)	4-Nitrophenol	18.28	2194	65	965660	9.51	ng/ul	965	0.171
54)	Dibenzofuran	18.57	2229	168	10160508	9.62	ng/ul	999	1.772
55)	2,4-Dinitrotoluene	18.49	2219	165	3148910	9.66	ng/ul	998	0.547
56)	Benzo(b)Fluoranthene	29.20	3504	252	10638206	10.40	ng/ul	798	1.096
57)	Diethyl Phthalate	18.93	2271	149	12395478	9.51	ng/ul	988	2.186
58)	Fluorene	19.23	2308	166	6330780	9.15	ng/ul	968	1.161
59)	4-Chlorophenyl Phenyl Ether	19.19	2303	204	4739863	10.16	ng/ul	931	0.783
60)	4-Nitroaniline	19.22	2307	108	4243840	9.68	ng/ul	954	0.736

* Compound is ISTD

Operator ID: JMK
Output File: 10C0521B.1B2
Data File: 10C0521B.MS
Name: 10C0521B
Sample:

Quant Time: 05/22/02 08:03
Injected at: 05/21/02 20:13
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.27	2313	198	1701257	9.87	ng/ul	899	0.180
62)	N-Nitrosodiphenylamine	19.39	2327	169	4671709	9.58	ng/ul	998	0.509
63)	1,2-Diphenylhydrazine	19.48	2338	77	9067152	9.44	ng/ul	966	1.004
64)	4-Bromophenyl Phenyl Ether	20.04	2405	248	3455728	9.41	ng/ul	998	0.384
65)	Hexachlorobenzene	20.17	2421	284	2975001	10.21	ng/ul	993	0.305
66)	Pentachlorophenol	20.48	2457	266	2419239	10.92	ng/ul	986	0.232
67)	Phenanthrene	20.83	2500	178	9802848	9.52	ng/ul	998	1.076
68)	Anthracene	20.91	2509	178	10558739	9.32	ng/ul	996	1.183
69)	Carbazole	21.12	2534	167	9963579	9.68	ng/ul	981	1.075
70)	Di-n-Butyl Phthalate	21.46	2575	149	14685224	10.54	ng/ul	981	1.455
71)	Fluoranthene	22.58	2710	202	10215653	9.59	ng/ul	939	1.113
72)	Benzidine	22.69	2723	184	10617070	20.78	ng/ul	893	0.718
73)	Pyrene	22.98	2757	202	10949724	10.11	ng/ul	920	1.521
74)	Butyl Benzyl Phthalate	23.82	2858	149	7316659	10.15	ng/ul	803	1.013
75)	3,3'-Dichlorobenzidine	25.21	3025	252	5737954	10.40	ng/ul	701	0.776
76)	Bis(2-Ethylhexyl)Phthalate	24.95	2994	149	12238102	10.53	ng/ul	801	1.633
77)	Benzo(a)Anthracene	25.45	3054	228	11384112	9.95	ng/ul	731	1.608
78)	Chrysene	25.56	3067	228	10072557	9.94	ng/ul	873	1.424
79)	Di-n-Octylphthalate	26.90	3228	149	19523471	10.85	ng/ul	866	2.528
80)	Benzo(k)Fluoranthene	29.32	3519	252	12203431	10.47	ng/ul	893	1.249
81)	Benzo(a)Pyrene	30.79	3695	252	10368832	10.39	ng/ul	805	1.069
82)	Indeno(1,2,3-cd)Pyrene	37.88	4546	276	15640384	10.00	ng/ul	886	2.199
83)	Dibenzo(a,h)Anthracene	37.94	4553	278	9516051	10.30	ng/ul	906	0.990
84)	Benzo(g,h,i)Perylene	40.07	4808	276	12301120	10.26	ng/ul	887	1.284
85)	N-Nitrosodimethylamine	5.09	611	73	705109	8.81	ng/ul	938	0.286
86)	2,3,4,6-tetrachlorophenol	18.79	2255	232	2728299	10.58	ng/ul	998	0.433
87)	2,3-Dinitrotoluene	18.40	2208	165	3117084	9.68	ng/ul	997	0.540
88)	2,4-Diaminotoluene	16.68	2002	121	1405915	8.33	ng/ul	975	0.184
89)	2-Chloroaniline	12.54	1505	127	5459855	9.68	ng/ul	999	0.613
90)	5-Nitro-o-toluidine	19.21	2306	152	2347569	9.06	ng/ul	745	0.435

* Compound is ISTD

Operator ID: JMK
Output File: 10C0521B.1B2
Data File: 10C0521B.MS
Name: 10C0521B
Sample:

Quant Time: 05/22/02 08:03
Injected at: 05/21/02 20:13
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.72	2247	143	4499722	8.71	ng/ul	982	0.867
92)	Benzaldehyde	9.48	1137	105	4490158	10.84	ng/ul	978	1.475
93)	Acetophenone	11.41	1369	105	7971450	9.52	ng/ul	999	0.909
94)	Caprolactam	14.67	1760	85	1051488	9.99	ng/ul	901	0.115
95)	Biphenyl	16.73	2008	154	8661266	9.49	ng/ul	998	1.531
96)	Atrazine	20.23	2427	200	2352128	9.29	ng/ul	974	0.265

* Compound is ISTD

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX

Contract No.

Instrument ID: 133

Calibration File: ICC0518

Calibration Date: 05/19/02

Standard File: 10C0522A

Date: 05/22/02

Time: 16:44

Minimum RF for SPCC is 0.0500

Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
ACSUR:2-Fluorophenol	1.470	1.505	-2.36		
ACSUR:D6-Phenol	1.686	1.826	-8.32		
ACSUR:2,4,6-Tribromophenol	0.469	0.447	4.60		
BNSUR:D5-Nitrobenzene	0.143	0.157	-10.06		
BNSUR:Decafluorobiphenyl	0.877	0.823	6.15		
BNSUR:2-Fluorobiphenyl	1.170	1.107	5.40		
BNSUR:O-Terphenyl	0.904	0.835	7.64		
Pyridine	1.145	1.307	-14.15		
Phenol	1.572	1.616	-2.83	PASS	
Aniline	1.821	1.645	9.66		
Bis(2-Chloroethyl)Ether	0.833	0.972	-16.64		
2-Chlorophenol	1.660	1.642	1.08		
1,3-Dichlorobenzene	1.659	1.657	0.13		
1,4-Dichlorobenzene	1.615	1.656	-2.50	PASS	
Benzyl Alcohol	0.554	0.498	10.15		
1,2-Dichlorobenzene	1.498	1.464	2.26		
2-Methylphenol	1.299	1.297	0.17		
Bis(2-Chloroisopropyl)Ether	1.122	1.081	3.61		
4-Methylphenol	1.246	1.310	-5.14		
N-Nitrosodi-N-Propylamine	0.677	0.683	-0.90		PASS
Hexachloroethane	0.604	0.629	-4.07		
Nitrobenzene	0.504	0.460	8.86		
Isophorone	0.713	0.718	-0.59		
2-Nitrophenol	0.285	0.315	-10.42	PASS	
2,4-Dimethylphenol	0.529	0.558	-5.43		
Benzoic Acid	0.212	0.262	-23.51		
Bis(2-Chloroethoxy)Methane	0.440	0.459	-4.33		
2,4-Dichlorophenol	0.360	0.358	0.59	PASS	
1,2,4-Trichlorobenzene	0.398	0.385	3.28		
Naphthalene	1.300	1.306	-0.40		

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

Standard File: 10C0522A Date: 05/22/02

Time: 16:44

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
4-Chloroaniline	0.698	0.734	-5.22		
2,6-Dichlorophenol	0.344	0.325	5.50		
Hexachlorobutadiene	0.311	0.296	4.96	PASS	
4-Chloro-3-Methylphenol	0.533	0.520	2.52	PASS	
2-Methylnaphthalene	0.639	0.650	-1.85		
Hexachlorocyclopentadiene	0.414	0.417	-0.67		PASS
2,4,6-Trichlorophenol	0.450	0.469	-4.22	PASS	
2,4,5-Trichlorophenol	0.486	0.515	-5.95		
2-Chloronapthalene	1.301	1.232	5.31		
2-Nitroaniline	0.409	0.423	-3.46		
Dimethyl Phthalate	1.918	1.808	5.77		
2,6-Dinitrotoluene	0.350	0.365	-4.11		
Acenaphthylene	1.714	1.658	3.30		
3-Nitroaniline	0.337	0.341	-1.16		
Acenaphthene	1.499	1.605	-7.06	PASS	
2,4-Dinitrophenol	0.110	0.107	2.54		PASS
4-Nitrophenol	0.153	0.176	-15.19		PASS
Dibenzofuran	1.771	1.616	8.75		
2,4-Dinitrotoluene	0.547	0.569	-4.04		
Benzo(b)Fluoranthene	1.095	1.054	3.75		
Diethyl Phthalate	2.186	2.014	7.86		
Fluorene	1.160	1.031	11.12		
4-Chlorophenyl Phenyl Ether	0.782	0.708	9.43		
4-Nitroaniline	0.735	0.717	2.53		
4,6-Dinitro-2-Methylphenol	0.156	0.178	-14.51		
N-Nitrosodiphenylamine	0.509	0.533	-4.68	PASS	
1,2-Diphenylhydrazine	1.033	1.058	-2.43		
4-Bromophenyl Phenyl Ether	0.383	0.392	-2.38		
Hexachlorobenzene	0.304	0.321	-5.49		
Pentachlorophenol	0.231	0.249	-7.54	PASS	

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 133

Calibration File: ICC0518 Calibration Date: 05/19/02

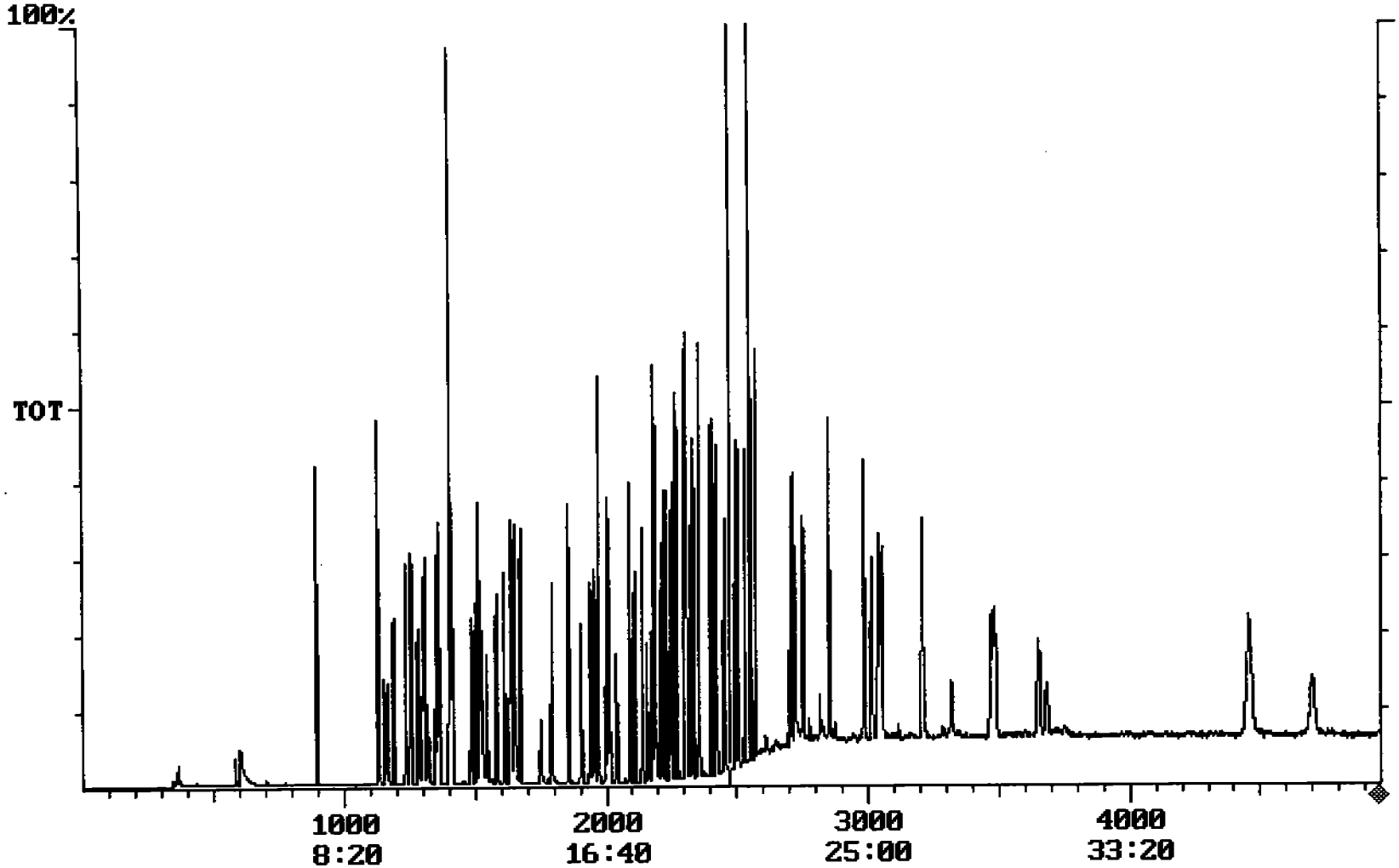
Standard File: 10C0522A Date: 05/22/02

Time: 16:44

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Phenanthrene	1.075	1.142	-6.23		
Anthracene	1.183	1.163	1.68		
Carbazole	1.074	1.073	0.09		
Di-n-Butyl Phthalate	1.604	1.561	2.69		
Fluoranthene	1.113	1.105	0.66	PASS	
Benzidine	0.677	0.808	-19.32		
Pyrene	1.514	1.382	8.71		
Butyl Benzyl Phthalate	1.013	1.034	-2.06		
3,3'-Dichlorobenzidine	0.735	0.789	-7.26		
Bis(2-Ethylhexyl)Phthalate	1.632	1.641	-0.52		
Benzo(a)Anthracene	1.603	1.609	-0.39		
Chrysene	1.428	1.401	1.88		
Di-n-Octylphthalate	2.340	2.712	-15.87	PASS	
Benzo(k)Fluoranthene	1.248	1.273	-2.01		
Benzo(a)Pyrene	1.069	1.063	0.54	PASS	
Indeno(1,2,3-cd)Pyrene	2.175	2.253	-3.62		
Dibenzo(a,h)Anthracene	0.989	1.047	-5.81		
Benzo(g,h,i)Perylene	1.284	1.297	-1.05		
N-Nitrosodimethylamine	0.282	0.298	-5.62		
2,3,4,6-tetrachlorophenol	0.432	0.467	-7.98		
2,3-Dinitrotoluene	0.540	0.533	1.22		
2,4-Diaminotoluene	0.183	0.130	28.93		
2-Chloroaniline	0.612	0.618	-0.99		
5-Nitro-o-toluidine	0.435	0.450	-3.62		
1-Naphthylamine	0.866	0.676	22.00		
Benzaldehyde	1.718	1.327	22.71		
Acetophenone	0.909	0.901	0.86		
Caprolactam	0.103	0.140	-35.49		
Biphenyl	1.530	1.398	8.67		
Atrazine	0.293	0.245	16.34		

Chromatogram Plot C:\SATURN\DATA\10C0522A Date: 05/22/02 16:44:56
Comment: INSTRUMENT 133
Scan: 2472 Seg: 1 Group: 0 Retention: 20:36 RIC: 335487 Masses: 40-415
Plotted: 1 to 4944 Range: 1 to 4944 100% = 14557098



000973

Operator ID: JMK
Output File: 10C0522A.1B2
Data File: 10C0522A.MS
Name: 10C0522A
Sample:

Quant Time: 05/23/02 03:36
Injected at: 05/22/02 16:44
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.42	1250	152	1547033	5.00	ng/ul	1000	1.000
2)	*IS:D8-Naphthalene	13.61	1633	136	5189746	5.00	ng/ul	1000	1.000
3)	*IS:D10-Acenaphthene	18.12	2174	162	3231734	5.00	ng/ul	1000	1.000
4)	*IS:D10-Phenanthrene	20.77	2492	188	4917525	5.00	ng/ul	993	1.000
5)	*IS:D12-Chrysene	25.38	3046	240	4040345	5.00	ng/ul	847	1.000
6)	*IS:D12-Perylene	30.71	3685	264	5320227	5.00	ng/ul	840	1.000
7)	ACSUR:2-Fluorophenol	7.45	894	112	9311872	20.47	ng/ul	1000	1.471
8)	ACSUR:D6-Phenol	9.41	1129	99	11300768	21.66	ng/ul	1000	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.62	2355	330	5781648	19.08	ng/ul	1000	0.469
10)	BNSUR:D5-Nitrobenzene	11.75	1410	127	3267588	22.01	NG/UL	1000	0.144
11)	BNSUR:Decafluorobiphenyl	11.68	1402	334	17081058	18.77	ng/ul	1000	0.877
12)	BNSUR:2-Fluorobiphenyl	16.41	1969	172	14305353	18.92	ng/ul	1000	1.170
13)	BNSUR:O-Terphenyl	21.25	2550	230	13495370	18.75	ng/ul	1000	0.891
14)	Pyridine	5.02	603	79	4044987	11.41	ng/ul	963	1.146
15)	Phenol	9.43	1132	94	5000484	10.28	ng/ul	1000	1.572
16)	Aniline	9.62	1154	93	5089861	9.03	ng/ul	1000	1.821
17)	Bis(2-Chloroethyl)Ether	9.72	1166	92	3006041	11.66	ng/ul	1000	0.833
18)	2-Chlorophenol	9.91	1189	128	5081518	9.89	ng/ul	1000	1.661
19)	1,3-Dichlorobenzene	10.29	1235	146	5126885	9.99	ng/ul	1000	1.660
20)	1,4-Dichlorobenzene	10.46	1255	146	5122381	10.25	ng/ul	1000	1.616
21)	Benzyl Alcohol	10.67	1281	108	1539735	8.99	ng/ul	1000	0.554
22)	1,2-Dichlorobenzene	10.83	1300	146	4529168	9.77	ng/ul	1000	1.498
23)	2-Methylphenol	10.89	1307	108	4011642	9.98	ng/ul	1000	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.01	1321	45	3344738	9.64	ng/ul	998	1.122
25)	4-Methylphenol	11.25	1350	108	4052758	10.51	ng/ul	1000	1.246
26)	N-Nitrosodi-N-Propylamine	11.32	1358	70	2113519	10.09	ng/ul	1000	0.678
27)	Hexachloroethane	11.68	1402	119	1946422	10.41	ng/ul	1000	0.605
28)	Nitrobenzene	11.80	1416	77	4769450	9.11	ng/ul	1000	0.505
29)	Isophorone	12.37	1485	82	7449290	10.06	ng/ul	990	0.714
30)	2-Nitrophenol	12.59	1511	109	3266371	11.04	ng/ul	1000	0.286

* Compound is ISTD

Operator ID: JMK
Output File: 10C0522A.1B2
Data File: 10C0522A.MS
Name: 10C0522A
Sample:

Quant Time: 05/23/02 03:36
Injected at: 05/22/02 16:44
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.61	1513	107	5793980	10.54	ng/ul	1000	0.530
32)	Benzoic Acid	12.73	1528	105	5439383	21.05	ng/ul	1000	0.249
33)	Bis(2-Chloroethoxy)Methane	12.88	1546	92	4764362	10.43	ng/ul	1000	0.440
34)	2,4-Dichlorophenol	13.18	1582	162	3712464	9.94	ng/ul	1000	0.360
35)	1,2,4-Trichlorobenzene	13.44	1613	180	3993585	9.67	ng/ul	1000	0.398
36)	Naphthalene	13.67	1640	128	13550753	10.04	ng/ul	1000	1.301
37)	4-Chloroaniline	13.76	1651	127	7620333	10.23	ng/ul	1000	0.718
38)	2,6-Dichlorophenol	13.77	1653	162	3373718	9.45	ng/ul	1000	0.344
39)	Hexachlorobutadiene	13.95	1674	225	3071757	9.50	ng/ul	1000	0.312
40)	4-Chloro-3-Methylphenol	14.94	1793	107	5397262	9.75	ng/ul	1000	0.534
41)	2-Methylnaphthalene	15.47	1856	142	6749820	10.18	ng/ul	1000	0.639
42)	Hexachlorocyclopentadiene	15.87	1904	237	2692346	10.07	ng/ul	1000	0.414
43)	2,4,6-Trichlorophenol	16.18	1942	196	3031097	10.42	ng/ul	1000	0.450
44)	2,4,5-Trichlorophenol	16.27	1952	196	3325941	10.59	ng/ul	1000	0.486
45)	2-Chloronapthalene	16.77	2013	162	7963909	9.47	ng/ul	1000	1.302
46)	2-Nitroaniline	17.00	2040	138	2734088	10.35	ng/ul	1000	0.409
47)	Dimethyl Phthalate	17.41	2089	163	11684173	9.42	ng/ul	1000	1.919
48)	2,6-Dinitrotoluene	17.57	2109	165	2357023	10.41	ng/ul	1000	0.351
49)	Acenaphthylene	17.82	2138	152	10715922	9.67	ng/ul	1000	1.715
50)	3-Nitroaniline	17.97	2157	138	2205024	10.12	ng/ul	1000	0.338
51)	Acenaphthene	18.19	2183	152	10374901	10.71	ng/ul	1000	1.500
52)	2,4-Dinitrophenol	18.19	2183	184	989896	9.61	ng/ul	1000	0.160
53)	4-Nitrophenol	18.25	2190	65	1139760	10.20	ng/ul	1000	0.173
54)	Dibenzofuran	18.55	2226	168	10446711	9.13	ng/ul	1000	1.772
55)	2,4-Dinitrotoluene	18.46	2215	165	3675018	10.40	ng/ul	1000	0.547
56)	Benzo(b)Fluoranthene	28.93	3472	252	11218442	9.63	ng/ul	939	1.096
57)	Diethyl Phthalate	18.89	2267	149	13017343	9.21	ng/ul	1000	2.186
58)	Fluorene	19.21	2305	166	6666163	8.89	ng/ul	1000	1.161
59)	4-Chlorophenyl Phenyl Ether	19.17	2300	204	4578200	9.06	ng/ul	1000	0.783
60)	4-Nitroaniline	19.19	2303	108	4632198	9.75	ng/ul	1000	0.736

* Compound is ISTD

Operator ID: JMK
Output File: 10C0522A.1B2
Data File: 10C0522A.MS
Name: 10C0522A
Sample:

Quant Time: 05/23/02 03:36
Injected at: 05/22/02 16:44
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.23	2308	198	1752506	9.90	ng/ul	1000	0.181
62)	N-Nitrosodiphenylamine	19.37	2324	169	5240031	10.47	ng/ul	1000	0.509
63)	1,2-Diphenylhydrazine	19.45	2334	77	10404996	10.85	ng/ul	1000	0.976
64)	4-Bromophenyl Phenyl Ether	20.02	2402	248	3859175	10.24	ng/ul	1000	0.384
65)	Hexachlorobenzene	20.15	2418	284	3155965	10.55	ng/ul	1000	0.305
66)	Pentachlorophenol	20.44	2453	266	2446104	10.75	ng/ul	1000	0.232
67)	Phenanthrene	20.81	2497	178	11232205	10.62	ng/ul	1000	1.076
68)	Anthracene	20.88	2506	178	11435869	9.83	ng/ul	1000	1.183
69)	Carbazole	21.08	2530	167	10556911	9.99	ng/ul	989	1.075
70)	Di-n-Butyl Phthalate	21.43	2571	149	15347041	10.80	ng/ul	990	1.446
71)	Fluoranthene	22.54	2705	202	10871481	9.93	ng/ul	979	1.113
72)	Benzidine	22.65	2718	184	13061471	21.87	ng/ul	992	0.740
73)	Pyrene	22.93	2752	202	11169841	9.24	ng/ul	962	1.496
74)	Butyl Benzyl Phthalate	23.77	2852	149	8353888	10.21	ng/ul	937	1.013
75)	3,3'-Dichlorobenzidine	25.12	3014	252	6372782	10.23	ng/ul	944	0.771
76)	Bis(2-Ethylhexyl)Phthalate	24.87	2984	149	13259211	10.05	ng/ul	960	1.633
77)	Benzo(a)Anthracene	25.35	3042	228	13001611	10.00	ng/ul	949	1.609
78)	Chrysene	25.45	3054	228	11323433	9.86	ng/ul	979	1.422
79)	Di-n-Octylphthalate	26.73	3208	149	21911981	10.77	ng/ul	962	2.519
80)	Benzo(k)Fluoranthene	29.05	3486	252	13549561	10.20	ng/ul	951	1.249
81)	Benzo(a)Pyrene	30.43	3652	252	11308300	9.95	ng/ul	900	1.069
82)	Indeno(1,2,3-cd)Pyrene	37.12	4454	276	18208995	10.19	ng/ul	915	2.213
83)	Dibenzo(a,h)Anthracene	37.18	4462	278	11135499	10.58	ng/ul	916	0.990
84)	Benzo(g,h,i)Perylene	39.13	4696	276	13801490	10.11	ng/ul	879	1.284
85)	N-Nitrosodimethylamine	4.86	583	73	924379	10.83	ng/ul	998	0.276
86)	2,3,4,6-tetrachlorophenol	18.76	2251	232	3017984	10.80	ng/ul	1000	0.433
87)	2,3-Dinitrotoluene	18.37	2204	165	3446240	9.88	ng/ul	1000	0.540
88)	2,4-Diaminotoluene	16.64	1997	121	1351848	7.11	ng/ul	967	0.184
89)	2-Chloroaniline	12.50	1500	127	6416470	10.10	ng/ul	1000	0.613
90)	5-Nitro-o-toluidine	19.18	2302	152	2838370	10.11	ng/ul	1000	0.435

* Compound is ISTD

Operator ID: JMK
Output File: 10C0522A.1B2
Data File: 10C0522A.MS
Name: 10C0522A
Sample:

Quant Time: 05/23/02 03:36
Injected at: 05/22/02 16:44
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.69	2243	143	4399475	7.86	ng/ul	992	0.867
92)	Benzaldehyde	9.40	1128	105	4107347	7.47	ng/ul	1000	1.778
93)	Acetophenone	11.35	1362	105	9350045	9.91	ng/ul	1000	0.909
94)	Caprolactam	14.60	1752	85	1450040	11.73	ng/ul	1000	0.120
95)	Biphenyl	16.69	2003	154	9032763	9.13	ng/ul	1000	1.531
96)	Atrazine	20.19	2423	200	2409914	9.25	ng/ul	1000	0.265

* Compound is ISTD

INITIAL CALIBRATION REPORT

EPA Method 8270C

Case No. 7PT CAL.

Contract Lab: TRIMATRIX Contract No. ION TRAP

Instrument ID: 138

Calibration File: ICC0515 Calibration Date: 05/15/02

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30.00%

Data File Name	10C0515A	1IC0515	2IC0515	5IC0515	15IC0515	20IC0515	25IC0515				
Compound	RF	RF	RF	RF	RF	RF	RF	$\overline{RF}$	% RSD	CCC	SPCC
ACSUR:2-Fluorophenol	1.169	1.462	1.538	1.506	1.812	1.719	1.810	1.574	14.6		
ACSUR:D6-Phenol	1.419	1.788	1.799	1.855	2.107	2.140	2.218	1.904	14.5		
ACSUR:2,4,6-Tribromophenol	0.262	0.338	0.347	0.348	0.400	0.389	0.458	0.363	16.8		
BNSUR:D5-Nitrobenzene	0.123	0.162	0.167	0.168	0.174	0.187	0.182	0.166	12.7		
BNSUR:Decafluorobiphenyl	0.543	0.658	0.701	0.750	0.794	0.848	0.819	0.730	14.5		
BNSUR:2-Fluorobiphenyl	0.882	1.104	1.127	1.198	1.233	1.332	1.367	1.178	13.8		
BNSUR:O-Terphenyl	0.650	0.693	0.716	0.761	0.984	1.136	1.280	0.889	27.7		
Pyridine	0.788	0.938	1.086	1.060	1.166	1.094	1.086	1.031	12.3		
Phenol	1.217	1.603	1.672	1.642	1.903	1.855	2.012	1.701	15.4	PASS	
Aniline	1.351	1.719	1.845	1.780	2.068	2.135	2.061	1.851	14.7		
Bis(2-Chloroethyl)Ether	0.605	0.853	0.906	0.869	0.933	0.946	0.921	0.862	13.7		
2-Chlorophenol	1.187	1.616	1.751	1.669	1.910	1.791	1.871	1.685	14.4		
1,3-Dichlorobenzene	1.120	1.483	1.611	1.569	1.681	1.626	1.673	1.538	12.8		
1,4-Dichlorobenzene	1.095	1.553	1.633	1.507	1.681	1.636	1.625	1.533	13.1	PASS	
Benzyl Alcohol	0.474	0.648	0.687	0.641	0.698	0.685	0.692	0.646	12.2		
1,2-Dichlorobenzene	1.045	1.361	1.580	1.485	1.550	1.492	1.467	1.426	12.7		
2-Methylphenol	1.011	1.207	1.315	1.349	1.657	1.602	1.682	1.403	18.0		
Bis(2-Chloroisopropyl)Ether	0.779	1.149	1.167	1.104	1.054	1.035	0.992	1.040	12.6		
4-Methylphenol	0.961	1.225	1.287	1.286	1.424	1.501	1.453	1.305	14.0		
N-Nitrosodi-N-Propylamine	0.558	0.810	0.863	0.794	0.857	0.822	0.793	0.785	13.3		PASS
Hexachloroethane	0.479	0.641	0.669	0.650	0.710	0.674	0.686	0.644	11.8		
Nitrobenzene	0.381	0.595	0.566	0.593	0.579	0.579	0.536	0.547	13.9		
Isophorone	0.568	0.738	0.771	0.871	0.837	0.894	0.861	0.791	14.3		
2-Nitrophenol	0.225	0.370	0.352	0.348	0.324	0.311	0.276	0.315	16.0	PASS	
2,4-Dimethylphenol	0.440	0.576	0.585	0.669	0.660	0.653	0.632	0.602	13.3		
Benzoic Acid	0.323	0.284	0.409	0.496	0.567	0.593	0.554	0.461	26.8		
Bis(2-Chloroethoxy)Methane	0.334	0.443	0.462	0.520	0.510	0.542	0.497	0.472	14.7		
2,4-Dichlorophenol	0.254	0.322	0.331	0.382	0.376	0.402	0.380	0.350	14.6	PASS	
1,2,4-Trichlorobenzene	0.278	0.341	0.379	0.414	0.420	0.439	0.419	0.384	14.9		
Naphthalene	0.972	1.309	1.357	1.471	1.492	1.609	1.517	1.389	15.1		

INITIAL CALIBRATION REPORT

EPA Method 8270C

Case No. 7PT CAL.

Contract Lab: TRIMATRIX Contract No. ION TRAP

Instrument ID: 138

Calibration File: ICC0515 Calibration Date: 05/15/02

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30.00%

Data File Name	10C0515A	1IC0515	2IC0515	5IC0515	15IC0515	20IC0515	25IC0515				
Compound	RF	RF	RF	RF	RF	RF	RF	$\overline{RF}$	% RSD	CCC	SPCC
4-Chloroaniline	0.554	0.587	0.616	0.732	0.878	0.987	1.024	0.768	25.4		
2,6-Dichlorophenol	0.235	0.357	0.352	0.356	0.348	0.335	0.290	0.325	14.2		
Hexachlorobutadiene	0.199	0.264	0.260	0.297	0.314	0.319	0.316	0.281	15.5	PASS	
4-Chloro-3-Methylphenol	0.430	0.584	0.539	0.609	0.652	0.676	0.665	0.594	14.7	PASS	
2-Methylnaphthalene	0.441	0.618	0.608	0.702	0.717	0.724	0.713	0.646	15.8		
Hexachlorocyclopentadiene	0.340	0.351	0.420	0.460	0.479	0.498	0.542	0.442	17.0		PASS
2,4,6-Trichlorophenol	0.343	0.418	0.442	0.459	0.477	0.503	0.523	0.452	13.2	PASS	
2,4,5-Trichlorophenol	0.362	0.448	0.468	0.514	0.555	0.519	0.555	0.489	14.0		
2-Chloronapthalene	0.930	1.255	1.216	1.312	1.291	1.380	1.420	1.258	12.8		
2-Nitroaniline	0.331	0.399	0.417	0.468	0.486	0.495	0.527	0.446	15.1		
Dimethyl Phthalate	1.386	1.749	1.854	1.928	2.103	2.025	2.141	1.884	13.8		
2,6-Dinitrotoluene	0.281	0.359	0.359	0.373	0.397	0.410	0.413	0.370	12.2		
Acenaphthylene	1.212	1.536	1.589	1.703	1.785	1.758	1.923	1.644	13.9		
3-Nitroaniline	0.285	0.311	0.347	0.366	0.394	0.415	0.445	0.366	15.5		
Acenaphthene	1.331	1.565	1.604	1.685	1.901	1.976	2.163	1.746	16.2	PASS	
2,4-Dinitrophenol	0.168	0.211	0.244	0.262	0.184	0.172	0.164	0.201	19.5		PASS
4-Nitrophenol	0.167	0.215	0.227	0.256	0.222	0.227	0.236	0.222	12.4		PASS
Dibenzofuran	1.264	1.648	1.741	1.750	1.802	1.779	1.864	1.693	11.8		
2,4-Dinitrotoluene	0.433	0.575	0.604	0.591	0.605	0.581	0.655	0.578	11.9		
Benzo(b)Fluoranthene	0.850	1.063	1.110	1.139	1.269	1.189	1.264	1.126	12.8		
Diethyl Phthalate	1.562	2.029	2.140	2.292	2.208	2.238	2.398	2.124	12.9		
Fluorene	0.833	1.036	1.109	1.110	1.303	1.353	1.544	1.184	19.8		
4-Chlorophenyl Phenyl Ether	0.549	0.772	0.723	0.794	0.859	0.854	0.858	0.773	14.4		
4-Nitroaniline	0.630	0.927	0.864	0.957	0.868	0.889	0.894	0.861	12.4		
4,6-Dinitro-2-Methylphenol	0.161	0.218	0.230	0.238	0.227	0.234	0.196	0.215	12.8		
N-Nitrosodiphenylamine	0.362	0.432	0.476	0.500	0.544	0.586	0.561	0.494	15.9	PASS	
1,2-Diphenylhydrazine	0.836	1.225	1.263	1.243	1.122	1.080	1.009	1.111	13.8		
4-Bromophenyl Phenyl Ether	0.291	0.325	0.346	0.391	0.416	0.411	0.385	0.366	12.8		
Hexachlorobenzene	0.216	0.289	0.290	0.285	0.290	0.284	0.275	0.276	9.7		
Pentachlorophenol	0.183	0.197	0.215	0.228	0.248	0.246	0.251	0.224	12.0	PASS	

INITIAL CALIBRATION REPORT

EPA Method 8270C

Case No. 7PT CAL.

Contract Lab: TRIMATRIX Contract No. ION TRAP

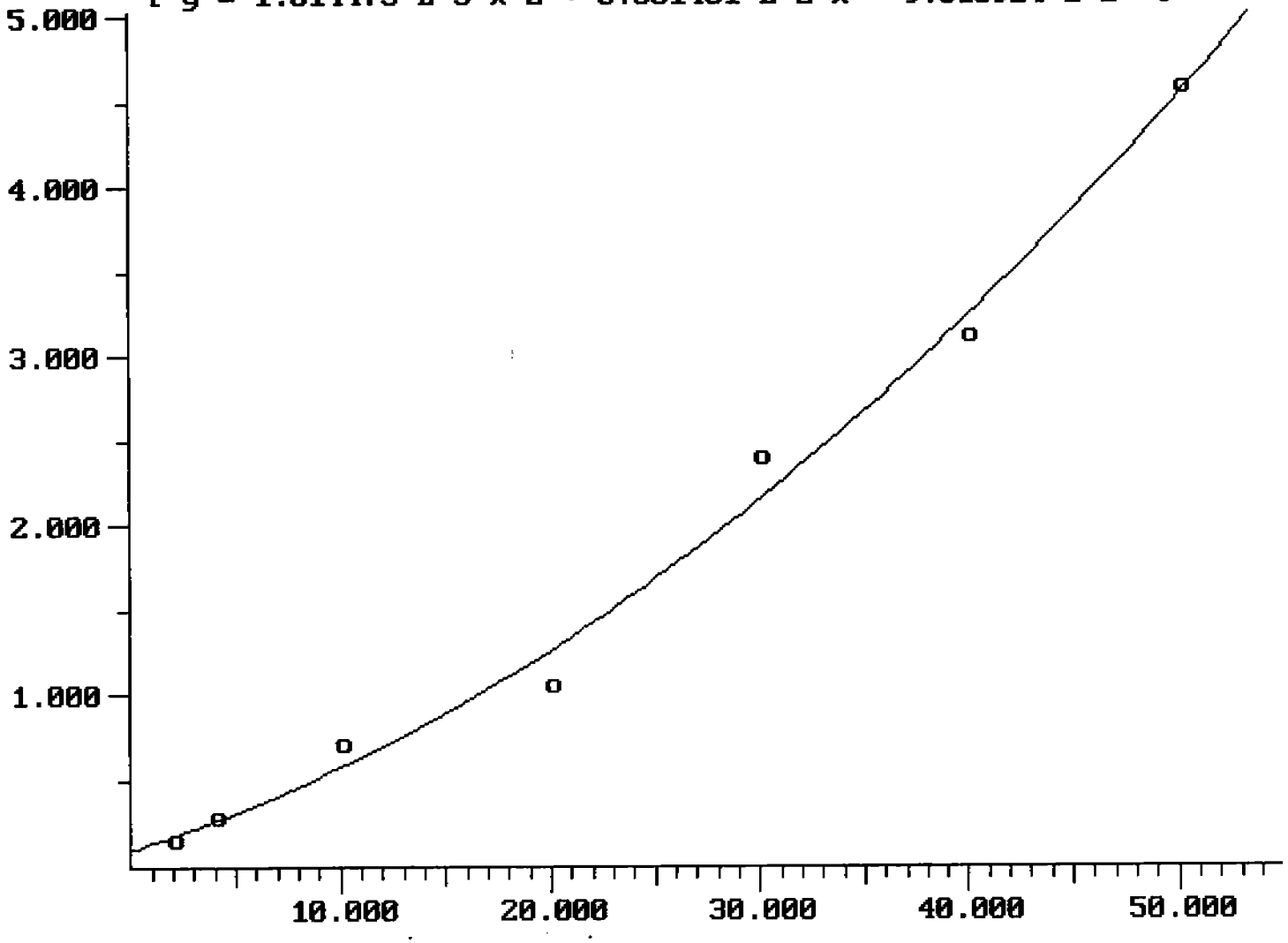
Instrument ID: 138

Calibration File: ICC0515 Calibration Date: 05/15/02

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30.00%

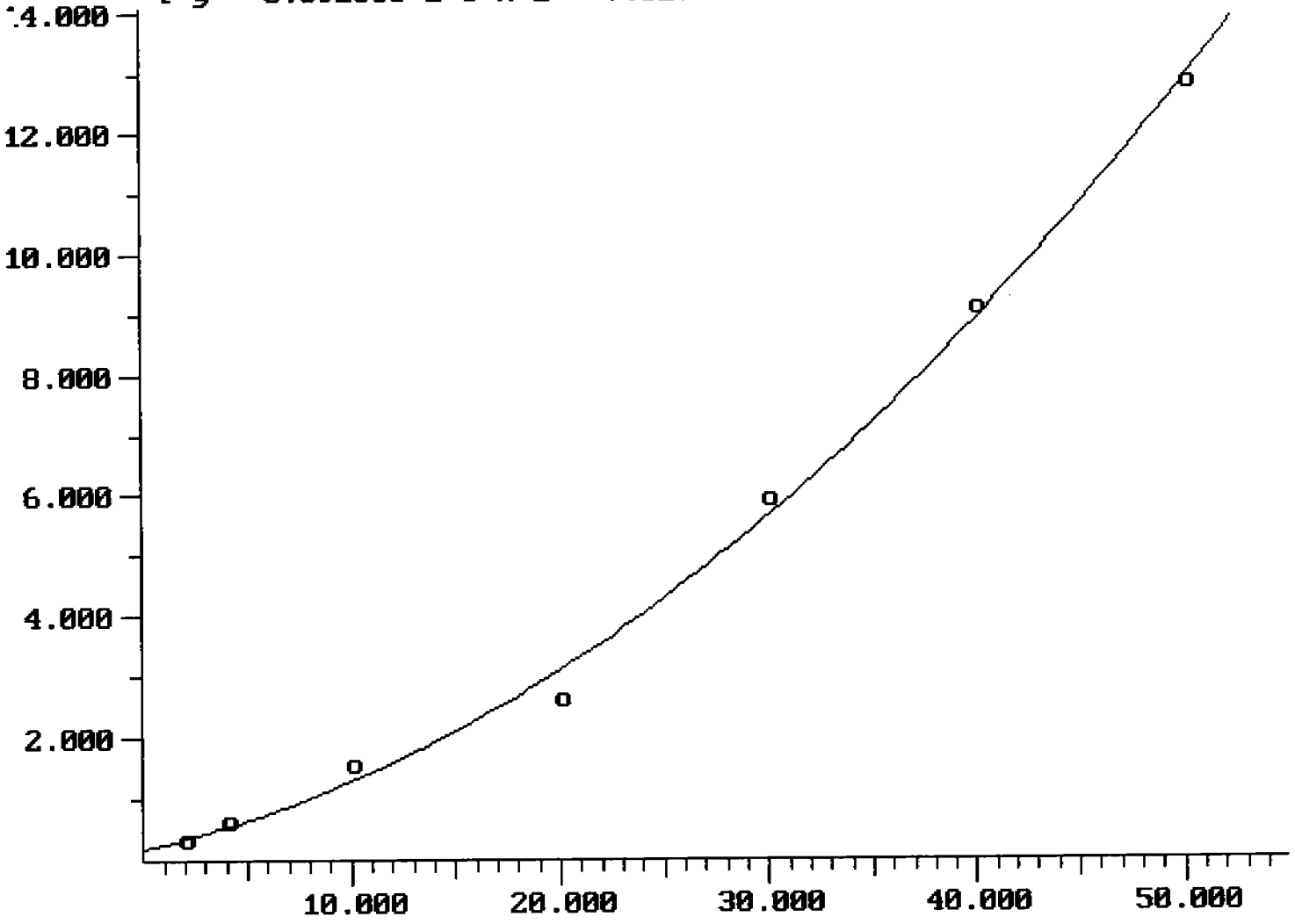
Data File Name	10C0515A	1IC0515	2IC0515	5IC0515	15IC0515	20IC0515	25IC0515			
Compound	RF	RF	RF	RF	RF	RF	RF	$\overline{RF}$	% RSD	CCC SPCC
Phenanthrene	0.807	1.060	1.104	1.134	1.207	1.297	1.273	1.126	14.7	
Anthracene	0.897	1.022	1.114	1.150	1.306	1.348	1.359	1.171	15.0	
Carbazole	0.774	1.005	1.015	1.063	1.175	1.172	1.250	1.065	14.8	
Di-n-Butyl Phthalate	1.135	2.027	1.919	1.769	1.633	1.548	1.326	1.622	19.6	
Fluoranthene	0.821	0.991	1.064	1.073	1.206	1.176	1.185	1.074	12.7	PASS
Benzidine	0.857	0.723	0.661	0.967	0.898	0.981	1.036	0.875	15.8	
Pyrene	1.048	1.166	1.154	1.351	1.693	1.861	1.929	1.457	25.0	
Butyl Benzyl Phthalate	0.858	1.171	1.160	1.208	1.318	1.341	1.299	1.194	13.8	
3,3'-Dichlorobenzidine	0.573	0.621	0.642	0.741	0.957	1.061	1.104	0.814	27.2	
Bis(2-Ethylhexyl)Phthalate	1.290	1.841	1.705	1.841	2.092	2.128	2.136	1.862	16.3	
Benzo(a)Anthracene	1.180	1.235	1.275	1.495	1.896	1.947	2.112	1.591	24.3	
Chrysene	0.976	1.275	2.375	1.305	1.635	1.754	1.872	1.599	28.9	
Di-n-Octylphthalate	2.147	2.767	2.780	2.925	3.358	3.465	3.683	3.018	17.3	PASS
Benzo(k)Fluoranthene	0.866	1.259	1.278	1.314	1.320	1.347	1.380	1.252	14.0	
Benzo(a)Pyrene	0.777	0.970	1.012	1.090	1.198	1.198	1.276	1.074	15.9	PASS
Indeno(1,2,3-cd)Pyrene	1.499	1.483	1.557	1.861	2.614	2.848	3.161	2.146	33.1	
Dibenzo(a,h)Anthracene	0.756	0.943	1.025	1.058	1.104	1.094	1.136	1.017	12.9	
Benzo(g,h,i)Perylene	0.939	1.162	1.193	1.319	1.422	1.414	1.512	1.280	15.4	
N-Nitrosodimethylamine	0.234	0.359	0.344	0.355	0.310	0.270	0.253	0.304	17.0	
2,3,4,6-tetrachlorophenol	0.309	0.390	0.406	0.411	0.462	0.467	0.503	0.421	15.1	
2-Chloroaniline	0.439	0.562	0.565	0.655	0.727	0.765	0.743	0.636	18.8	
2,4-Diaminotoluene	0.501	0.332	0.470	0.474	0.453	0.442	0.495	0.452	12.6	
2,3-Dinitrotoluene	0.424	0.560	0.577	0.591	0.605	0.629	0.643	0.576	12.6	
1-Naphthylamine	0.842	0.687	0.778	0.926	1.049	1.176	1.277	0.962	22.4	
5-Nitro-o-toluidine	0.384	0.435	0.434	0.517	0.586	0.560	0.636	0.507	18.3	
Benzaldehyde	1.287	2.754	2.348	1.916	0.657	0.405	0.391	1.394	69.1	
Acetophenone	0.654	1.031	0.877	0.970	0.922	1.001	0.959	0.916	13.7	
Caprolactum	0.097	0.166	0.142	0.153	0.136	0.135	0.127	0.137	15.8	
Biphenyl	1.077	1.590	1.357	1.446	1.474	1.574	1.653	1.453	13.3	
Atrazine	0.206	0.416	0.375	0.329	0.215	0.189	0.160	0.270	37.6	

Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.985
ACSUR:2,4,6-Tribromophenol Compound: 9 of 96 Standard Deviation: 0.142
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin|Lin)
[y = 1.014475 E-3 x^2 + 3.831401 E-2 x + 9.515924 E-2]

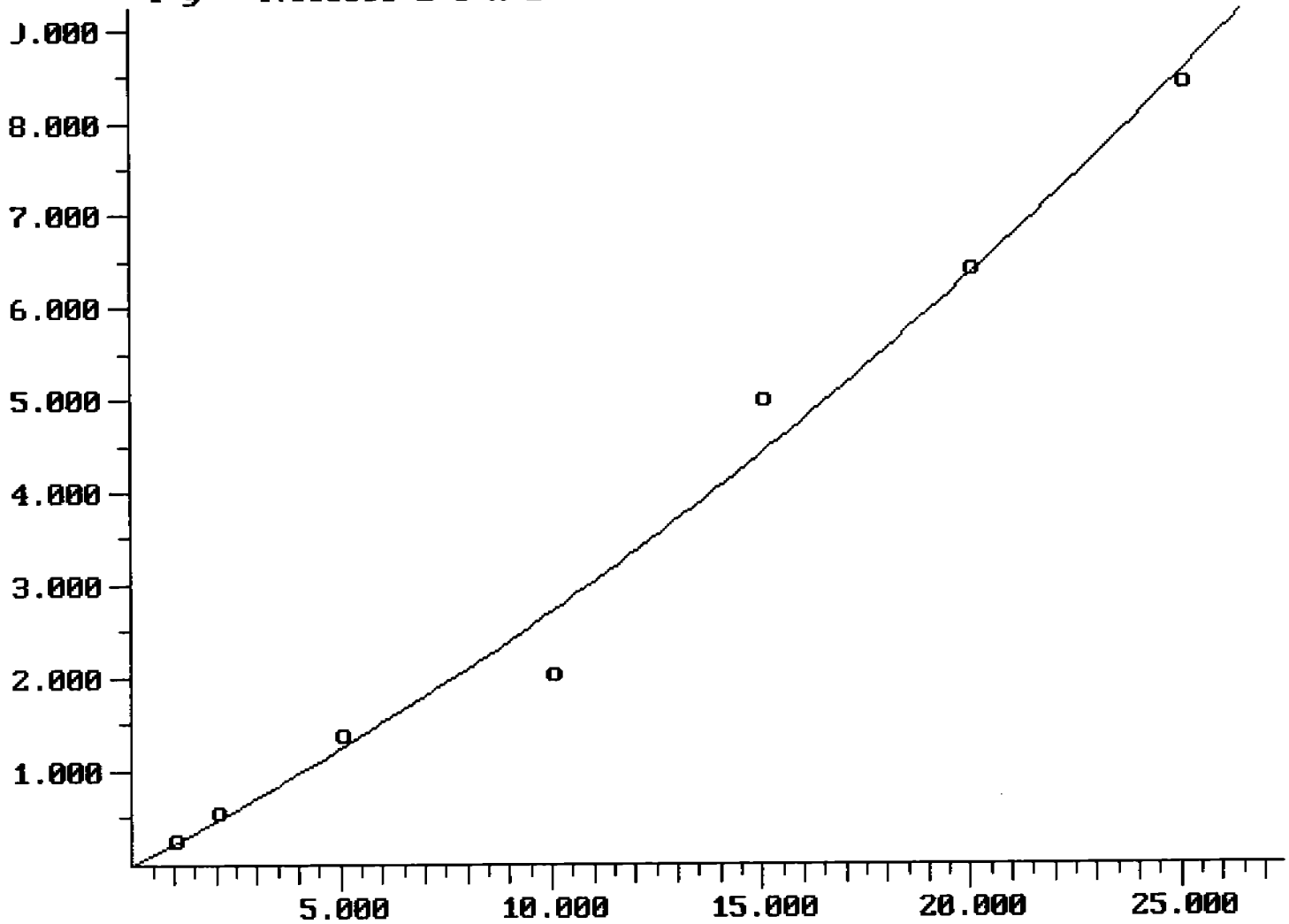


000981

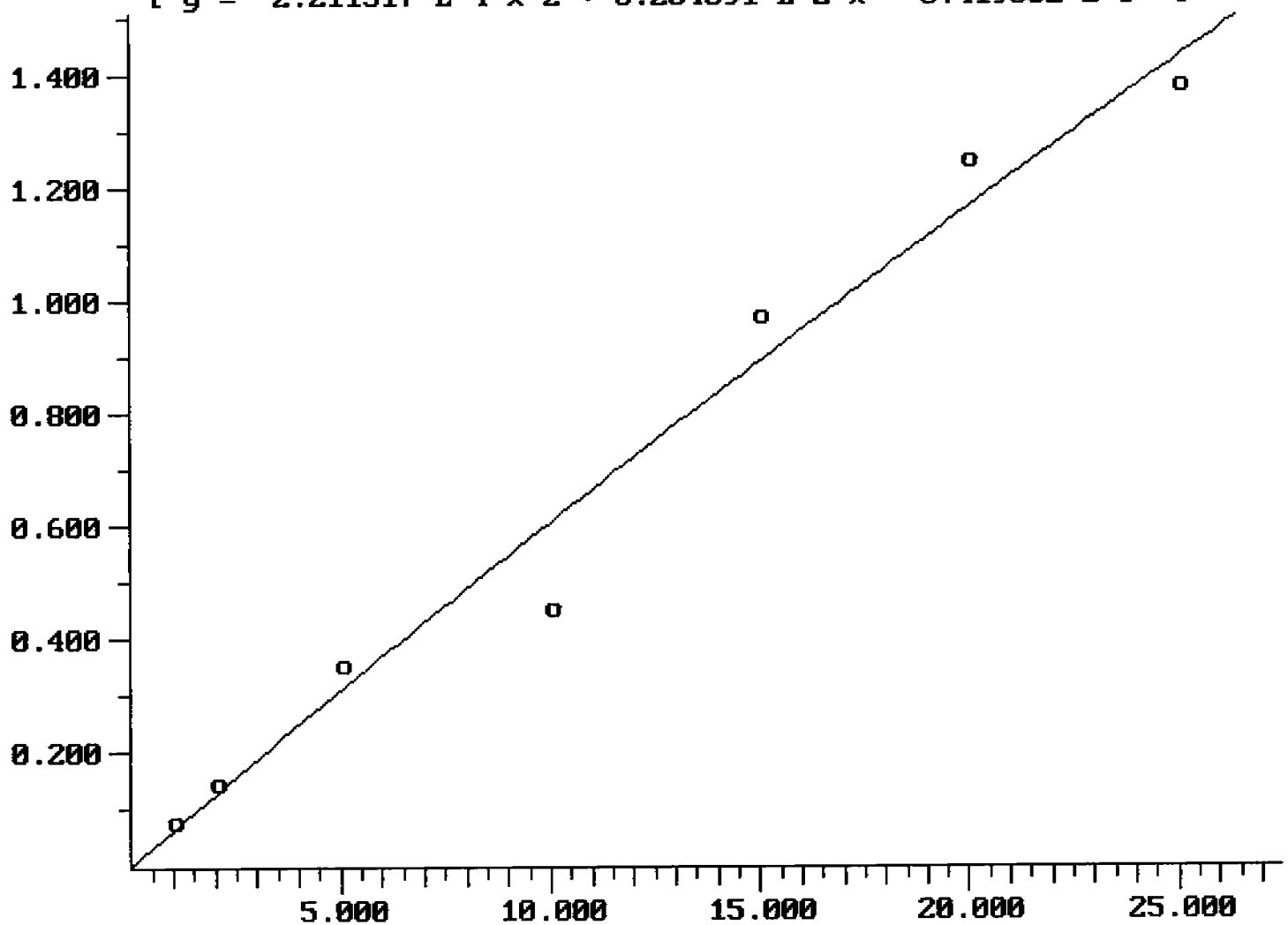
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.982
BNSUR:O-Terphenyl Compound: 13 of 96 Standard Deviation: 0.246
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin|Lin)
[y = 3.592863 E-3 x^2 + 7.527505 E-2 x + 1.690699 E-1]



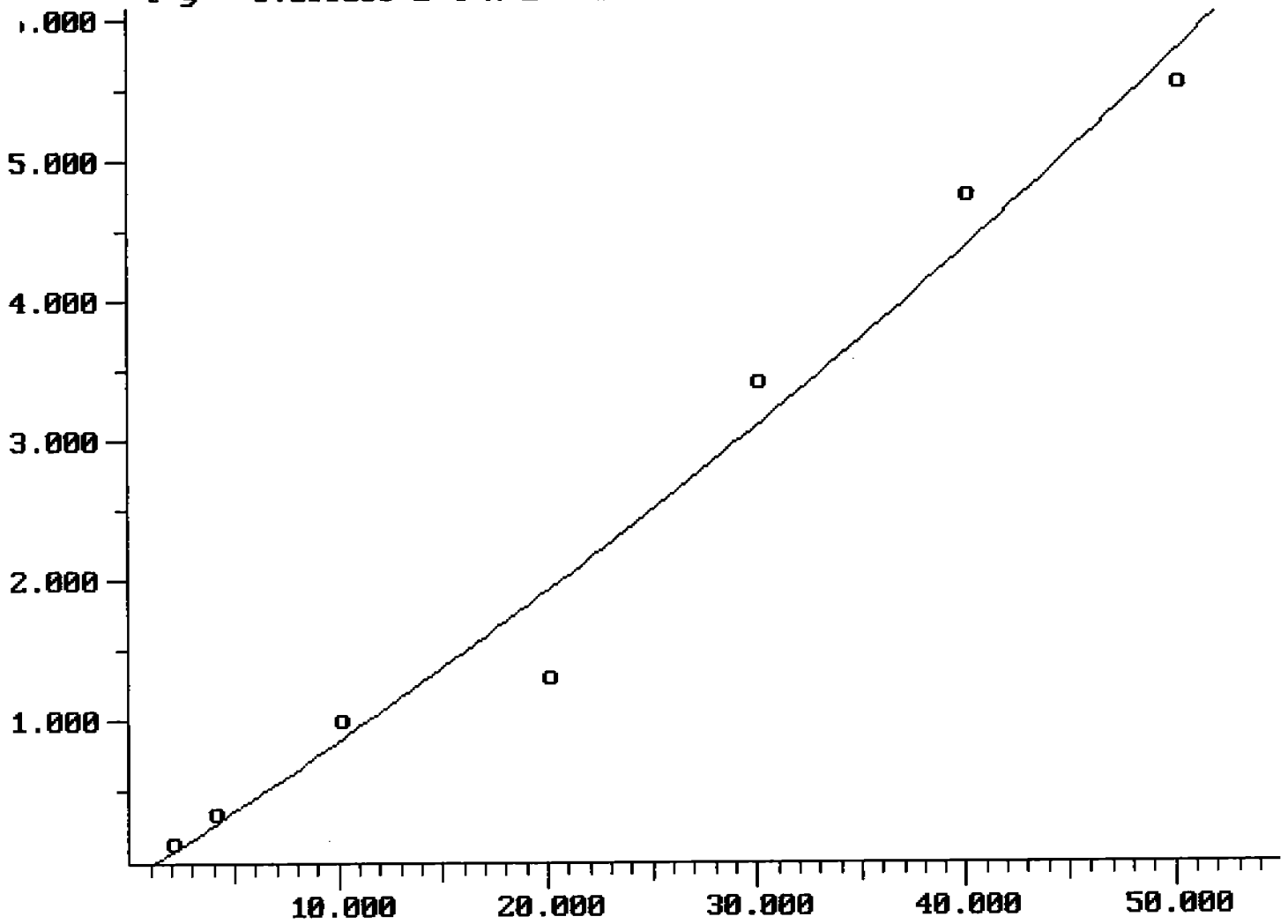
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.990
2-Methylphenol Compound: 23 of 96 Standard Deviation: 0.341
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 4.636886 E-3 x^2 + 2.260062 E-1 x + -1.448431 E-2]



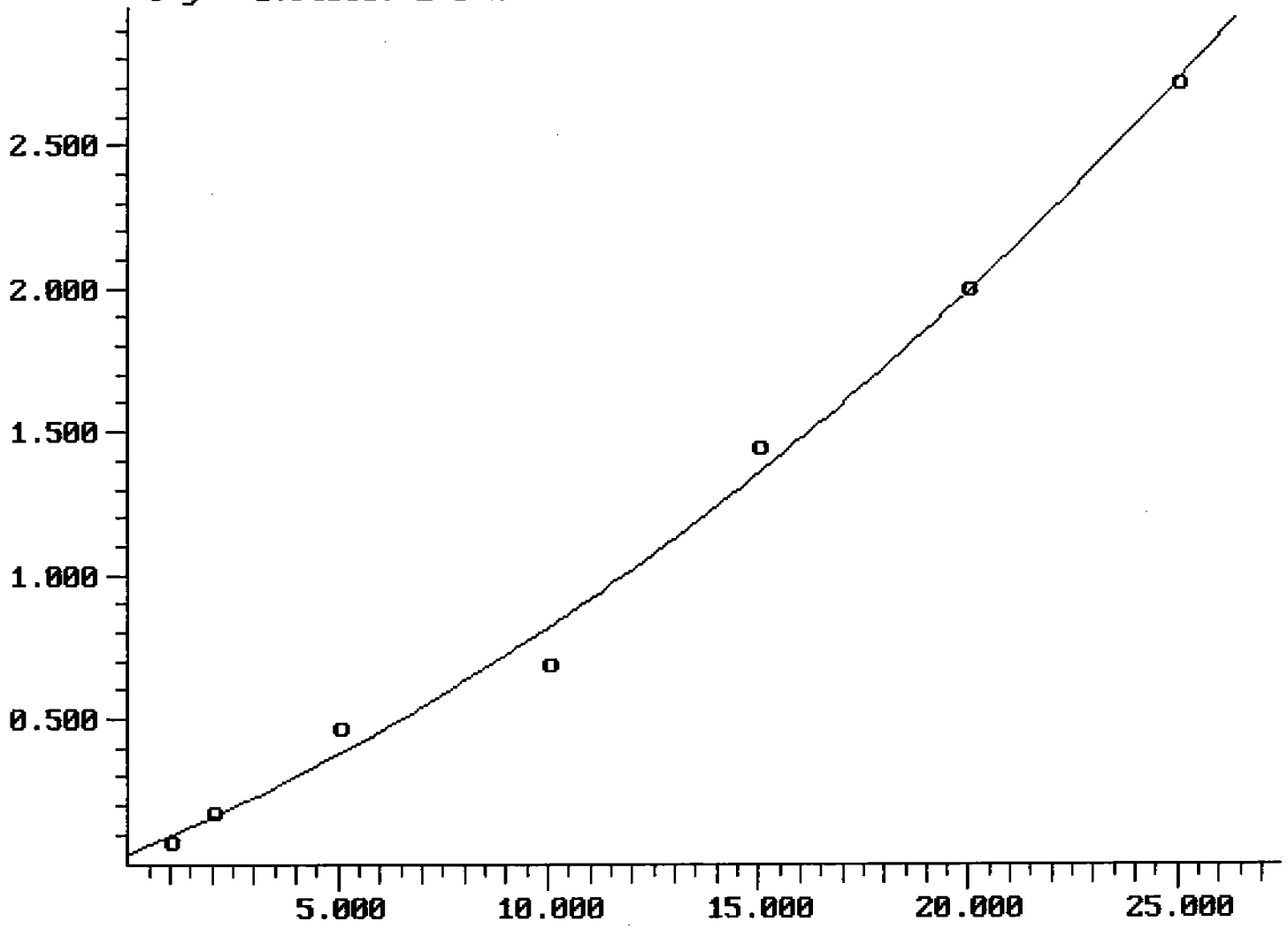
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.988
2-Nitrophenol Compound: 30 of 96 Standard Deviation: 0.077
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -2.211317 E-4 x^2 + 6.264391 E-2 x + 3.419552 E-3]



Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.986
Benzoic Acid Compound: 32 of 96 Standard Deviation: 0.317
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin|Lin)
[y = 5.158136 E-4 x^2 + 9.179523 E-2 x + -1.096211 E-1]

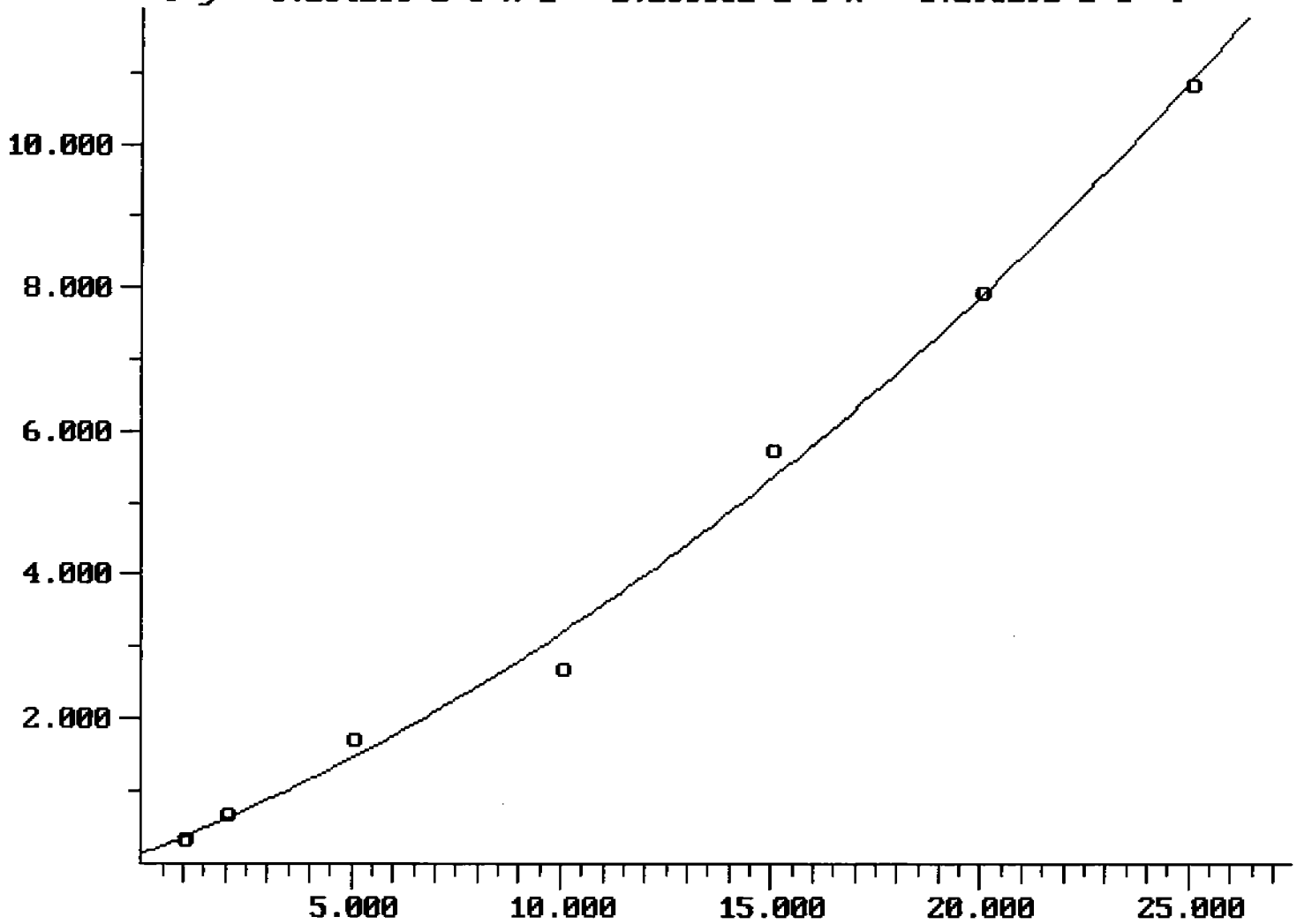


Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.991
Hexachlorocyclopentadiene Compound: 42 of 96 Standard Deviation: 0.069
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 1.943037 E-3 x^2 + 5.887239 E-2 x + 3.450889 E-2]

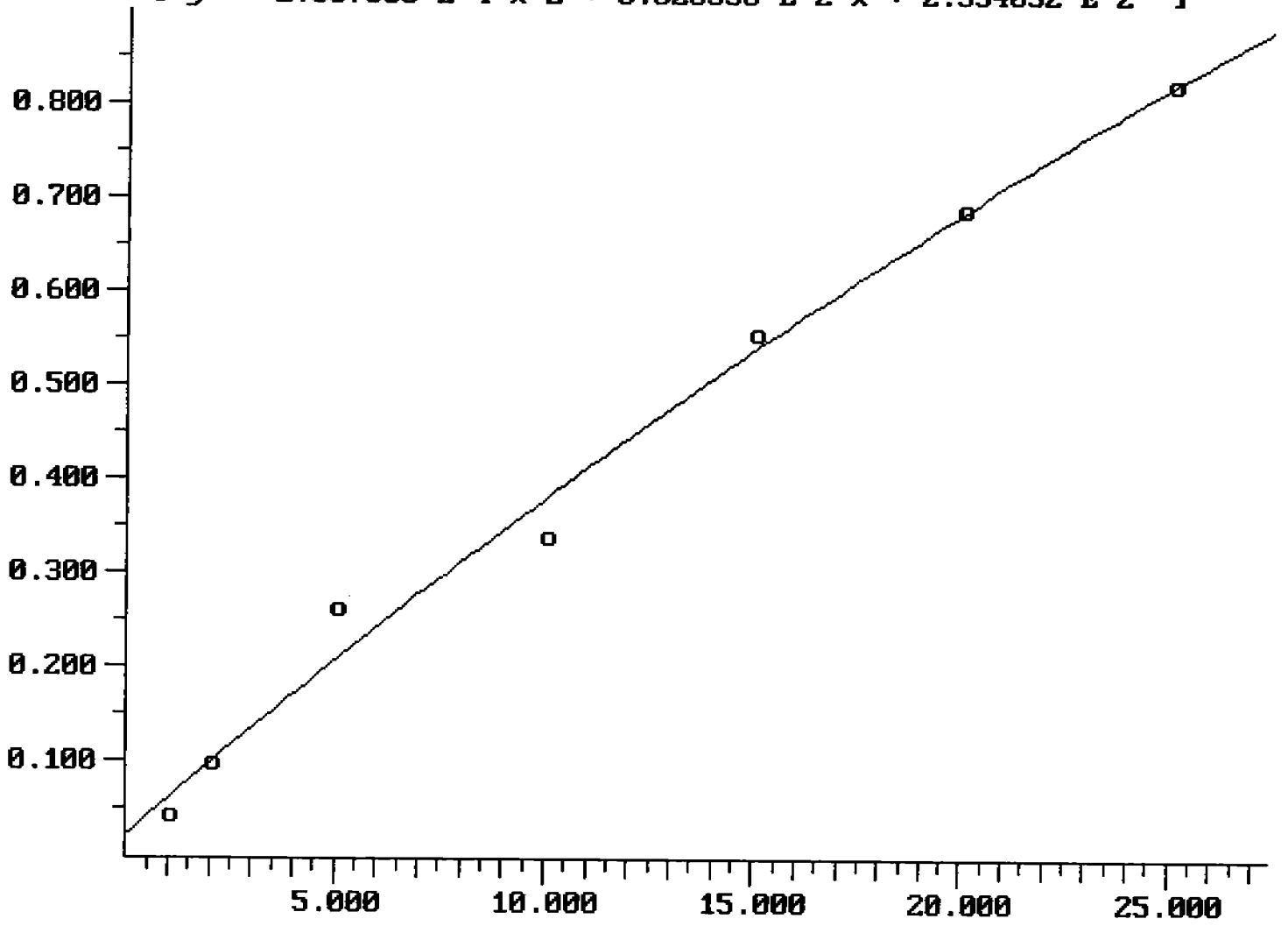


000986

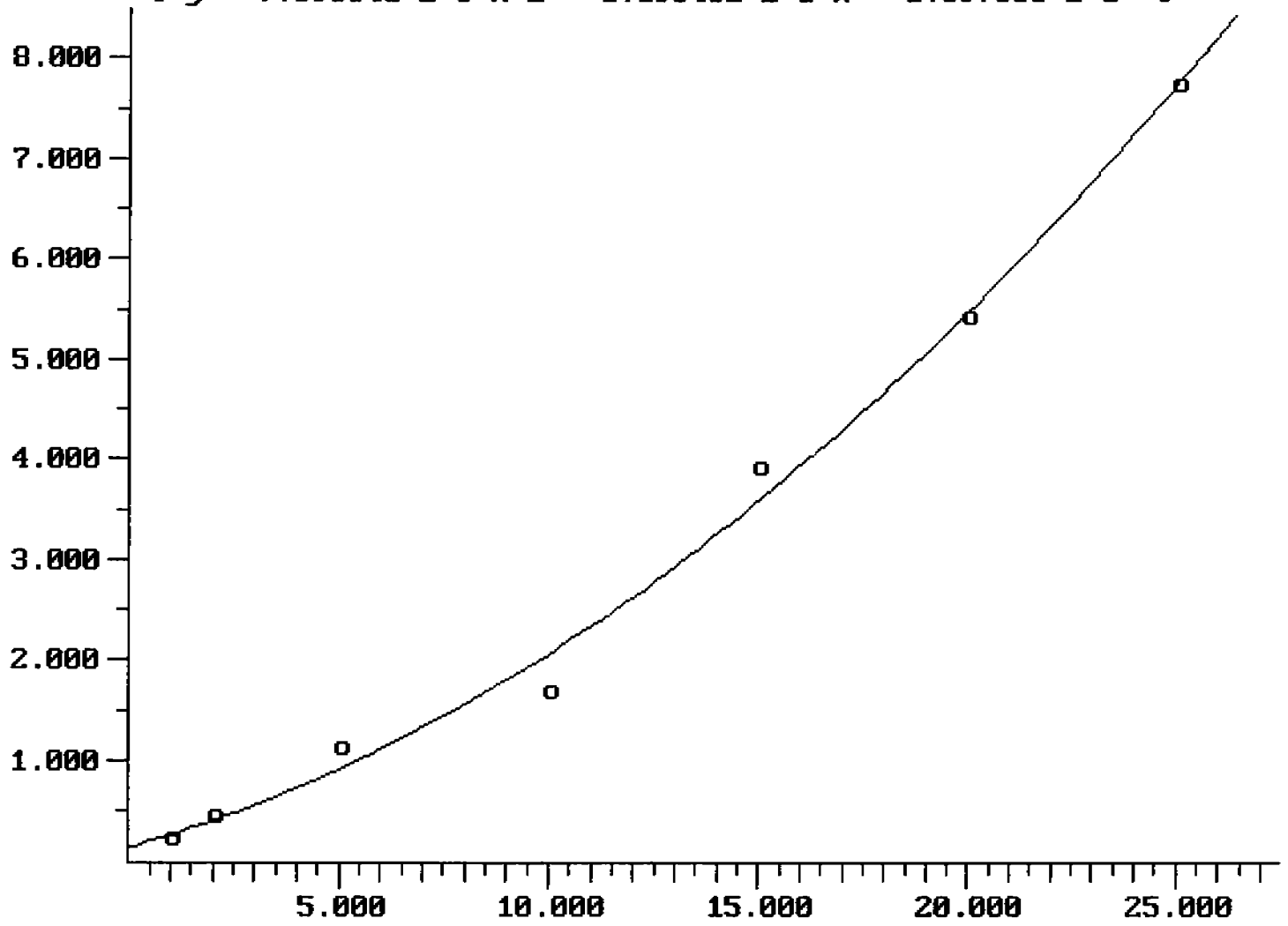
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.990
Acenaphthene Compound: 51 of 96 Standard Deviation: 0.260
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 8.254280 E-3 x^2 + 2.233832 E-1 x + 1.290292 E-1]



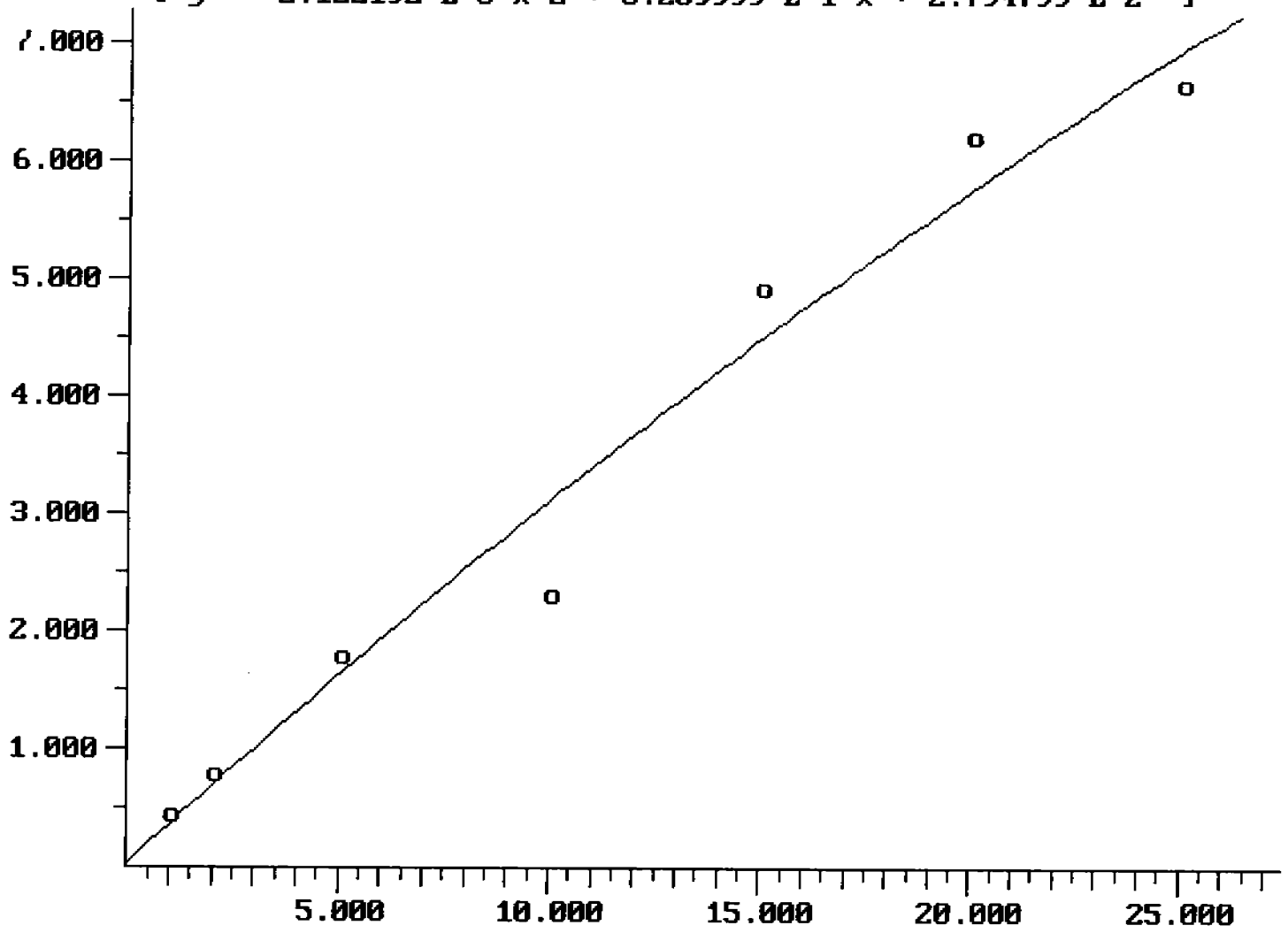
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.994
2,4-Dinitrophenol Compound: 52 of 96 Standard Deviation: 0.028
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -2.567533 E-4 x^2 + 3.826330 E-2 x + 2.354032 E-2]



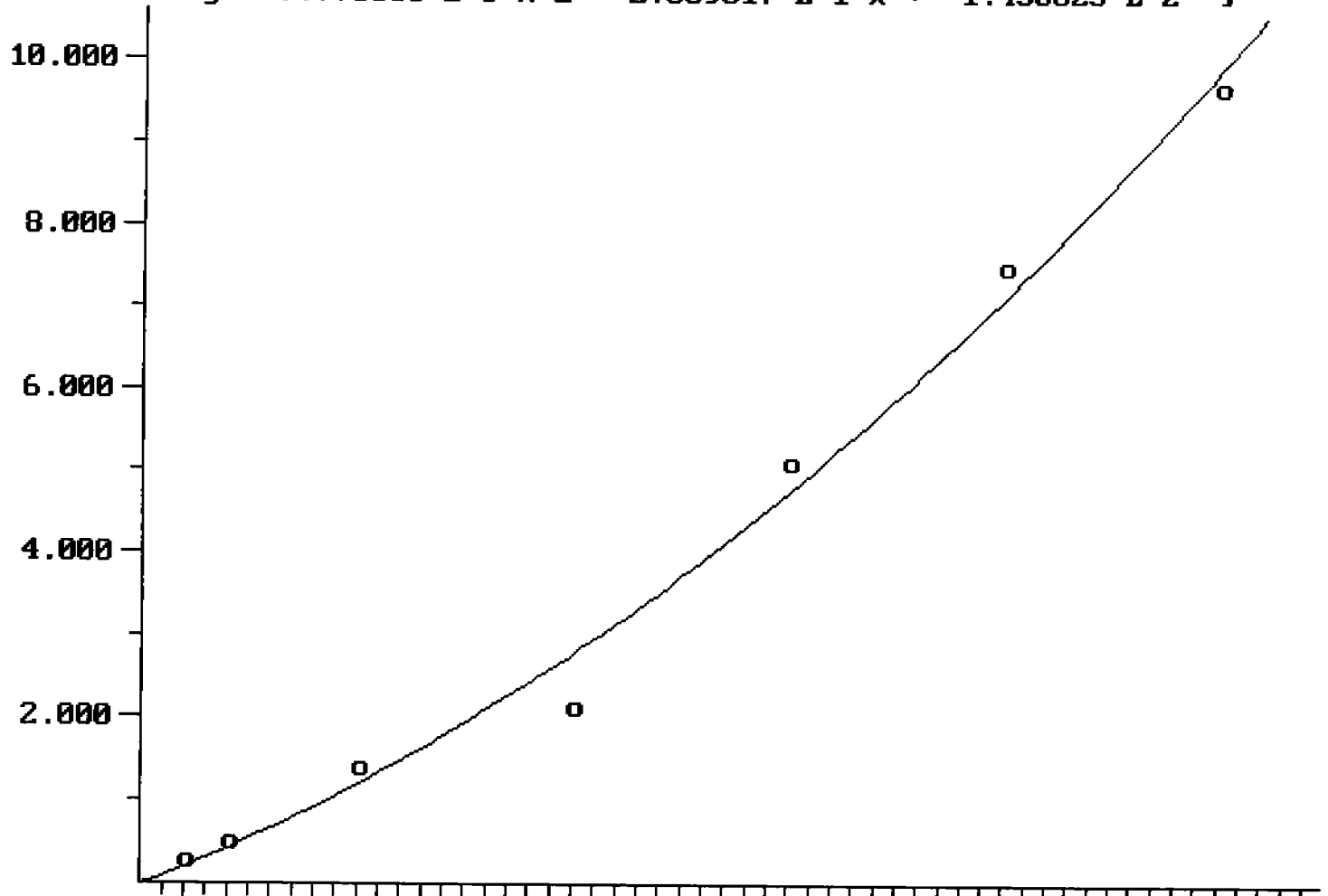
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.985
Fluorene Compound: 58 of 96 Standard Deviation: 0.210
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 7.390541 E-3 x^2 + 1.190482 E-1 x + 1.397560 E-1]



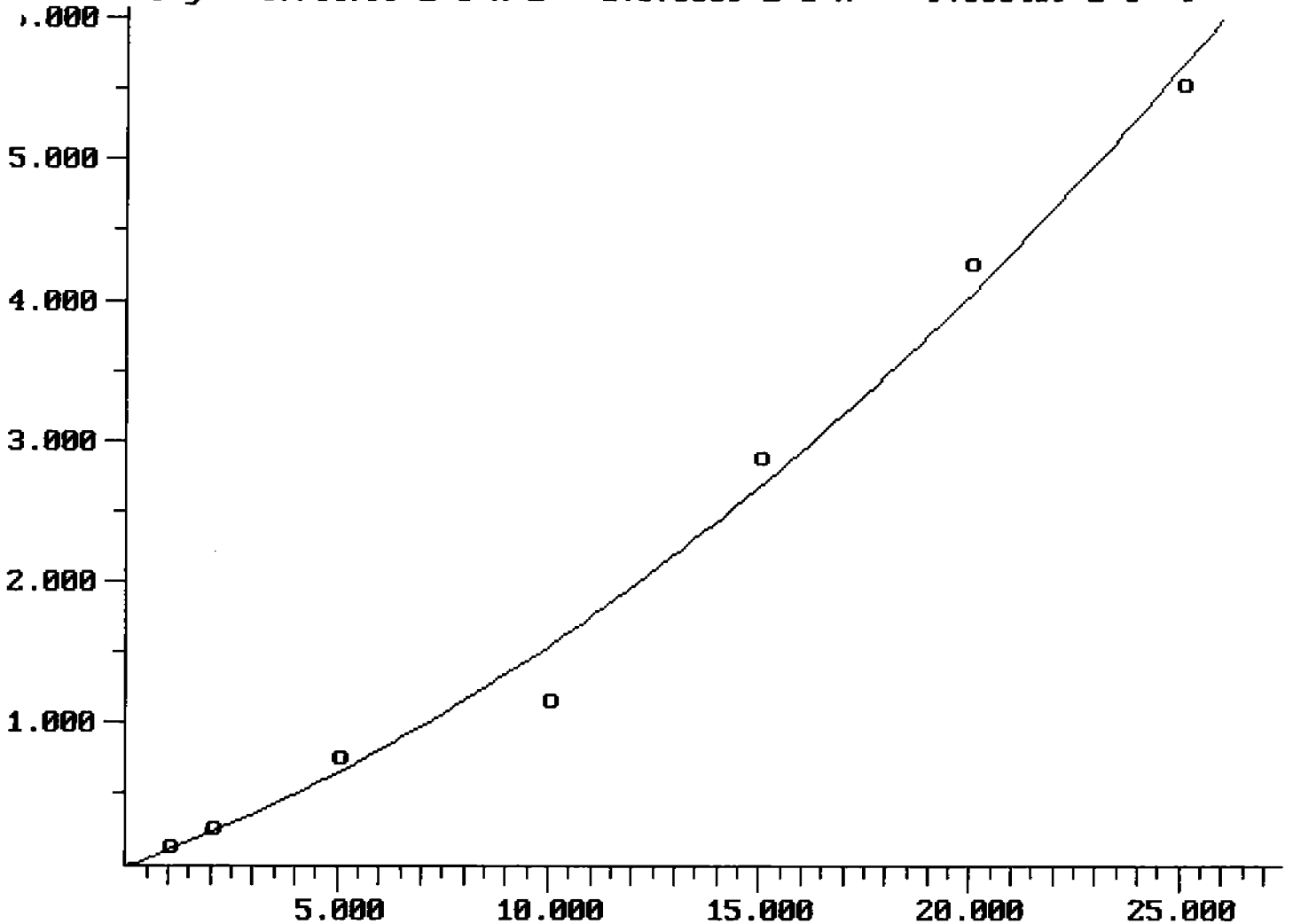
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.984
Di-n-Butyl Phthalate Compound: 70 of 96 Standard Deviation: 0.410
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin|Lin)
[y = -2.122192 E-3 x^2 + 3.289999 E-1 x + 2.794799 E-2]



Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.987
Pyrene Compound: 73 of 96 Standard Deviation: 0.329
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin;Lin)
[y = 7.778338 E-3 x^2 + 2.009617 E-1 x + -1.458823 E-2]

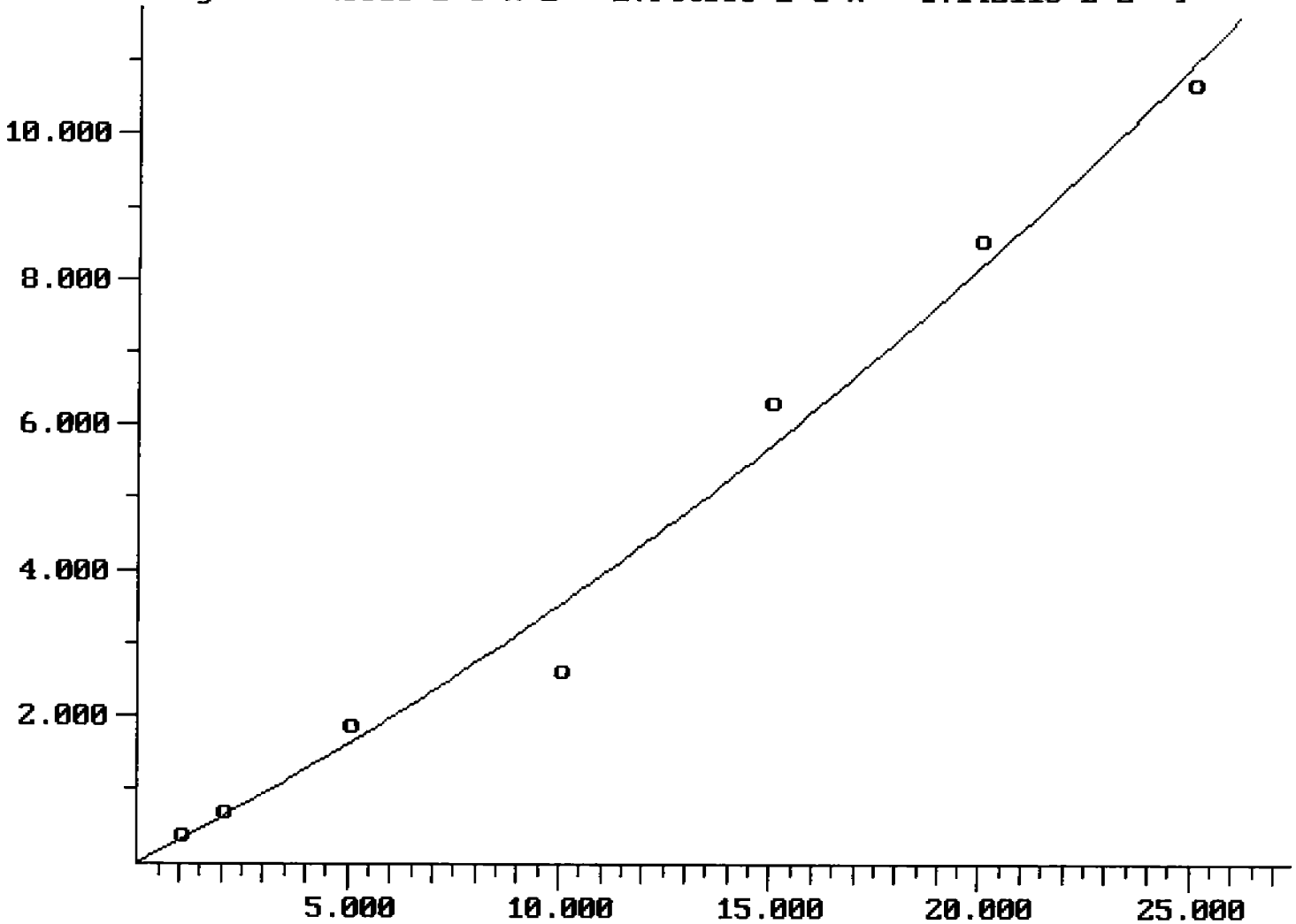


Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.986
3,3'-Dichlorobenzidine Compound: 75 of 96 Standard Deviation: 0.194
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 4.744799 E-3 x^2 + 1.078839 E-1 x + -9.538439 E-3]



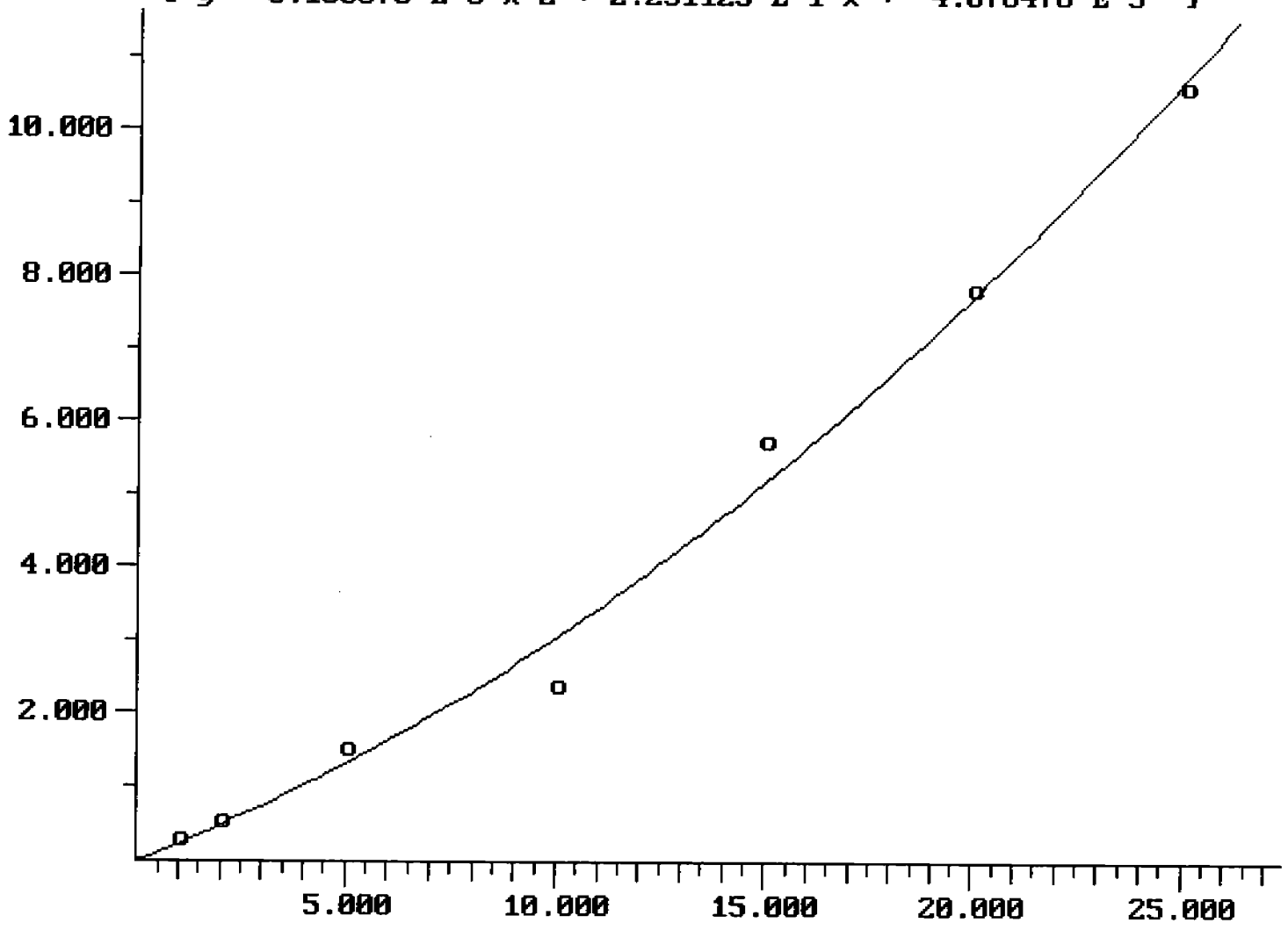
45X@PUL EOJ NAME = "MSJOB 2"

Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.989
Bis(2-Ethylhexyl)Phthalate Compound: 76 of 96 Standard Deviation: 0.454
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 5.716313 E-3 x^2 + 2.944300 E-1 x + 1.142116 E-2]

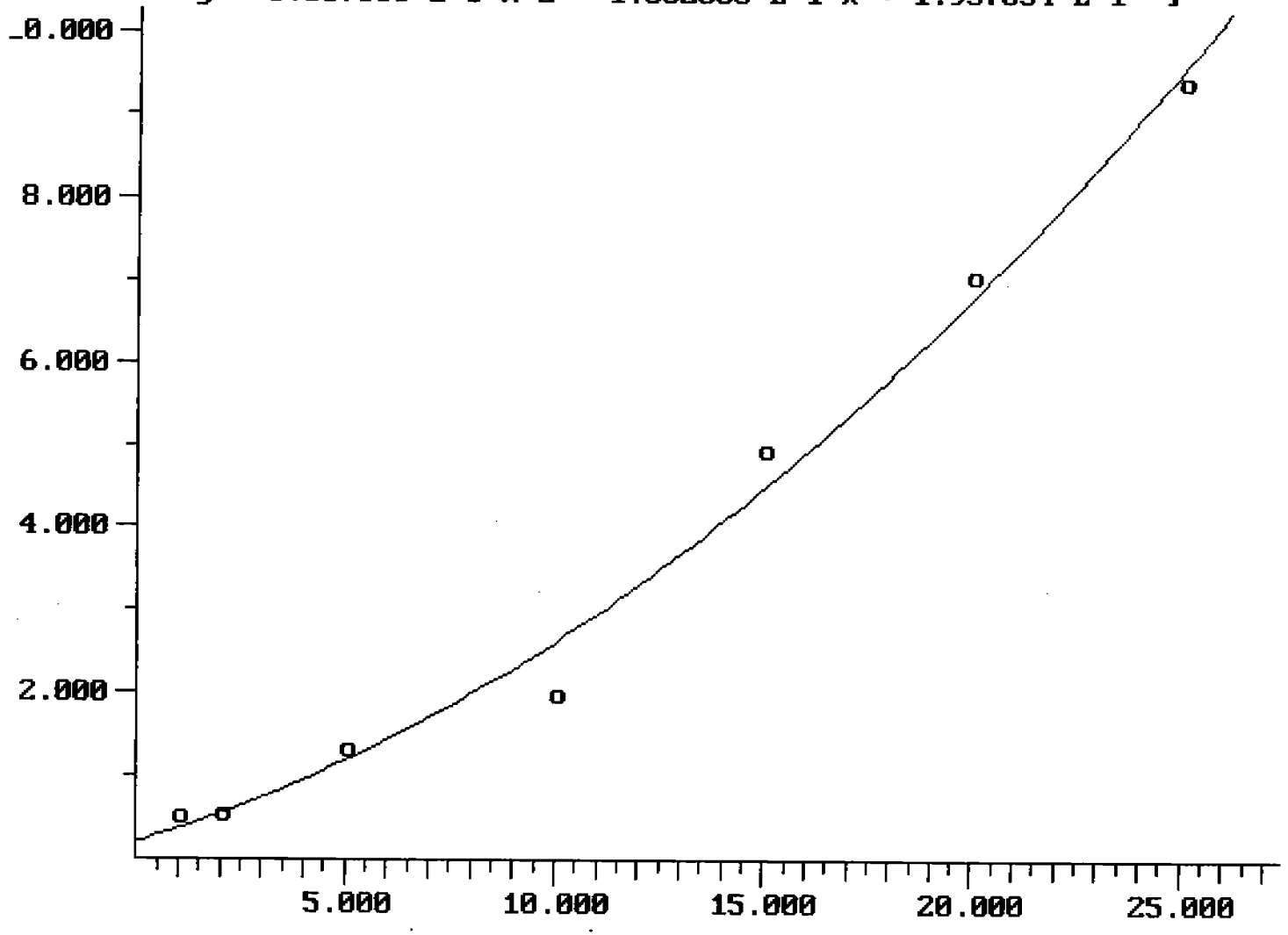


%-12345X@PJL EOJ NAME = "MSJOB 3"

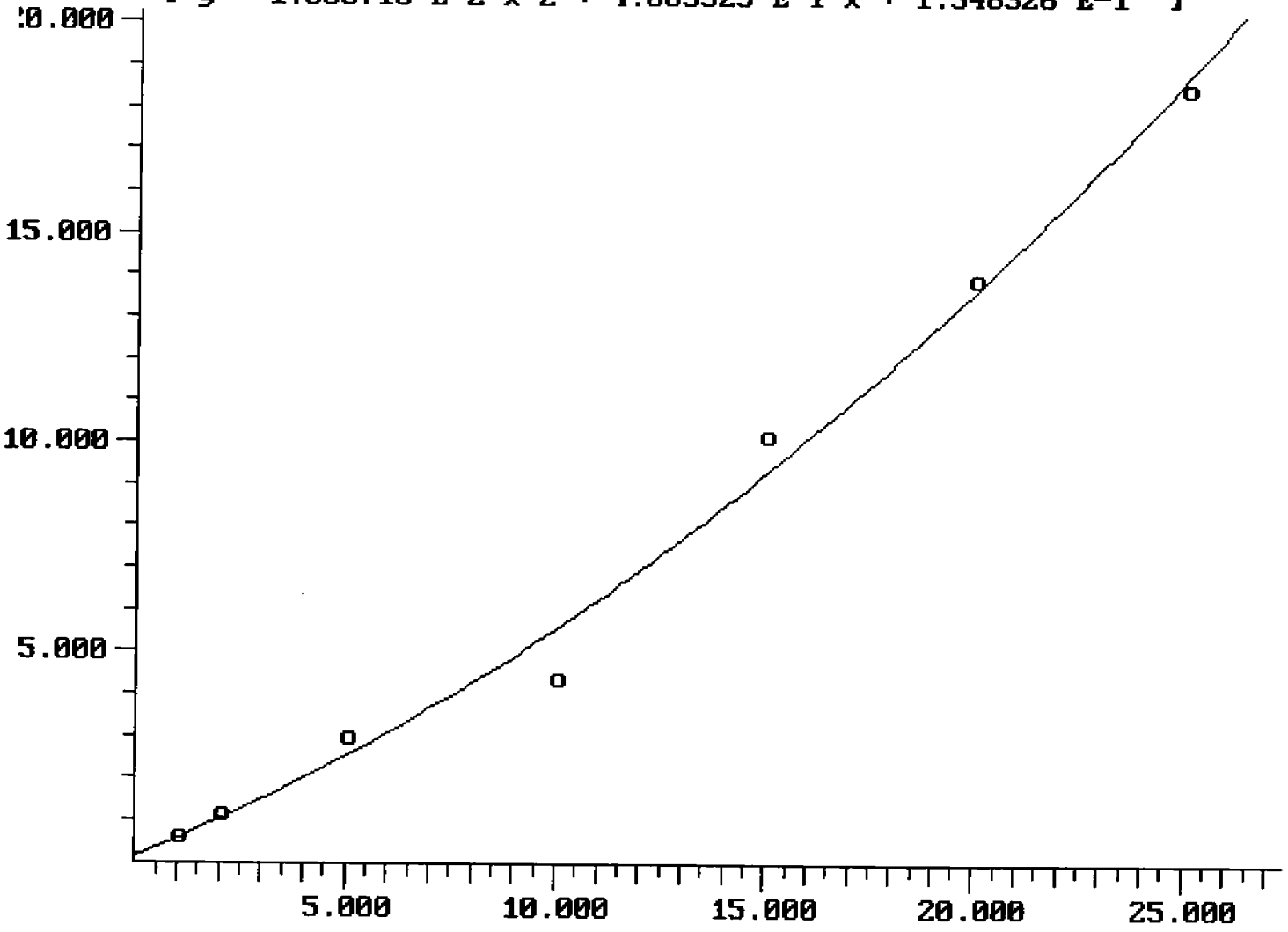
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.988
Benzo(a)Anthracene Compound: 77 of 96 Standard Deviation: 0.334
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin:Lin)
[y = 8.168376 E-3 x^2 + 2.231125 E-1 x + -4.876478 E-3]



Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.984
Chrysene Compound: 78 of 96 Standard Deviation: 0.323
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin|Lin)
[y = 8.837055 E-3 x^2 + 1.532356 E-1 x + 1.957834 E-1]

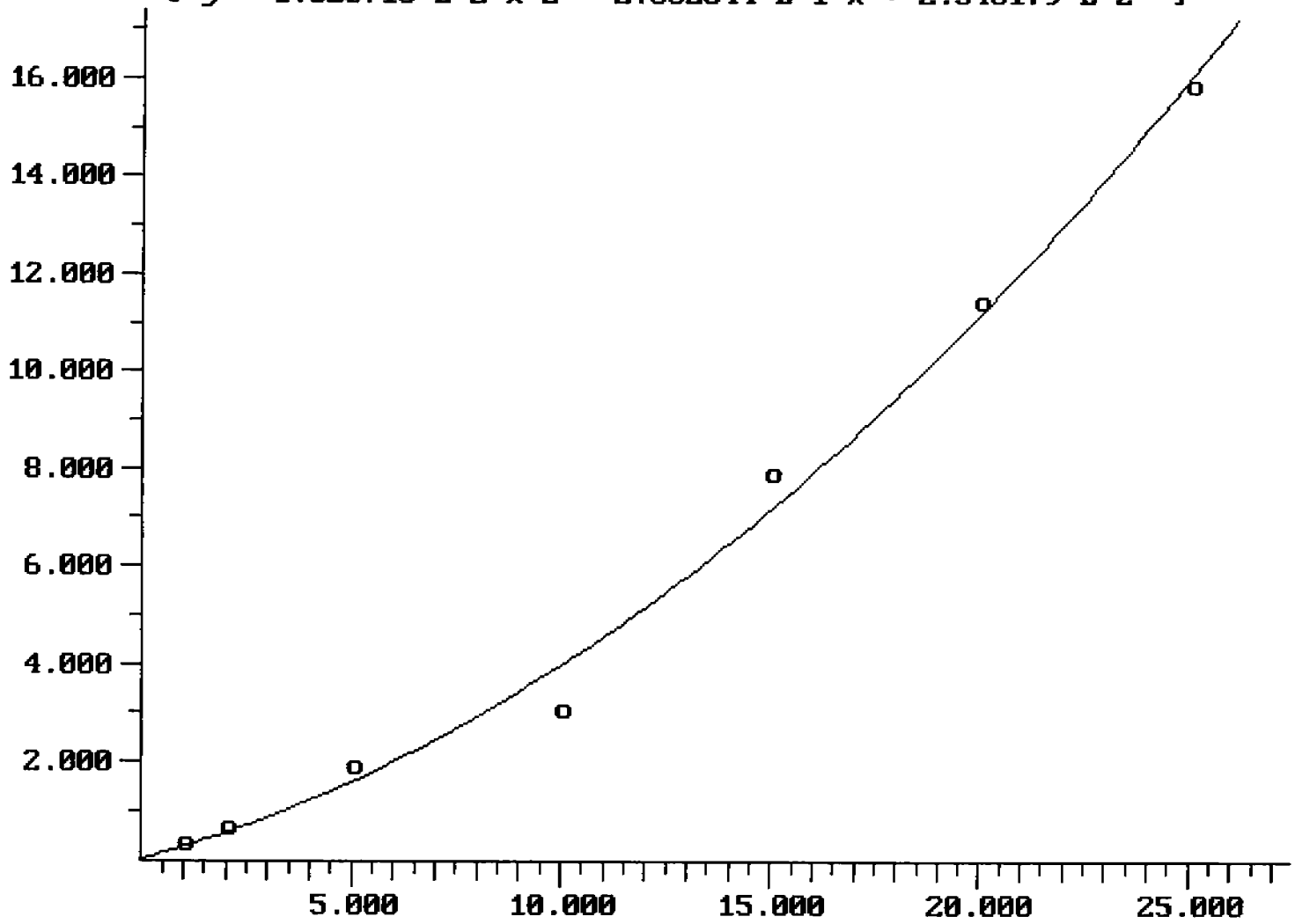


Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.989
Di-n-Octylphthalate Compound: 79 of 96 Standard Deviation: 0.603
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin¦Lin)
[y = 1.336716 E-2 x^2 + 4.063525 E-1 x + 1.548326 E-1]

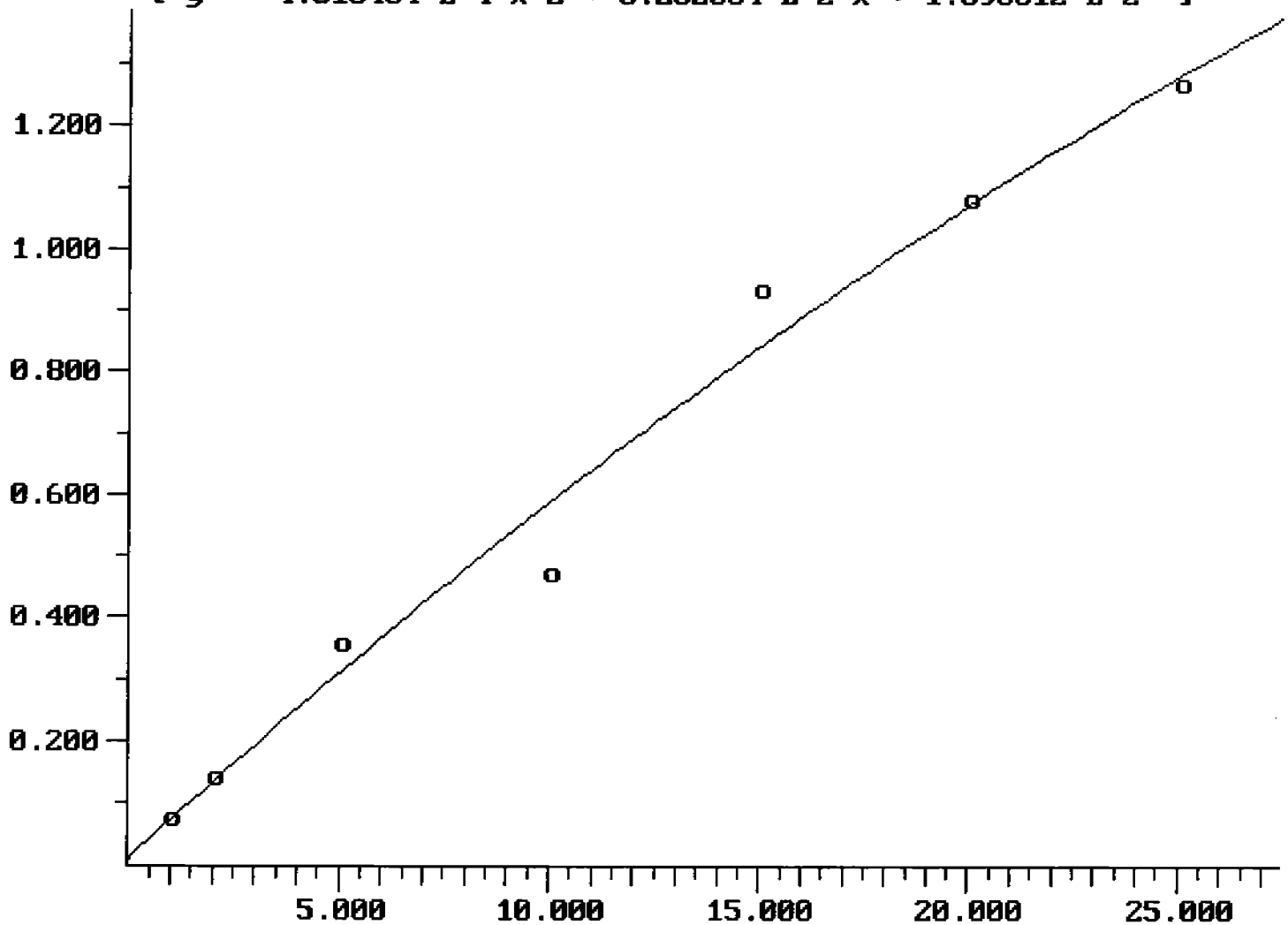


%-12345X@PJL EOJ NAME = "MSJOB 6"

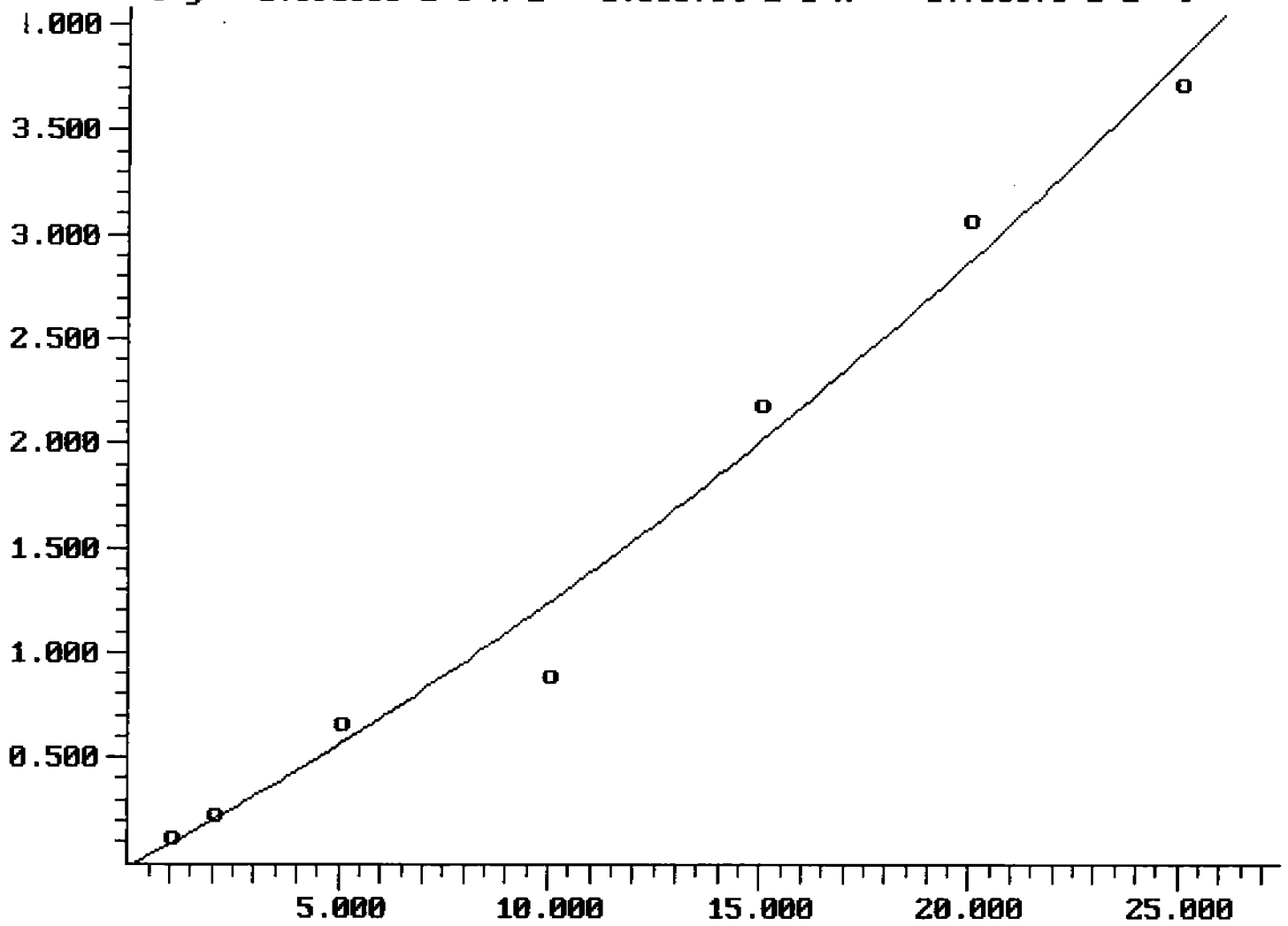
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.983
Indeno(1,2,3-cd)Pyrene Compound: 82 of 96 Standard Deviation: 0.472
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 1.626716 E-2 x^2 + 2.332044 E-1 x + 2.548179 E-2]



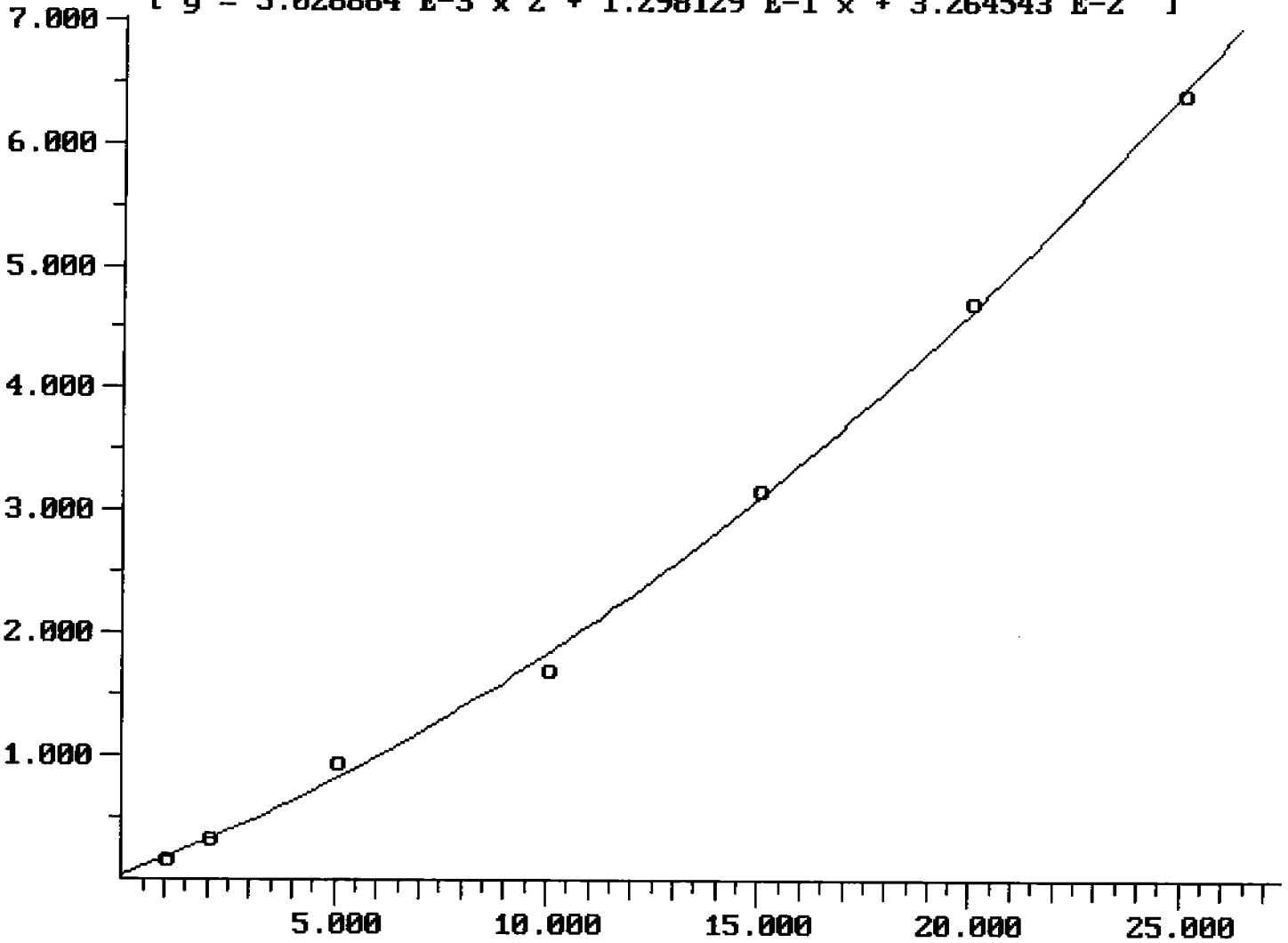
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.989
N-Nitrosodimethylamine Compound: 85 of 96 Standard Deviation: 0.059
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin¦Lin)
[y = -4.610484 E-4 x^2 + 6.232654 E-2 x + 1.096812 E-2]



Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.988
2-Chloroaniline Compound: 87 of 96 Standard Deviation: 0.177
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin¦Lin)
[y = 1.891503 E-3 x^2 + 1.068704 E-1 x + -1.788078 E-2]



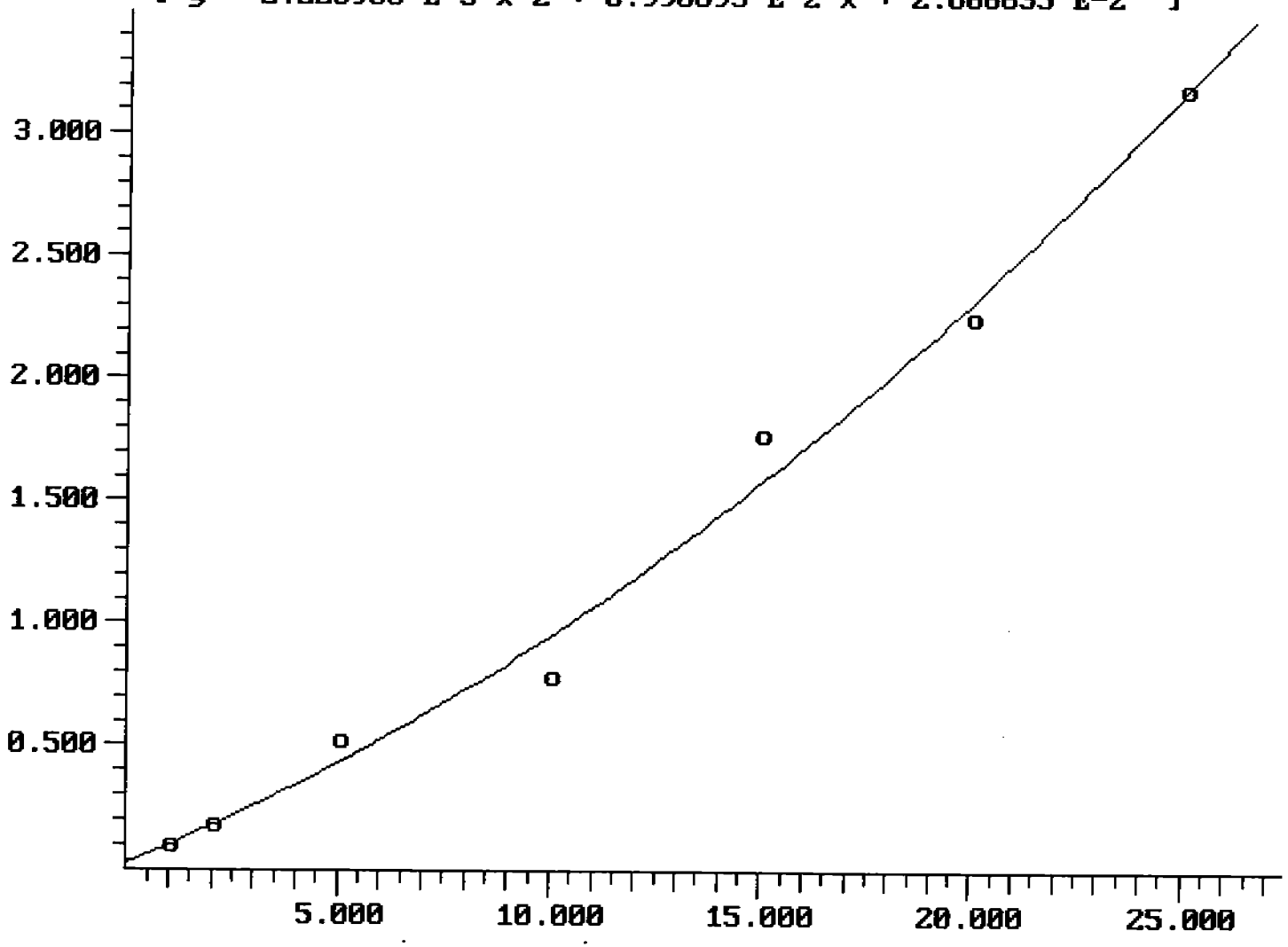
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.991
1-Naphthylamine Compound: 90 of 96 Standard Deviation: 0.079
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 5.026864 E-3 x^2 + 1.298129 E-1 x + 3.264543 E-2]



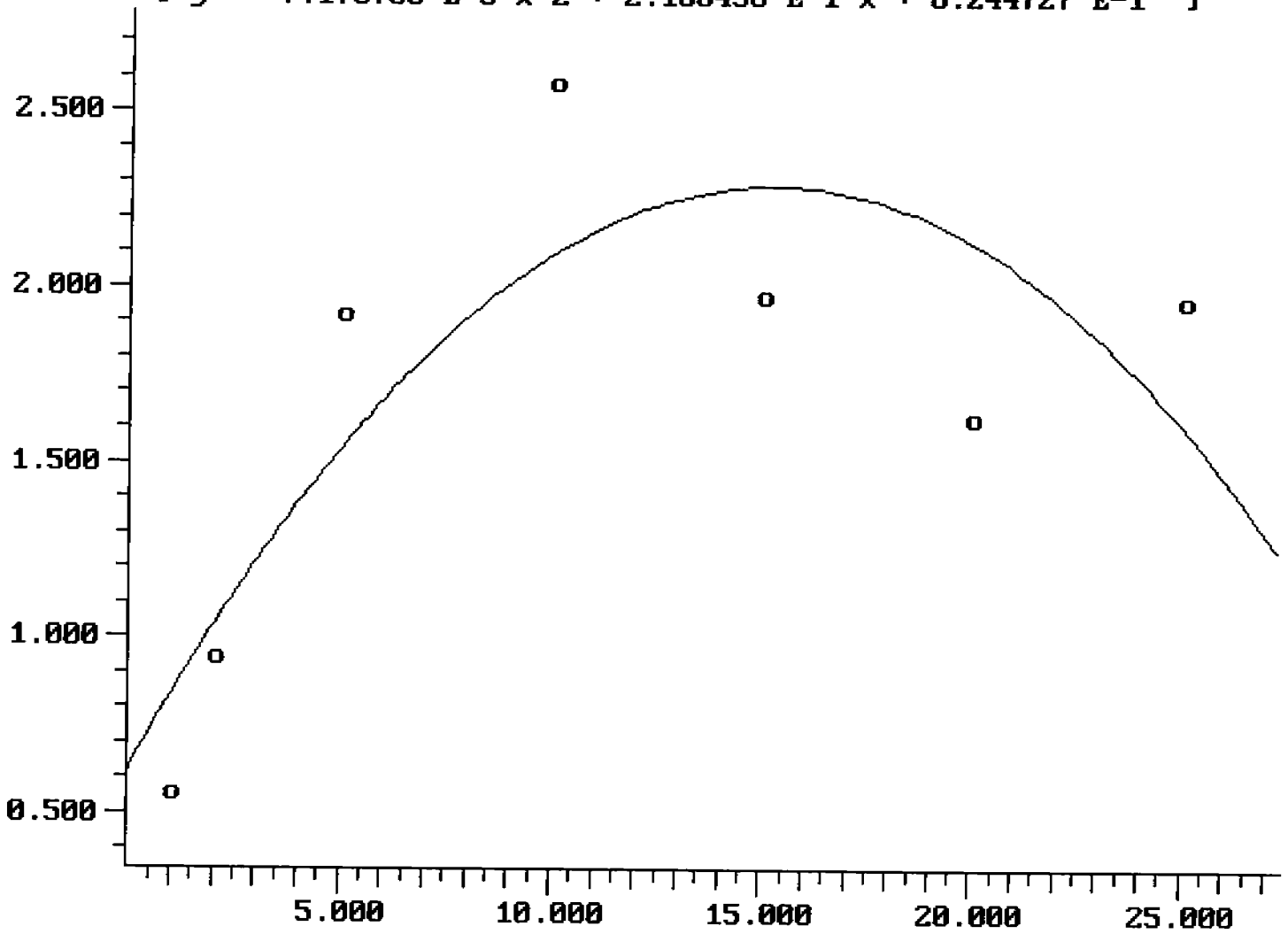
001000

Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.989
5-Nitro-o-toluidine Compound: 91 of 96 Standard Deviation: 0.106
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = 2.226968 E-3 x^2 + 6.998693 E-2 x + 2.668635 E-2]

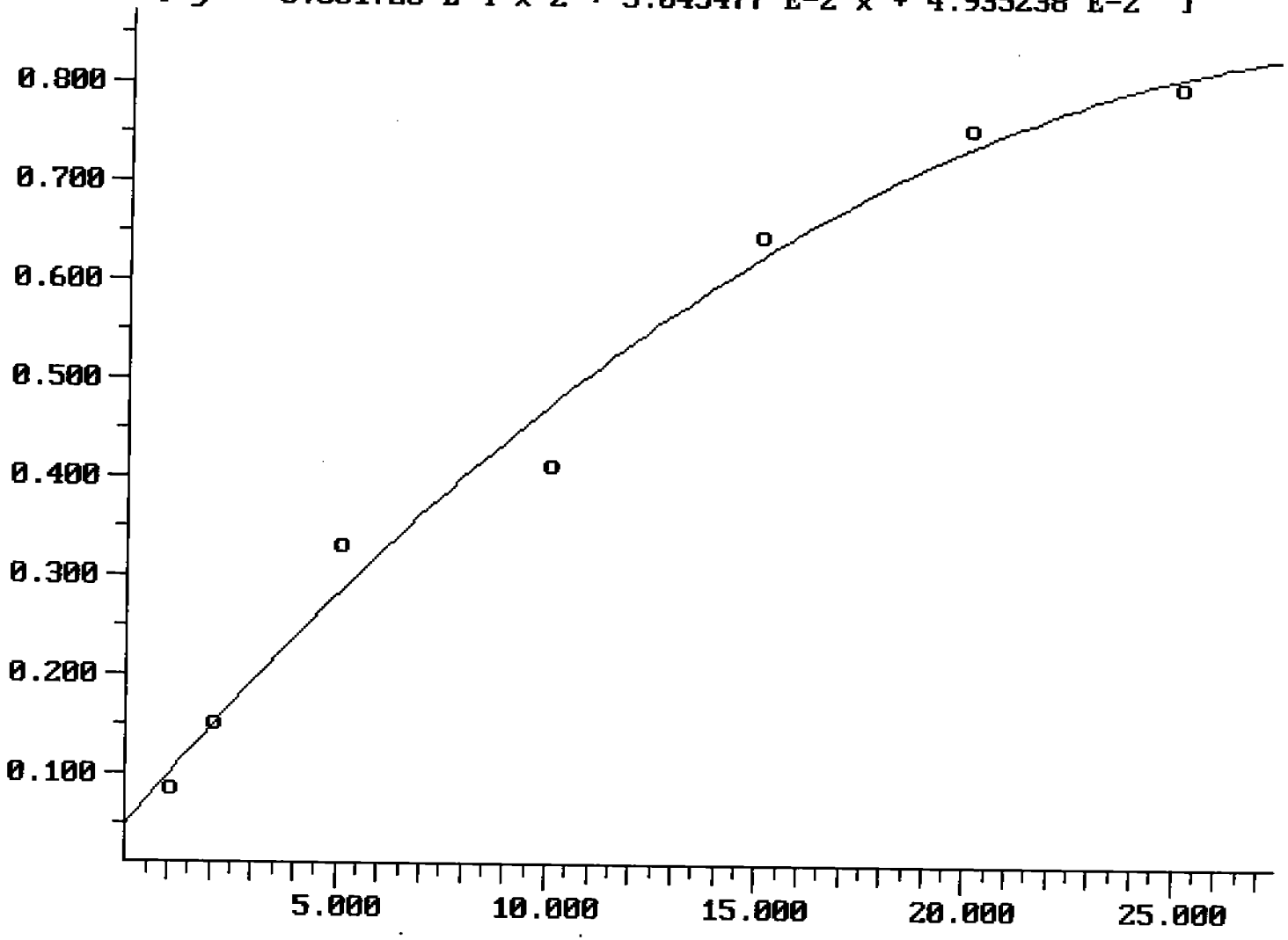
001001



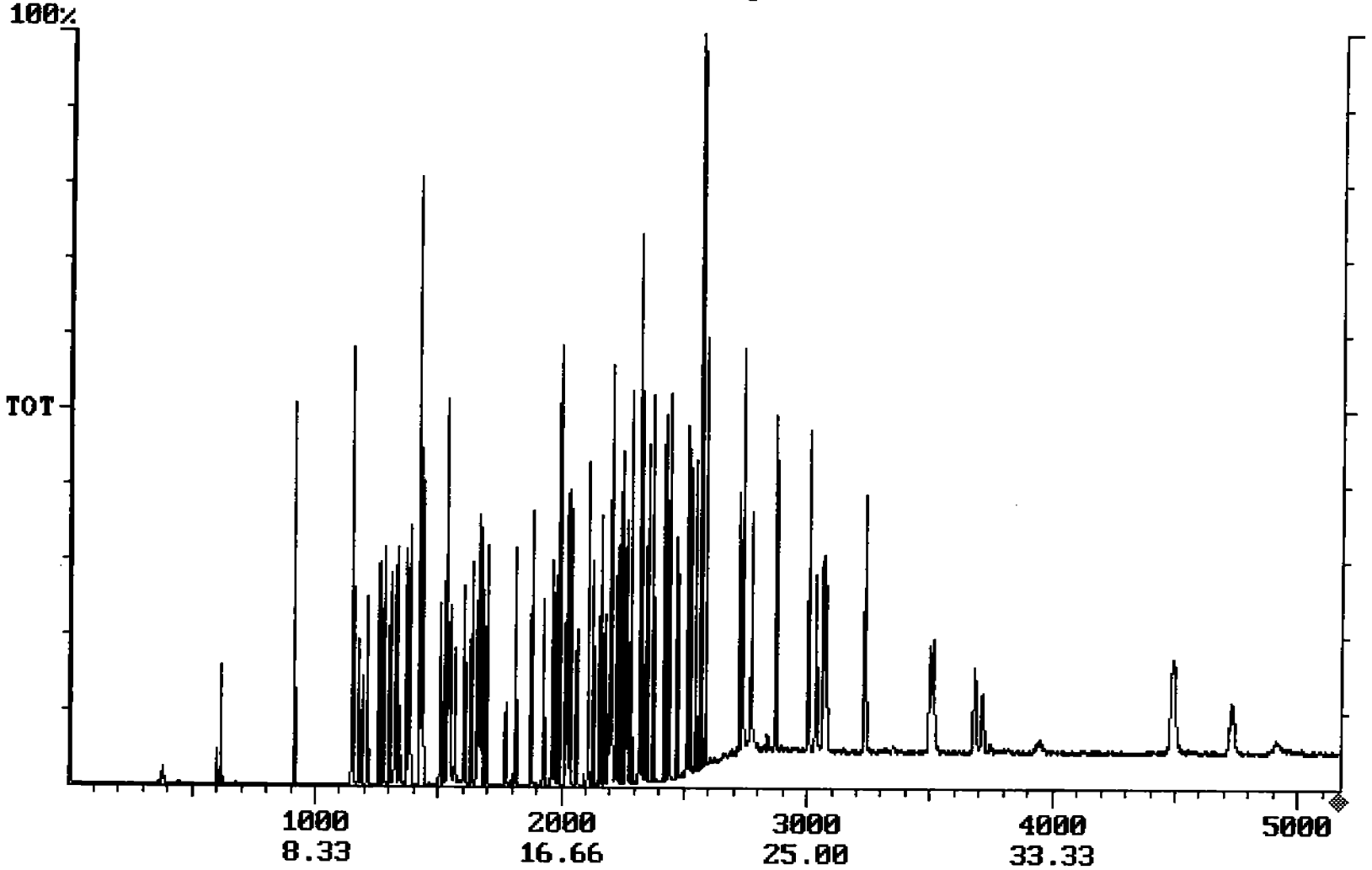
Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.529
Benzaldehyde Compound: 92 of 96 Standard Deviation: 0.367
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -7.178753 E-3 x^2 + 2.186458 E-1 x + 6.244727 E-1]



Calibration Plot (Int Stds) Filename: ICC0515 Correlation Coeff: 0.979
Atrazine Compound: 96 of 96 Standard Deviation: 0.032
(Area of Sample/Area of Standard) vs (Amount of Sample Injected) (Lin!Lin)
[y = -8.031728 E-4 x^2 + 5.043477 E-2 x + 4.935238 E-2]



Chromatogram Plot C:\SATURN\DATA\10C0515A Date: 05/15/02 08:47:42
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 5159 Range: 1 to 5159 100% = 6895993



Operator ID: DMC
Output File: 10C0515A.1B2
Data File: 10C0515A.MS
Name: 10C0515A
Sample:

Quant Time: 05/16/02 11:39
Injected at: 05/15/02 08:47
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.61	1273	152	1042675	5.00	ng/ul	1000	1.000
2)	*IS:D8-Naphthalene	13.80	1656	136	3380714	5.00	ng/ul	1000	1.000
3)	*IS:D10-Acenaphthene	18.28	2194	162	1996826	5.00	ng/ul	1000	1.000
4)	*IS:D10-Phenanthrene	20.91	2509	188	2996460	5.00	ng/ul	998	1.000
5)	*IS:D12-Chrysene	25.57	3068	240	2347237	5.00	ng/ul	927	1.000
6)	*IS:D12-Perylene	30.92	3711	264	2874886	5.00	ng/ul	933	1.000
7)	ACSUR:2-Fluorophenol	7.62	915	112	4877417	20.00	ng/ul	1000	1.170
8)	ACSUR:D6-Phenol	9.57	1149	99	5918278	20.00	ng/ul	1000	1.420
9)	ACSUR:2,4,6-Tribromophenol	19.78	2373	330	2092257	20.00	ng/ul	1000	0.262
10)	BNSUR:D5-Nitrobenzene	11.94	1433	127	1660934	20.00	ng/ul	1000	0.123
11)	BNSUR:Decafluorobiphenyl	11.84	1421	334	7338694	20.00	ng/ul	1000	0.543
12)	BNSUR:2-Fluorobiphenyl	16.60	1992	172	7047036	20.00	ng/ul	1000	0.883
13)	BNSUR:O-Terphenyl	21.38	2566	230	6099787	20.00	ng/ul	999	0.650
14)	Pyridine	5.12	615	79	1642806	10.00	ng/ul	1000	0.788
15)	Phenol	9.61	1153	94	2538266	10.00	ng/ul	1000	1.218
16)	Aniline	9.80	1176	93	2818314	10.00	ng/ul	1000	1.352
17)	Bis(2-Chloroethyl)Ether	9.91	1189	92	1261794	10.00	ng/ul	1000	0.606
18)	2-Chlorophenol	10.09	1211	128	2475771	10.00	ng/ul	1000	1.188
19)	1,3-Dichlorobenzene	10.48	1258	146	2334640	10.00	ng/ul	1000	1.120
20)	1,4-Dichlorobenzene	10.65	1278	146	2283774	10.00	ng/ul	1000	1.096
21)	Benzyl Alcohol	10.86	1303	108	988613	10.00	ng/ul	1000	0.475
22)	1,2-Dichlorobenzene	11.02	1322	146	2179850	10.00	ng/ul	1000	1.046
23)	2-Methylphenol	11.07	1328	108	2108710	10.00	ng/ul	1000	1.012
24)	Bis(2-Chloroisopropyl)Ether	11.18	1342	45	1624662	10.00	ng/ul	1000	0.780
25)	4-Methylphenol	11.42	1371	108	2003994	10.00	ng/ul	1000	0.961
26)	N-Nitrosodi-N-Propylamine	11.49	1379	70	1162832	10.00	ng/ul	1000	0.558
27)	Hexachloroethane	11.87	1425	119	999862	10.00	ng/ul	995	0.480
28)	Nitrobenzene	11.99	1439	77	2572821	10.00	ng/ul	1000	0.381
29)	Isophorone	12.57	1508	82	3837993	10.00	ng/ul	1000	0.568
30)	2-Nitrophenol	12.78	1534	109	1522022	10.00	ng/ul	1000	0.226

* Compound is ISTD

Operator ID: DMC
Output File: 10C0515A.1B2
Data File: 10C0515A.MS
Name: 10C0515A
Sample:

Quant Time: 05/16/02 11:39
Injected at: 05/15/02 08:47
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.78	1534	107	2974165	10.00	ng/ul	1000	0.440
32)	Benzoic Acid	12.90	1548	105	4366512	20.00	ng/ul	1000	0.323
33)	Bis(2-Chloroethoxy)Methane	13.06	1567	92	2258888	10.00	ng/ul	998	0.335
34)	2,4-Dichlorophenol	13.37	1604	162	1715114	10.00	ng/ul	1000	0.254
35)	1,2,4-Trichlorobenzene	13.62	1635	180	1880441	10.00	ng/ul	1000	0.279
36)	Naphthalene	13.86	1663	128	6571700	10.00	ng/ul	1000	0.972
37)	4-Chloroaniline	13.93	1672	127	3744957	10.00	ng/ul	1000	0.554
38)	2,6-Dichlorophenol	13.97	1676	162	1586639	10.00	ng/ul	1000	0.235
39)	Hexachlorobutadiene	14.13	1696	225	1348183	10.00	ng/ul	1000	0.200
40)	4-Chloro-3-Methylphenol	15.12	1814	107	2908989	10.00	ng/ul	996	0.431
41)	2-Methylnaphthalene	15.66	1879	142	2983019	10.00	ng/ul	1000	0.442
42)	Hexachlorocyclopentadiene	16.06	1927	237	1358713	10.00	ng/ul	1000	0.341
43)	2,4,6-Trichlorophenol	16.36	1963	196	1368241	10.00	ng/ul	1000	0.343
44)	2,4,5-Trichlorophenol	16.45	1974	196	1446877	10.00	ng/ul	1000	0.363
45)	2-Chloronapthalene	16.97	2036	162	3715548	10.00	ng/ul	1000	0.931
46)	2-Nitroaniline	17.18	2062	138	1321297	10.00	ng/ul	1000	0.331
47)	Dimethyl Phthalate	17.58	2110	163	5534233	10.00	ng/ul	1000	1.386
48)	2,6-Dinitrotoluene	17.74	2129	165	1123824	10.00	ng/ul	1000	0.282
49)	Acenaphthylene	17.98	2158	152	4840321	10.00	ng/ul	1000	1.213
50)	3-Nitroaniline	18.12	2175	138	1139301	10.00	ng/ul	1000	0.286
51)	Acenaphthene	18.35	2202	152	5316765	10.00	ng/ul	1000	1.332
52)	2,4-Dinitrophenol	18.34	2201	184	671197	10.00	ng/ul	1000	0.169
53)	4-Nitrophenol	18.39	2207	65	666944	10.00	ng/ul	1000	0.168
54)	Dibenzofuran	18.70	2244	168	5048289	10.00	ng/ul	1000	1.265
55)	2,4-Dinitrotoluene	18.60	2232	165	1729524	10.00	ng/ul	1000	0.434
56)	Benzo(b)Fluoranthene	29.16	3499	252	4884305	9.99	ng/ul	936	0.850
57)	Diethyl Phthalate	19.04	2285	149	6236945	10.00	ng/ul	1000	1.562
58)	Fluorene	19.35	2322	166	3327031	10.00	ng/ul	1000	0.834
59)	4-Chlorophenyl Phenyl Ether	19.32	2318	204	2194330	10.00	ng/ul	1000	0.550
60)	4-Nitroaniline	19.33	2320	108	2515557	10.00	ng/ul	1000	0.630

* Compound is ISTD

Operator ID: DMC
Output File: 10C0515A.1B2
Data File: 10C0515A.MS
Name: 10C0515A
Sample:

Quant Time: 05/16/02 11:39
Injected at: 05/15/02 08:47
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.38	2326	198	966353	10.00	ng/ul	1000	0.162
62)	N-Nitrosodiphenylamine	19.51	2341	169	2168030	10.00	ng/ul	1000	0.362
63)	1,2-Diphenylhydrazine	19.60	2352	77	5010449	10.00	ng/ul	1000	0.837
64)	4-Bromophenyl Phenyl Ether	20.16	2419	248	1741502	10.00	ng/ul	1000	0.291
65)	Hexachlorobenzene	20.29	2435	284	1294550	10.00	ng/ul	1000	0.217
66)	Pentachlorophenol	20.58	2470	266	1093977	10.00	ng/ul	1000	0.183
67)	Phenanthrene	20.95	2514	178	4835556	10.00	ng/ul	1000	0.807
68)	Anthracene	21.02	2523	178	5375548	10.00	ng/ul	999	0.897
69)	Carbazole	21.22	2547	167	4641291	10.00	ng/ul	992	0.775
70)	Di-n-Butyl Phthalate	21.56	2587	149	6803860	10.00	ng/ul	1000	1.136
71)	Fluoranthene	22.70	2724	202	4919580	10.00	ng/ul	977	0.821
72)	Benzidine	22.79	2735	184	8044266	20.00	ng/ul	980	0.857
73)	Pyrene	23.09	2771	202	4918377	10.00	ng/ul	953	1.048
74)	Butyl Benzyl Phthalate	23.92	2871	149	4029247	10.00	ng/ul	960	0.859
75)	3,3'-Dichlorobenzidine	25.29	3035	252	2691217	10.00	ng/ul	963	0.574
76)	Bis(2-Ethylhexyl)Phthalate	25.04	3005	149	6054355	10.00	ng/ul	964	1.290
77)	Benzo(a)Anthracene	25.54	3065	228	5537330	10.00	ng/ul	963	1.180
78)	Chrysene	25.65	3078	228	4584082	10.00	ng/ul	935	0.977
79)	Di-n-Octylphthalate	26.95	3234	149	10079335	10.00	ng/ul	974	2.148
80)	Benzo(k)Fluoranthene	29.27	3512	252	5023610	10.09	ng/ul	974	0.866
81)	Benzo(a)Pyrene	30.67	3681	252	4462646	9.99	ng/ul	934	0.777
82)	Indeno(1,2,3-cd)Pyrene	37.39	4487	276	7038772	10.00	ng/ul	937	1.500
83)	Dibenzo(a,h)Anthracene	37.47	4496	278	4345264	9.99	ng/ul	934	0.757
84)	Benzo(g,h,i)Perylene	39.42	4731	276	5394011	9.99	ng/ul	931	0.939
85)	N-Nitrosodimethylamine	5.02	602	73	488497	10.00	ng/ul	1000	0.235
86)	2,3,4,6-tetrachlorophenol	18.91	2269	232	1233401	10.00	ng/ul	1000	0.309
87)	2-Chloroaniline	12.68	1522	127	2967304	10.00	ng/ul	1000	0.439
88)	2,4-Diaminotoluene	16.81	2017	121	1999901	10.00	ng/ul	1000	0.501
89)	2,3-Dinitrotoluene	18.52	2222	165	1693710	10.00	ng/ul	1000	0.425
90)	1-Naphthylamine	18.85	2262	143	3360792	10.00	ng/ul	1000	0.842

* Compound is ISTD

Operator ID: DMC
Output File: 10C0515A.1B2
Data File: 10C0515A.MS
Name: 10C0515A
Sample:

Quant Time: 05/16/02 11:39
Injected at: 05/15/02 08:47
Dilution Factor: 1.00
Instrument ID: 138

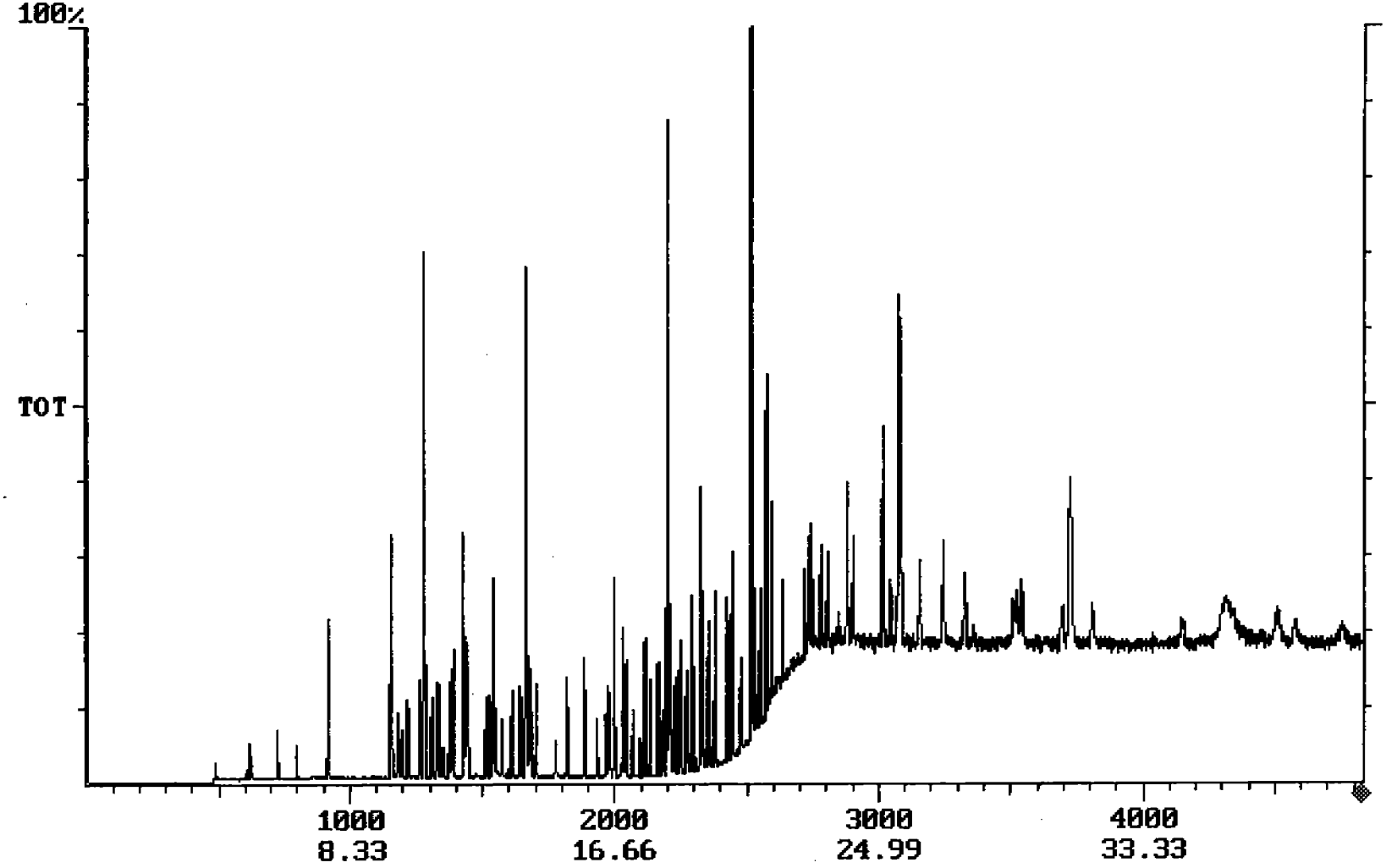
ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.33	2320	152	1534805	10.00	ng/ul	1000	0.385
92)	Benzaldehyde	9.59	1151	105	2683613	10.00	ug\L	1000	1.287
93)	Acetophenone	11.54	1385	105	4425311	10.00	ug\L	1000	0.655
94)	Caprolactum	14.77	1773	85	656830	10.00	ug\L	1000	0.098
95)	Biphenyl	16.88	2026	154	4300327	10.00	ug\L	1000	1.077
96)	Atrazine	20.33	2440	200	1235348	10.00	ug\L	1000	0.207

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\1IC0515 Date: 05/15/02 09:43:21
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4824 Range: 1 to 4824 100% = 1624319



Operator ID: DMC
Output File: 1IC0515.1B2
Data File: 1IC0515.MS
Name: 1IC0515
Sample:

Quant Time: 05/16/02 11:57
Injected at: 05/15/02 09:43
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.65	1278	152	681459	5.00	ng/ul	997	1.000
2)	*IS:D8-Naphthalene	13.85	1662	136	2314426	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.32	2199	162	1404484	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.96	2515	188	2171990	5.00	ng/ul	995	1.000
5)	*IS:D12-Chrysene	25.64	3077	240	1888123	5.00	ng/ul	891	1.000
6)	*IS:D12-Perylene	31.06	3727	264	1973669	5.00	ng/ul	929	1.000
7)	ACSUR:2-Fluorophenol	7.66	919	112	398490	2.00	ng/ul	992	1.462
8)	ACSUR:D6-Phenol	9.62	1154	99	487459	2.00	ng/ul	949	1.789
9)	ACSUR:2,4,6-Tribromophenol	19.82	2378	330	189966	2.00	ng/ul	994	0.339
10)	BNSUR:D5-Nitrobenzene	11.98	1437	127	149838	2.00	ng/ul	890	0.162
11)	BNSUR:Decafluorobiphenyl	11.88	1426	334	609065	2.00	ng/ul	995	0.658
12)	BNSUR:2-Fluorobiphenyl	16.65	1998	172	620453	2.00	ng/ul	997	1.105
13)	BNSUR:O-Terphenyl	21.43	2572	230	523267	2.00	ng/ul	988	0.693
14)	Pyridine	5.17	620	79	127779	1.00	ng/ul	962	0.938
15)	Phenol	9.64	1157	94	218507	1.00	ng/ul	984	1.604
16)	Aniline	9.84	1181	93	234340	1.00	ng/ul	991	1.720
17)	Bis(2-Chloroethyl)Ether	9.94	1193	92	116212	1.00	ng/ul	991	0.853
18)	2-Chlorophenol	10.13	1216	128	220192	1.00	ng/ul	997	1.616
19)	1,3-Dichlorobenzene	10.52	1262	146	202109	1.00	ng/ul	995	1.483
20)	1,4-Dichlorobenzene	10.69	1283	146	211613	1.00	ng/ul	988	1.553
21)	Benzyl Alcohol	10.89	1307	108	88324	1.00	ng/ul	977	0.649
22)	1,2-Dichlorobenzene	11.07	1328	146	185534	1.00	ng/ul	996	1.362
23)	2-Methylphenol	11.11	1333	108	164547	1.00	ng/ul	962	1.208
24)	Bis(2-Chloroisopropyl)Ether	11.23	1348	45	156635	1.00	ng/ul	930	1.150
25)	4-Methylphenol	11.46	1375	108	166999	1.00	ng/ul	996	1.226
26)	N-Nitrosodi-N-Propylamine	11.53	1384	70	110402	1.00	ng/ul	953	0.811
27)	Hexachloroethane	11.91	1429	119	87385	1.00	ng/ul	992	0.642
28)	Nitrobenzene	12.03	1443	77	275643	1.00	ng/ul	956	0.596
29)	Isophorone	12.60	1512	82	341515	1.00	ng/ul	986	0.738
30)	2-Nitrophenol	12.83	1540	109	171413	1.00	ng/ul	977	0.371

* Compound is ISTD

Operator ID: DMC
Output File: 1IC0515.1B2
Data File: 1IC0515.MS
Name: 1IC0515
Sample:

Quant Time: 05/16/02 11:57
Injected at: 05/15/02 09:43
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.83	1540	107	266617	1.00	ng/ul	977	0.576
32)	Benzoic Acid	12.85	1542	105	263376	2.00	ng/ul	996	0.285
33)	Bis(2-Chloroethoxy)Methane	13.10	1572	92	205260	1.00	ng/ul	978	0.444
34)	2,4-Dichlorophenol	13.42	1610	162	149250	1.00	ng/ul	996	0.323
35)	1,2,4-Trichlorobenzene	13.67	1640	180	157833	1.00	ng/ul	996	0.341
36)	Naphthalene	13.90	1668	128	605875	1.00	ng/ul	993	1.309
37)	4-Chloroaniline	13.97	1677	127	271598	1.00	ng/ul	978	0.587
38)	2,6-Dichlorophenol	14.01	1681	162	165215	1.00	ng/ul	964	0.357
39)	Hexachlorobutadiene	14.18	1702	225	122277	1.00	ng/ul	991	0.265
40)	4-Chloro-3-Methylphenol	15.16	1819	107	270481	1.00	ng/ul	996	0.585
41)	2-Methylnaphthalene	15.71	1885	142	286127	1.00	ng/ul	999	0.619
42)	Hexachlorocyclopentadiene	16.11	1933	237	98652	1.00	ng/ul	992	0.352
43)	2,4,6-Trichlorophenol	16.41	1969	196	117468	1.00	ng/ul	992	0.419
44)	2,4,5-Trichlorophenol	16.50	1980	196	125887	1.00	ng/ul	997	0.449
45)	2-Chloronapthalene	17.02	2043	162	352531	1.00	ng/ul	993	1.256
46)	2-Nitroaniline	17.23	2068	138	112187	1.00	ng/ul	992	0.400
47)	Dimethyl Phthalate	17.63	2115	163	491188	1.00	ng/ul	999	1.749
48)	2,6-Dinitrotoluene	17.78	2134	165	100798	1.00	ng/ul	991	0.359
49)	Acenaphthylene	18.02	2163	152	431435	1.00	ng/ul	984	1.536
50)	3-Nitroaniline	18.17	2180	138	87295	1.00	ng/ul	993	0.311
51)	Acenaphthene	18.39	2207	152	439564	1.00	ng/ul	980	1.565
52)	2,4-Dinitrophenol	18.39	2207	184	59345	1.00	ng/ul	980	0.212
53)	4-Nitrophenol	18.43	2212	65	60490	1.00	ng/ul	915	0.216
54)	Dibenzofuran	18.74	2249	168	462874	1.00	ng/ul	999	1.648
55)	2,4-Dinitrotoluene	18.65	2238	165	161611	1.00	ng/ul	993	0.576
56)	Benzo(b)Fluoranthene	29.24	3509	252	419777	1.00	ng/ul	963	1.064
57)	Diethyl Phthalate	19.07	2289	149	569865	1.00	ng/ul	910	2.029
58)	Fluorene	19.40	2328	166	291053	1.00	ng/ul	978	1.037
59)	4-Chlorophenyl Phenyl Ether	19.35	2322	204	216831	1.00	ng/ul	979	0.772
60)	4-Nitroaniline	19.37	2324	108	260467	1.00	ng/ul	941	0.928

* Compound is ISTD

Operator ID: DMC
Output File: 1IC0515.1B2
Data File: 1IC0515.MS
Name: 1IC0515
Sample:

Quant Time: 05/16/02 11:57
Injected at: 05/15/02 09:43
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.42	2331	198	94574	1.00	ng/ul	980	0.218
62)	N-Nitrosodiphenylamine	19.55	2346	169	187684	1.00	ng/ul	980	0.433
63)	1,2-Diphenylhydrazine	19.64	2357	77	531995	1.00	ng/ul	981	1.225
64)	4-Bromophenyl Phenyl Ether	20.20	2424	248	141012	1.00	ng/ul	993	0.325
65)	Hexachlorobenzene	20.33	2440	284	125610	1.00	ng/ul	989	0.290
66)	Pentachlorophenol	20.62	2475	266	85513	1.00	ng/ul	989	0.197
67)	Phenanthrene	20.99	2519	178	460309	1.00	ng/ul	996	1.060
68)	Anthracene	21.06	2528	178	444058	1.00	ng/ul	990	1.023
69)	Carbazole	21.27	2552	167	436668	1.00	ng/ul	940	1.006
70)	Di-n-Butyl Phthalate	21.61	2593	149	880603	1.00	ng/ul	934	2.028
71)	Fluoranthene	22.75	2730	202	430679	1.00	ng/ul	966	0.992
72)	Benzidine	22.84	2741	184	545846	2.00	ng/ul	978	0.723
73)	Pyrene	23.14	2777	202	440297	1.00	ng/ul	959	1.166
74)	Butyl Benzyl Phthalate	23.98	2878	149	442237	1.00	ng/ul	922	1.172
75)	3,3'-Dichlorobenzidine	25.37	3045	252	234594	1.00	ng/ul	966	0.622
76)	Bis(2-Ethylhexyl)Phthalate	25.12	3014	149	695379	1.00	ng/ul	825	1.842
77)	Benzo(a)Anthracene	25.62	3074	228	466268	1.00	ng/ul	560	1.235
78)	Chrysene	25.71	3085	228	433611	0.90	ng/ul	953	1.275
79)	Di-n-Octylphthalate	27.03	3244	149	1044727	1.00	ng/ul	888	2.767
80)	Benzo(k)Fluoranthene	29.38	3526	252	496917	1.00	ng/ul	915	1.259
81)	Benzo(a)Pyrene	30.79	3695	252	382815	1.00	ng/ul	911	0.970
82)	Indeno(1,2,3-cd)Pyrene	37.55	4506	276	560197	1.00	ng/ul	892	1.484
83)	Dibenzo(a,h)Anthracene	37.64	4517	278	372354	1.00	ng/ul	977	0.944
84)	Benzo(g,h,i)Perylene	39.61	4753	276	458660	1.00	ng/ul	813	1.162
85)	N-Nitrosodimethylamine	5.05	606	73	48874	1.00	ng/ul	946	0.359
86)	2,3,4,6-tetrachlorophenol	18.95	2274	232	109415	1.00	ng/ul	994	0.390
87)	2-Chloroaniline	12.72	1527	127	260066	1.00	ng/ul	995	0.562
88)	2,4-Diaminotoluene	16.86	2023	121	93287	1.00	ng/ul	990	0.333
89)	2,3-Dinitrotoluene	18.56	2227	165	157425	1.00	ng/ul	995	0.561
90)	1-Naphthylamine	18.89	2267	143	192890	1.00	ng/ul	978	0.687

* Compound is ISTD

Operator ID: DMC
Output File: 1IC0515.1B2
Data File: 1IC0515.MS
Name: 1IC0515
Sample:

Quant Time: 05/16/02 11:57
Injected at: 05/15/02 09:43
Dilution Factor: 1.00
Instrument ID: 138

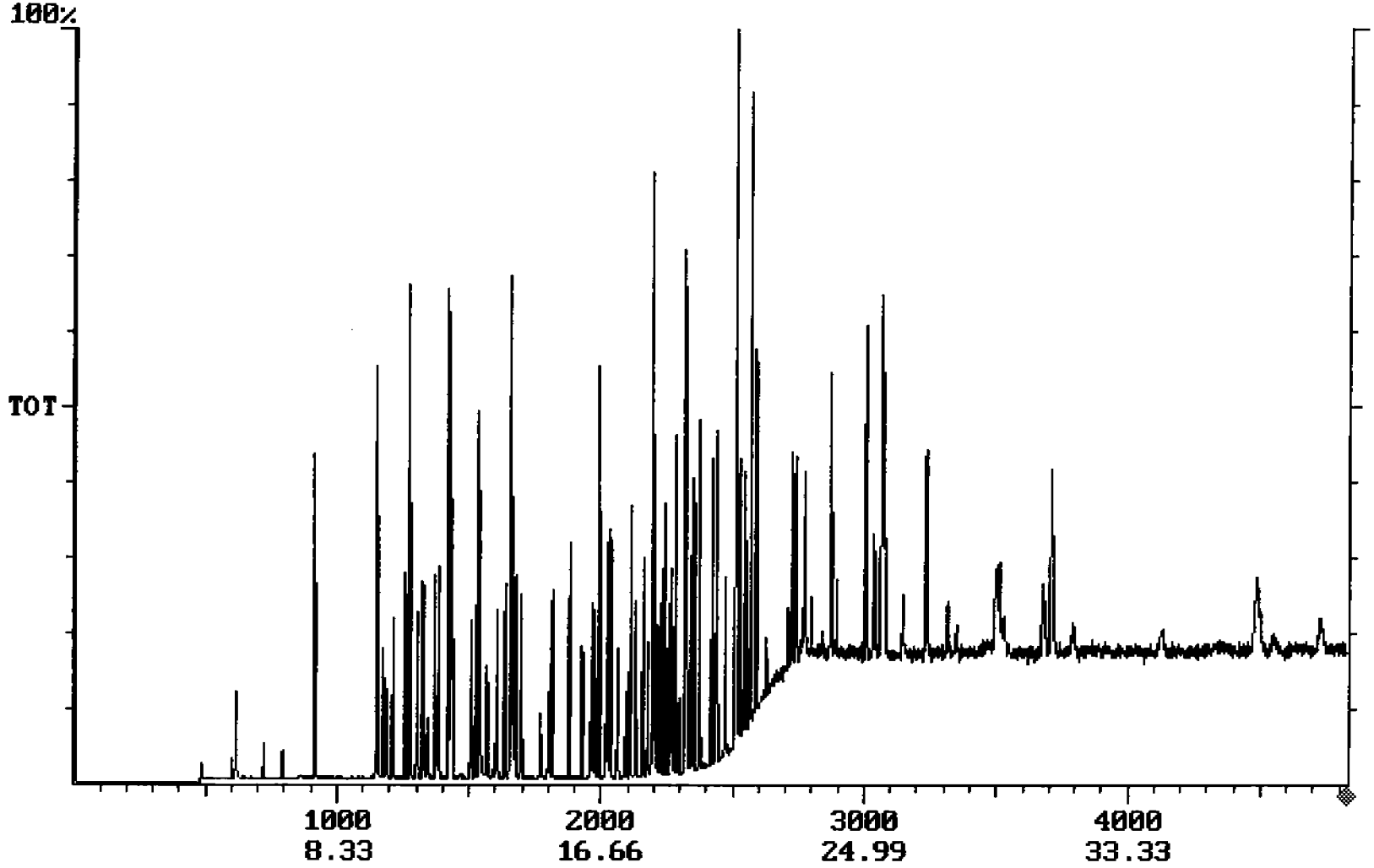
ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.37	2325	152	122060	1.00	ng/ul	965	0.435
92)	Benzaldehyde	9.62	1155	105	375371	1.00	ug\L	879	2.755
93)	Acetophenone	11.58	1390	105	477061	1.00	ug\L	974	1.031
94)	Caprolactum	14.80	1776	85	76841	1.00	ug\L	836	0.167
95)	Biphenyl	16.93	2031	154	446728	1.00	ug\L	985	1.591
96)	Atrazine	20.37	2444	200	180897	1.00	ug\L	841	0.417

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\2IC0515 Date: 05/15/02 10:31:33
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4824 Range: 1 to 4824 100% = 1637715



Operator ID: DMC
Output File: 2IC0515.1B2
Data File: 2IC0515.MS
Name: 2IC0515
Sample:

Quant Time: 05/16/02 12:29
Injected at: 05/15/02 10:31
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.60	1272	152	648056	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.79	1655	136	2255424	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.27	2193	162	1372739	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.91	2509	188	2010399	5.00	ng/ul	996	1.000
5)	*IS:D12-Chrysene	25.57	3068	240	1757596	5.00	ng/ul	896	1.000
6)	*IS:D12-Perylene	30.91	3710	264	1818888	5.00	ng/ul	906	1.000
7)	ACSUR:2-Fluorophenol	7.62	914	112	797537	4.00	ng/ul	992	1.539
8)	ACSUR:D6-Phenol	9.57	1148	99	932750	4.00	ng/ul	987	1.800
9)	ACSUR:2,4,6-Tribromophenol	19.77	2372	330	381337	4.00	ng/ul	997	0.348
10)	BNSUR:D5-Nitrobenzene	11.92	1431	127	302018	4.00	ng/ul	909	0.168
11)	BNSUR:Decafluorobiphenyl	11.83	1420	334	1265639	4.00	ng/ul	996	0.702
12)	BNSUR:2-Fluorobiphenyl	16.59	1991	172	1237659	4.00	ng/ul	997	1.127
13)	BNSUR:O-Terphenyl	21.38	2566	230	1007218	4.00	ng/ul	993	0.717
14)	Pyridine	5.13	616	79	281391	2.00	ng/ul	969	1.086
15)	Phenol	9.60	1152	94	433398	2.00	ng/ul	953	1.672
16)	Aniline	9.79	1175	93	478248	2.00	ng/ul	995	1.845
17)	Bis(2-Chloroethyl)Ether	9.90	1188	92	234780	2.00	ng/ul	991	0.906
18)	2-Chlorophenol	10.09	1211	128	453780	2.00	ng/ul	997	1.751
19)	1,3-Dichlorobenzene	10.47	1257	146	417491	2.00	ng/ul	995	1.611
20)	1,4-Dichlorobenzene	10.65	1278	146	423244	2.00	ng/ul	992	1.633
21)	Benzyl Alcohol	10.85	1302	108	177979	2.00	ng/ul	981	0.687
22)	1,2-Dichlorobenzene	11.02	1322	146	409676	2.00	ng/ul	997	1.581
23)	2-Methylphenol	11.06	1327	108	340914	2.00	ng/ul	996	1.316
24)	Bis(2-Chloroisopropyl)Ether	11.18	1341	45	302456	2.00	ng/ul	960	1.167
25)	4-Methylphenol	11.42	1370	108	333732	2.00	ng/ul	994	1.288
26)	N-Nitrosodi-N-Propylamine	11.49	1379	70	223598	2.00	ng/ul	973	0.863
27)	Hexachloroethane	11.86	1423	119	173409	2.00	ng/ul	993	0.669
28)	Nitrobenzene	11.98	1437	77	511012	2.00	ng/ul	967	0.567
29)	Isophorone	12.55	1506	82	695807	2.00	ng/ul	987	0.772
30)	2-Nitrophenol	12.78	1534	109	317203	2.00	ng/ul	983	0.352

* Compound is ISTD

Operator ID: DMC
Output File: 2IC0515.1B2
Data File: 2IC0515.MS
Name: 2IC0515
Sample:

Quant Time: 05/16/02 12:29
Injected at: 05/15/02 10:31
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.78	1534	107	527679	2.00	ng/ul	983	0.585
32)	Benzoic Acid	12.82	1539	105	738703	4.00	ng/ul	997	0.410
33)	Bis(2-Chloroethoxy)Methane	13.06	1567	92	416696	2.00	ng/ul	987	0.462
34)	2,4-Dichlorophenol	13.37	1604	162	298669	2.00	ng/ul	996	0.332
35)	1,2,4-Trichlorobenzene	13.62	1634	180	341571	2.00	ng/ul	998	0.379
36)	Naphthalene	13.85	1662	128	1224137	2.00	ng/ul	996	1.357
37)	4-Chloroaniline	13.92	1671	127	555847	2.00	ng/ul	988	0.617
38)	2,6-Dichlorophenol	13.96	1675	162	317941	2.00	ng/ul	978	0.353
39)	Hexachlorobutadiene	14.12	1695	225	234861	2.00	ng/ul	993	0.261
40)	4-Chloro-3-Methylphenol	15.11	1813	107	485880	2.00	ng/ul	994	0.539
41)	2-Methylnaphthalene	15.66	1879	142	548228	2.00	ng/ul	999	0.608
42)	Hexachlorocyclopentadiene	16.05	1926	237	230828	2.00	ng/ul	989	0.421
43)	2,4,6-Trichlorophenol	16.35	1962	196	242491	2.00	ng/ul	994	0.442
44)	2,4,5-Trichlorophenol	16.45	1974	196	256908	2.00	ng/ul	996	0.468
45)	2-Chloronapthalene	16.96	2035	162	667495	2.00	ng/ul	994	1.216
46)	2-Nitroaniline	17.17	2060	138	228891	2.00	ng/ul	992	0.417
47)	Dimethyl Phthalate	17.57	2109	163	1018239	2.00	ng/ul	998	1.855
48)	2,6-Dinitrotoluene	17.73	2128	165	197077	2.00	ng/ul	991	0.359
49)	Acenaphthylene	17.98	2158	152	872570	2.00	ng/ul	986	1.590
50)	3-Nitroaniline	18.12	2175	138	190600	2.00	ng/ul	994	0.348
51)	Acenaphthene	18.35	2202	152	880843	2.00	ng/ul	987	1.605
52)	2,4-Dinitrophenol	18.33	2200	184	133746	2.00	ng/ul	987	0.244
53)	4-Nitrophenol	18.38	2206	65	124749	2.00	ng/ul	934	0.228
54)	Dibenzofuran	18.69	2243	168	956104	2.00	ng/ul	999	1.742
55)	2,4-Dinitrotoluene	18.60	2232	165	331470	2.00	ng/ul	991	0.604
56)	Benzo(b)Fluoranthene	29.14	3497	252	807758	2.00	ng/ul	916	1.111
57)	Diethyl Phthalate	19.03	2284	149	1174991	2.00	ng/ul	925	2.140
58)	Fluorene	19.35	2322	166	609107	2.00	ng/ul	989	1.110
59)	4-Chlorophenyl Phenyl Ether	19.31	2317	204	396817	2.00	ng/ul	982	0.723
60)	4-Nitroaniline	19.32	2319	108	474246	2.00	ng/ul	901	0.864

* Compound is ISTD

Operator ID: DMC
Output File: 2IC0515.1B2
Data File: 2IC0515.MS
Name: 2IC0515
Sample:

Quant Time: 05/16/02 12:29
Injected at: 05/15/02 10:31
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.37	2325	198	184890	2.00	ng/ul	956	0.230
62)	N-Nitrosodiphenylamine	19.51	2341	169	382426	2.00	ng/ul	991	0.476
63)	1,2-Diphenylhydrazine	19.59	2351	77	1015351	2.00	ng/ul	978	1.263
64)	4-Bromophenyl Phenyl Ether	20.15	2418	248	278309	2.00	ng/ul	992	0.347
65)	Hexachlorobenzene	20.28	2434	284	232915	2.00	ng/ul	990	0.290
66)	Pentachlorophenol	20.57	2469	266	172825	2.00	ng/ul	990	0.215
67)	Phenanthrene	20.94	2513	178	887718	2.00	ng/ul	995	1.104
68)	Anthracene	21.02	2523	178	896174	2.00	ng/ul	995	1.115
69)	Carbazole	21.21	2546	167	816520	2.00	ng/ul	941	1.016
70)	Di-n-Butyl Phthalate	21.56	2587	149	1543232	2.00	ng/ul	934	1.920
71)	Fluoranthene	22.69	2723	202	855635	2.00	ng/ul	987	1.065
72)	Benzidine	22.79	2735	184	929703	4.00	ng/ul	951	0.662
73)	Pyrene	23.08	2770	202	811379	2.00	ng/ul	952	1.155
74)	Butyl Benzyl Phthalate	23.93	2872	149	815486	2.00	ng/ul	927	1.160
75)	3,3'-Dichlorobenzidine	25.29	3035	252	451500	2.00	ng/ul	953	0.643
76)	Bis(2-Ethylhexyl)Phthalate	25.05	3006	149	1198857	2.00	ng/ul	862	1.706
77)	Benzo(a)Anthracene	25.53	3064	228	896093	2.00	ng/ul	882	1.275
78)	Chrysene	25.64	3077	228	834902	1.00	ng/ul	953	2.376
79)	Di-n-Octylphthalate	26.94	3233	149	1954191	2.00	ng/ul	943	2.780
80)	Benzo(k)Fluoranthene	29.26	3511	252	929638	2.00	ng/ul	972	1.278
81)	Benzo(a)Pyrene	30.67	3681	252	736382	2.00	ng/ul	942	1.013
82)	Indeno(1,2,3-cd)Pyrene	37.36	4483	276	1094518	2.00	ng/ul	937	1.557
83)	Dibenzo(a,h)Anthracene	37.43	4492	278	745816	2.00	ng/ul	953	1.026
84)	Benzo(g,h,i)Perylene	39.40	4728	276	868051	2.00	ng/ul	829	1.194
85)	N-Nitrosodimethylamine	5.02	602	73	89287	2.00	ng/ul	896	0.345
86)	2,3,4,6-tetrachlorophenol	18.90	2268	232	223103	2.00	ng/ul	994	0.407
87)	2-Chloroaniline	12.67	1521	127	509295	2.00	ng/ul	995	0.565
88)	2,4-Diaminotoluene	16.80	2016	121	258336	2.00	ng/ul	995	0.471
89)	2,3-Dinitrotoluene	18.51	2221	165	316894	2.00	ng/ul	995	0.578
90)	1-Naphthylamine	18.84	2261	143	427284	2.00	ng/ul	983	0.779

* Compound is ISTD

Operator ID: DMC
Output File: 2IC0515.1B2
Data File: 2IC0515.MS
Name: 2IC0515
Sample:

Quant Time: 05/16/02 12:29
Injected at: 05/15/02 10:31
Dilution Factor: 1.00
Instrument ID: 138

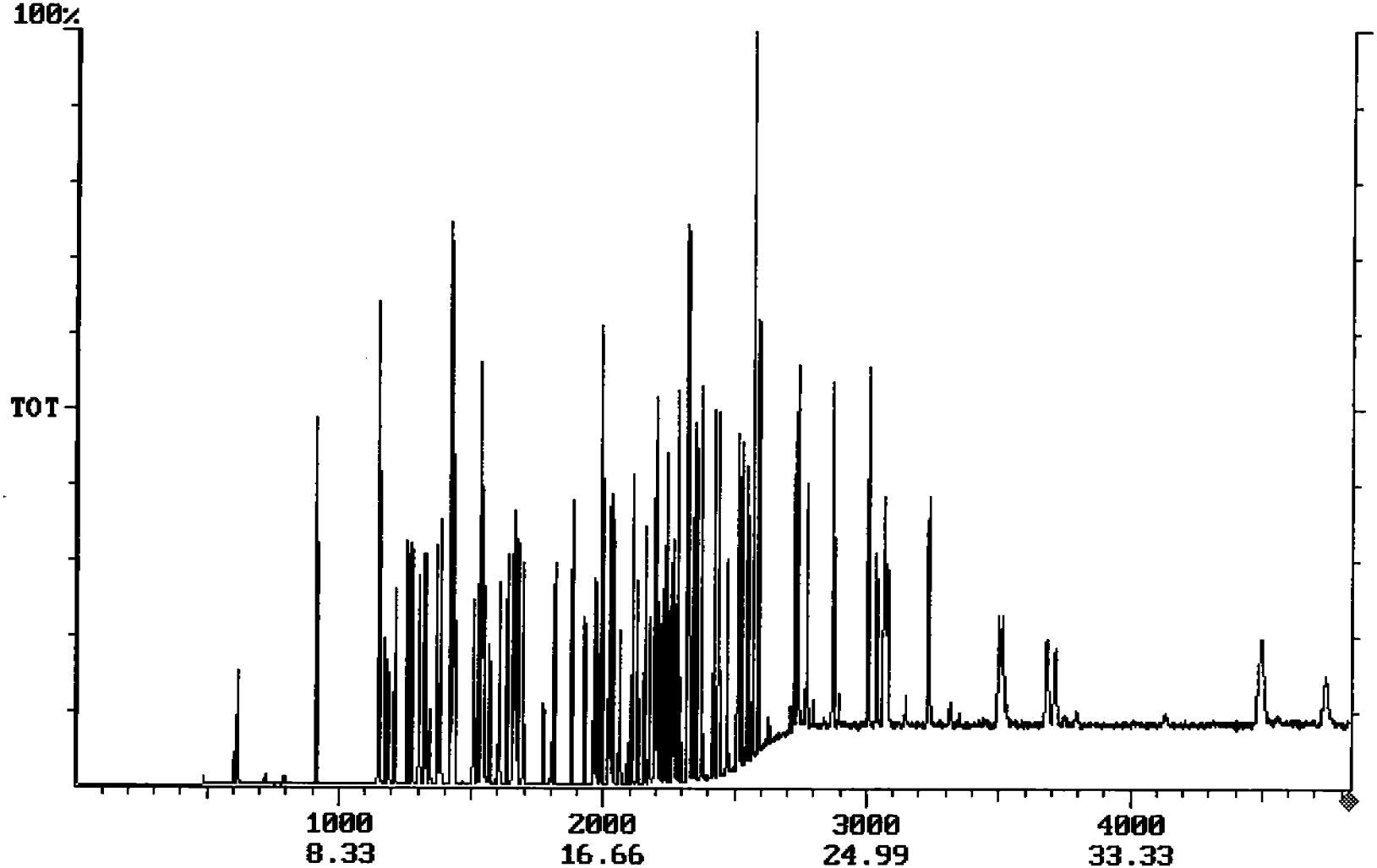
ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.32	2319	152	238134	2.00	ng/ul	980	0.434
92)	Benzaldehyde	9.58	1150	105	608703	2.00	ug\L	932	2.349
93)	Acetophenone	11.53	1384	105	791046	2.00	ug\L	975	0.877
94)	Caprolactum	14.75	1770	85	127898	2.00	ug\L	878	0.142
95)	Biphenyl	16.87	2025	154	745016	2.00	ug\L	989	1.357
96)	Atrazine	20.32	2439	200	301828	2.00	ug\L	920	0.376

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\SIC0515 Date: 05/15/02 11:18:56
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4824 Range: 1 to 4824 100% = 3390039



Operator ID: DMC
Output File: 5IC0515.1B2
Data File: 5IC0515.MS
Name: 5IC0515
Sample:

Quant Time: 05/16/02 12:31
Injected at: 05/15/02 11:18
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.60	1272	152	690242	5.00	ng/ul	997	1.000
2)	*IS:D8-Naphthalene	13.80	1656	136	2084277	5.00	ng/ul	998	1.000
3)	*IS:D10-Acenaphthene	18.27	2193	162	1315149	5.00	ng/ul	996	1.000
4)	*IS:D10-Phenanthrene	20.91	2509	188	2030063	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.57	3068	240	1639462	5.00	ng/ul	913	1.000
6)	*IS:D12-Perylene	30.96	3715	264	1845629	5.00	ng/ul	912	1.000
7)	ACSUR:2-Fluorophenol	7.62	914	112	2079603	10.00	ng/ul	997	1.507
8)	ACSUR:D6-Phenol	9.57	1149	99	2560176	10.00	ng/ul	990	1.855
9)	ACSUR:2,4,6-Tribromophenol	19.77	2373	330	914042	10.00	ng/ul	997	0.348
10)	BNSUR:D5-Nitrobenzene	11.93	1432	127	700276	10.00	ng/ul	973	0.168
11)	BNSUR:Decafluorobiphenyl	11.83	1420	334	3125348	10.00	ng/ul	996	0.750
12)	BNSUR:2-Fluorobiphenyl	16.59	1991	172	3149786	10.00	ng/ul	998	1.198
13)	BNSUR:O-Terphenyl	21.39	2567	230	2496020	10.00	ng/ul	995	0.762
14)	Pyridine	5.12	615	79	731463	5.00	ng/ul	980	1.060
15)	Phenol	9.60	1152	94	1133575	5.00	ng/ul	973	1.643
16)	Aniline	9.80	1176	93	1228754	5.00	ng/ul	998	1.781
17)	Bis(2-Chloroethyl)Ether	9.90	1188	92	600155	5.00	ng/ul	996	0.870
18)	2-Chlorophenol	10.09	1211	128	1151937	5.00	ng/ul	999	1.669
19)	1,3-Dichlorobenzene	10.47	1257	146	1083147	5.00	ng/ul	998	1.570
20)	1,4-Dichlorobenzene	10.64	1277	146	1040237	5.00	ng/ul	992	1.508
21)	Benzyl Alcohol	10.85	1302	108	442196	5.00	ng/ul	994	0.641
22)	1,2-Dichlorobenzene	11.02	1322	146	1025256	5.00	ng/ul	998	1.486
23)	2-Methylphenol	11.06	1327	108	931213	5.00	ng/ul	983	1.350
24)	Bis(2-Chloroisopropyl)Ether	11.18	1342	45	762060	5.00	ng/ul	973	1.105
25)	4-Methylphenol	11.42	1370	108	887818	5.00	ng/ul	998	1.287
26)	N-Nitrosodi-N-Propylamine	11.49	1379	70	547869	5.00	ng/ul	977	0.794
27)	Hexachloroethane	11.87	1424	119	448807	5.00	ng/ul	994	0.651
28)	Nitrobenzene	11.98	1438	77	1236147	5.00	ng/ul	972	0.594
29)	Isophorone	12.56	1507	82	1815405	5.00	ng/ul	993	0.871
30)	2-Nitrophenol	12.77	1533	109	726149	5.00	ng/ul	984	0.349

* Compound is ISTD

Operator ID: DMC
Output File: 5IC0515.1B2
Data File: 5IC0515.MS
Name: 5IC0515
Sample:

Quant Time: 05/16/02 12:31
Injected at: 05/15/02 11:18
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.78	1534	107	1394633	5.00	ng/ul	984	0.670
32)	Benzoic Acid	12.86	1543	105	2066569	10.00	ng/ul	997	0.496
33)	Bis(2-Chloroethoxy)Methane	13.06	1567	92	1082979	5.00	ng/ul	991	0.520
34)	2,4-Dichlorophenol	13.37	1604	162	795759	5.00	ng/ul	997	0.382
35)	1,2,4-Trichlorobenzene	13.62	1635	180	863376	5.00	ng/ul	998	0.415
36)	Naphthalene	13.85	1662	128	3065791	5.00	ng/ul	995	1.471
37)	4-Chloroaniline	13.93	1672	127	1525764	5.00	ng/ul	989	0.733
38)	2,6-Dichlorophenol	13.96	1675	162	741108	5.00	ng/ul	982	0.356
39)	Hexachlorobutadiene	14.12	1695	225	619927	5.00	ng/ul	994	0.298
40)	4-Chloro-3-Methylphenol	15.11	1813	107	1270280	5.00	ng/ul	996	0.610
41)	2-Methylnaphthalene	15.66	1879	142	1462140	5.00	ng/ul	999	0.702
42)	Hexachlorocyclopentadiene	16.05	1926	237	605146	5.00	ng/ul	994	0.461
43)	2,4,6-Trichlorophenol	16.35	1962	196	604121	5.00	ng/ul	996	0.460
44)	2,4,5-Trichlorophenol	16.44	1973	196	675634	5.00	ng/ul	998	0.514
45)	2-Chloronapthalene	16.96	2035	162	1725794	5.00	ng/ul	996	1.313
46)	2-Nitroaniline	17.17	2061	138	615855	5.00	ng/ul	996	0.469
47)	Dimethyl Phthalate	17.58	2109	163	2535096	5.00	ng/ul	999	1.928
48)	2,6-Dinitrotoluene	17.73	2128	165	490786	5.00	ng/ul	990	0.374
49)	Acenaphthylene	17.98	2158	152	2240072	5.00	ng/ul	988	1.704
50)	3-Nitroaniline	18.12	2175	138	481408	5.00	ng/ul	997	0.367
51)	Acenaphthene	18.35	2202	152	2215916	5.00	ng/ul	993	1.685
52)	2,4-Dinitrophenol	18.34	2201	184	344183	5.00	ng/ul	993	0.262
53)	4-Nitrophenol	18.38	2206	65	337261	5.00	ng/ul	984	0.257
54)	Dibenzofuran	18.70	2244	168	2301498	5.00	ng/ul	998	1.750
55)	2,4-Dinitrotoluene	18.60	2232	165	777120	5.00	ng/ul	995	0.591
56)	Benzo(b)Fluoranthene	29.16	3499	252	2101479	5.00	ng/ul	980	1.139
57)	Diethyl Phthalate	19.03	2284	149	3013782	5.00	ng/ul	974	2.292
58)	Fluorene	19.35	2322	166	1459758	5.00	ng/ul	979	1.110
59)	4-Chlorophenyl Phenyl Ether	19.31	2317	204	1044753	5.00	ng/ul	984	0.795
60)	4-Nitroaniline	19.32	2319	108	1258407	5.00	ng/ul	977	0.957

* Compound is ISTD

Operator ID: DMC
Output File: 5IC0515.1B2
Data File: 5IC0515.MS
Name: 5IC0515
Sample:

Quant Time: 05/16/02 12:31
Injected at: 05/15/02 11:18
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.37	2325	198	482756	5.00	ng/ul	936	0.238
62)	N-Nitrosodiphenylamine	19.51	2341	169	1015860	5.00	ng/ul	996	0.501
63)	1,2-Diphenylhydrazine	19.59	2351	77	2522488	5.00	ng/ul	984	1.243
64)	4-Bromophenyl Phenyl Ether	20.16	2419	248	793181	5.00	ng/ul	997	0.391
65)	Hexachlorobenzene	20.29	2435	284	579160	5.00	ng/ul	990	0.286
66)	Pentachlorophenol	20.58	2469	266	462864	5.00	ng/ul	990	0.229
67)	Phenanthrene	20.95	2514	178	2301667	5.00	ng/ul	993	1.134
68)	Anthracene	21.03	2523	178	2334903	5.00	ng/ul	985	1.151
69)	Carbazole	21.22	2547	167	2157289	5.00	ng/ul	995	1.063
70)	Di-n-Butyl Phthalate	21.57	2588	149	3591745	5.00	ng/ul	976	1.770
71)	Fluoranthene	22.69	2723	202	2177863	5.00	ng/ul	983	1.073
72)	Benzidine	22.79	2735	184	3170846	10.00	ng/ul	974	0.968
73)	Pyrene	23.09	2771	202	2215130	5.00	ng/ul	939	1.352
74)	Butyl Benzyl Phthalate	23.93	2872	149	1980877	5.00	ng/ul	966	1.209
75)	3,3'-Dichlorobenzidine	25.29	3035	252	1215333	5.00	ng/ul	956	0.742
76)	Bis(2-Ethylhexyl)Phthalate	25.05	3006	149	3017448	5.00	ng/ul	964	1.841
77)	Benzo(a)Anthracene	25.53	3064	228	2450561	5.00	ng/ul	970	1.495
78)	Chrysene	25.64	3077	228	2138852	5.00	ng/ul	927	1.305
79)	Di-n-Octylphthalate	26.95	3234	149	4795121	5.00	ng/ul	974	2.925
80)	Benzo(k)Fluoranthene	29.27	3513	252	2425227	5.00	ng/ul	979	1.315
81)	Benzo(a)Pyrene	30.68	3682	252	2012289	5.00	ng/ul	921	1.091
82)	Indeno(1,2,3-cd)Pyrene	37.45	4494	276	3050534	5.00	ng/ul	956	1.861
83)	Dibenzo(a,h)Anthracene	37.48	4498	278	1953265	5.00	ng/ul	948	1.059
84)	Benzo(g,h,i)Perylene	39.50	4740	276	2433636	5.00	ng/ul	846	1.319
85)	N-Nitrosodimethylamine	5.01	601	73	245204	5.00	ng/ul	958	0.356
86)	2,3,4,6-tetrachlorophenol	18.91	2269	232	539901	5.00	ng/ul	993	0.411
87)	2-Chloroaniline	12.67	1521	127	1365569	5.00	ng/ul	998	0.656
88)	2,4-Diaminotoluene	16.80	2016	121	623169	5.00	ng/ul	996	0.474
89)	2,3-Dinitrotoluene	18.51	2221	165	776884	5.00	ng/ul	998	0.591
90)	1-Naphthylamine	18.84	2261	143	1217619	5.00	ng/ul	992	0.926

* Compound is ISTD

Operator ID: DMC
Output File: 5IC0515.1B2
Data File: 5IC0515.MS
Name: 5IC0515
Sample:

Quant Time: 05/16/02 12:31
Injected at: 05/15/02 11:18
Dilution Factor: 1.00
Instrument ID: 138

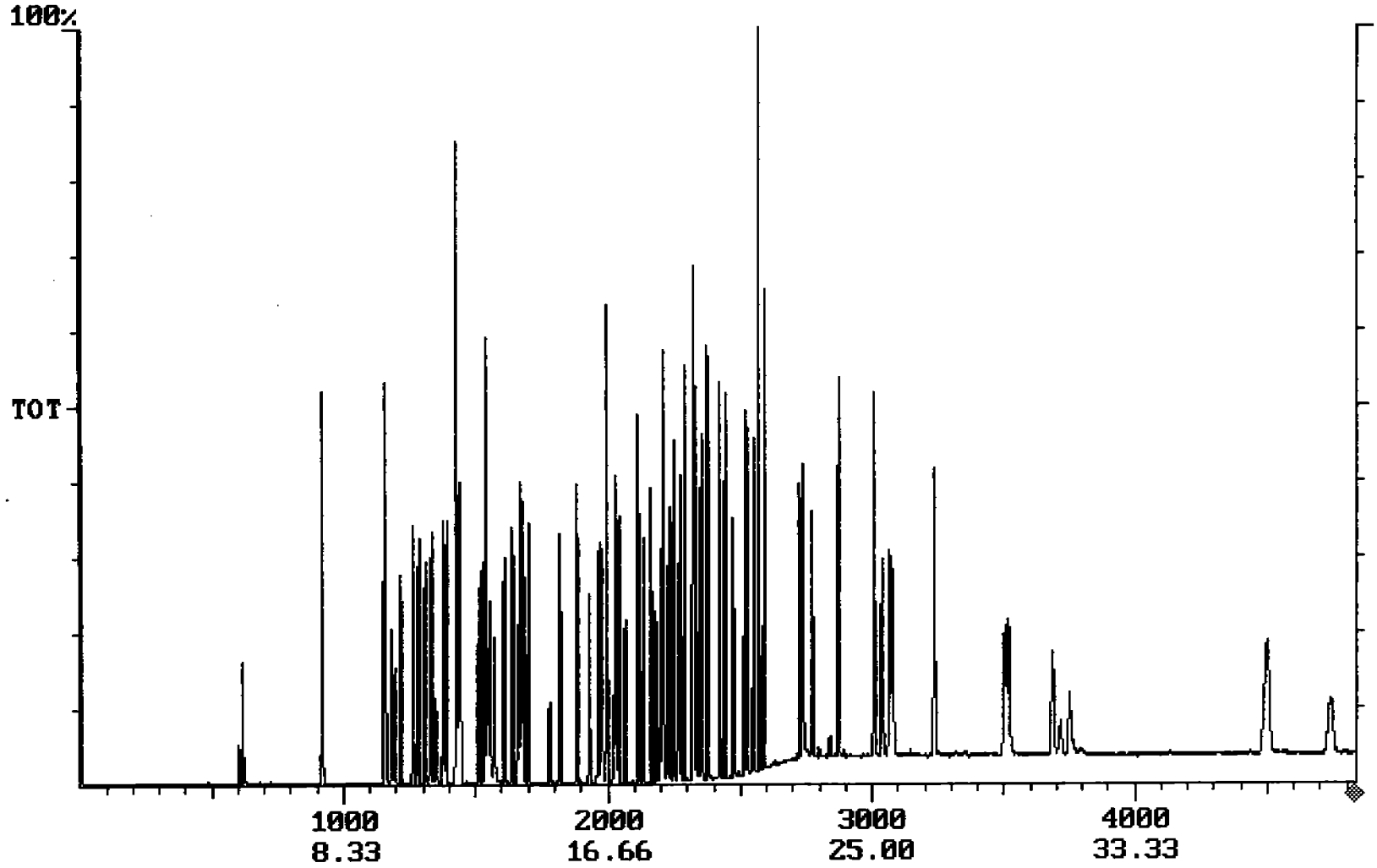
ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.32	2319	152	679281	5.00	ng/ul	979	0.517
92)	Benzaldehyde	9.58	1150	105	1322802	5.00	ug\L	972	1.917
93)	Acetophenone	11.53	1384	105	2021116	5.00	ug\L	996	0.970
94)	Caprolactum	14.76	1771	85	318116	5.00	ug\L	973	0.153
95)	Biphenyl	16.87	2025	154	1901524	5.00	ug\L	994	1.446
96)	Atrazine	20.32	2439	200	667993	5.00	ug\L	992	0.330

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\15IC0515 Date: 05/15/02 12:06:16
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4823 Range: 1 to 4823 100% = 8275015



001024

Operator ID: DMC
Output File: 15IC0515.1B2
Data File: 15IC0515.MS
Name: 15IC0515
Sample:

Quant Time: 05/16/02 12:35
Injected at: 05/15/02 12:06
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.64	1277	152	607166	5.00	ng/ul	997	1.000
2)	*IS:D8-Naphthalene	13.84	1661	136	1960889	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.32	2198	162	1234919	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.93	2512	188	1865940	5.00	ng/ul	994	1.000
5)	*IS:D12-Chrysene	25.60	3072	240	1322203	5.00	ng/ul	844	1.000
6)	*IS:D12-Perylene	30.96	3715	264	1805958	5.00	ng/ul	939	1.000
7)	ACSUR:2-Fluorophenol	7.65	918	112	6600117	30.00	ng/ul	996	1.812
8)	ACSUR:D6-Phenol	9.61	1153	99	7676129	30.00	ng/ul	959	2.108
9)	ACSUR:2,4,6-Tribromophenol	19.79	2375	330	2960684	30.00	ng/ul	998	0.400
10)	BNSUR:D5-Nitrobenzene	11.97	1437	127	2051906	30.00	ng/ul	991	0.175
11)	BNSUR:Decafluorobiphenyl	11.87	1425	334	9336177	30.00	ng/ul	999	0.794
12)	BNSUR:2-Fluorobiphenyl	16.63	1996	172	9136177	30.00	ng/ul	999	1.234
13)	BNSUR:O-Terphenyl	21.41	2569	230	7803511	30.00	ng/ul	995	0.984
14)	Pyridine	5.15	618	79	2123496	15.00	ng/ul	987	1.166
15)	Phenol	9.64	1157	94	3465494	15.00	ng/ul	920	1.903
16)	Aniline	9.84	1181	93	3766219	15.00	ng/ul	998	2.068
17)	Bis(2-Chloroethyl)Ether	9.94	1193	92	1699038	15.00	ng/ul	997	0.933
18)	2-Chlorophenol	10.12	1215	128	3478177	15.00	ng/ul	999	1.910
19)	1,3-Dichlorobenzene	10.52	1262	146	3062241	15.00	ng/ul	999	1.682
20)	1,4-Dichlorobenzene	10.68	1282	146	3061077	15.00	ng/ul	998	1.681
21)	Benzyl Alcohol	10.90	1308	108	1270786	15.00	ng/ul	998	0.698
22)	1,2-Dichlorobenzene	11.06	1327	146	2822704	15.00	ng/ul	999	1.550
23)	2-Methylphenol	11.10	1332	108	3018142	15.00	ng/ul	995	1.657
24)	Bis(2-Chloroisopropyl)Ether	11.22	1346	45	1920372	15.00	ng/ul	969	1.055
25)	4-Methylphenol	11.46	1375	108	2593109	15.00	ng/ul	996	1.424
26)	N-Nitrosodi-N-Propylamine	11.53	1384	70	1561122	15.00	ng/ul	985	0.858
27)	Hexachloroethane	11.91	1429	119	1293488	15.00	ng/ul	993	0.711
28)	Nitrobenzene	12.02	1443	77	3403689	15.00	ng/ul	994	0.579
29)	Isophorone	12.60	1512	82	4921270	15.00	ng/ul	994	0.837
30)	2-Nitrophenol	12.82	1539	109	1903565	15.00	ng/ul	996	0.324

* Compound is ISTD

Operator ID: DMC
Output File: 15IC0515.1B2
Data File: 15IC0515.MS
Name: 15IC0515
Sample:

Quant Time: 05/16/02 12:35
Injected at: 05/15/02 12:06
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.82	1539	107	3882415	15.00	ng/ul	996	0.660
32)	Benzoic Acid	12.97	1556	105	6673114	30.00	ng/ul	997	0.568
33)	Bis(2-Chloroethoxy)Methane	13.10	1572	92	2997640	15.00	ng/ul	990	0.510
34)	2,4-Dichlorophenol	13.41	1609	162	2213147	15.00	ng/ul	998	0.377
35)	1,2,4-Trichlorobenzene	13.67	1640	180	2471412	15.00	ng/ul	999	0.421
36)	Naphthalene	13.90	1668	128	8776279	15.00	ng/ul	995	1.492
37)	4-Chloroaniline	13.97	1677	127	5165936	15.00	ng/ul	994	0.879
38)	2,6-Dichlorophenol	14.01	1681	162	2045129	15.00	ng/ul	990	0.348
39)	Hexachlorobutadiene	14.17	1701	225	1844769	15.00	ng/ul	993	0.314
40)	4-Chloro-3-Methylphenol	15.16	1819	107	3837759	15.00	ng/ul	996	0.653
41)	2-Methylnaphthalene	15.70	1884	142	4219530	15.00	ng/ul	999	0.718
42)	Hexachlorocyclopentadiene	16.09	1931	237	1774594	15.00	ng/ul	992	0.480
43)	2,4,6-Trichlorophenol	16.40	1968	196	1767950	15.00	ng/ul	996	0.478
44)	2,4,5-Trichlorophenol	16.49	1979	196	2054436	15.00	ng/ul	996	0.555
45)	2-Chloronapthalene	17.01	2041	162	4783268	15.00	ng/ul	998	1.292
46)	2-Nitroaniline	17.22	2066	138	1800729	15.00	ng/ul	996	0.487
47)	Dimethyl Phthalate	17.61	2113	163	7790364	15.00	ng/ul	999	2.103
48)	2,6-Dinitrotoluene	17.78	2133	165	1471065	15.00	ng/ul	994	0.398
49)	Acenaphthylene	18.02	2162	152	6612403	15.00	ng/ul	999	1.785
50)	3-Nitroaniline	18.16	2179	138	1458646	15.00	ng/ul	998	0.394
51)	Acenaphthene	18.38	2206	152	7043447	15.00	ng/ul	994	1.902
52)	2,4-Dinitrophenol	18.37	2204	184	683374	15.00	ng/ul	994	0.185
53)	4-Nitrophenol	18.42	2210	65	821944	15.00	ng/ul	969	0.222
54)	Dibenzofuran	18.72	2247	168	6676566	15.00	ng/ul	999	1.803
55)	2,4-Dinitrotoluene	18.63	2236	165	2240865	15.00	ng/ul	995	0.605
56)	Benzo(b)Fluoranthene	29.18	3502	252	6869307	14.99	ng/ul	967	1.269
57)	Diethyl Phthalate	19.07	2288	149	8179902	15.00	ng/ul	996	2.208
58)	Fluorene	19.38	2326	166	4826222	15.00	ng/ul	992	1.303
59)	4-Chlorophenyl Phenyl Ether	19.33	2320	204	3181298	15.00	ng/ul	989	0.859
60)	4-Nitroaniline	19.36	2323	108	3216040	15.00	ng/ul	983	0.869

* Compound is ISTD

Operator ID: DMC
Output File: 15IC0515.1B2
Data File: 15IC0515.MS
Name: 15IC0515
Sample:

Quant Time: 05/16/02 12:35
Injected at: 05/15/02 12:06
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.41	2329	198	1270711	15.00	ng/ul	990	0.228
62)	N-Nitrosodiphenylamine	19.53	2344	169	3043583	15.00	ng/ul	997	0.544
63)	1,2-Diphenylhydrazine	19.62	2354	77	6280878	15.00	ng/ul	996	1.123
64)	4-Bromophenyl Phenyl Ether	20.18	2422	248	2325931	15.00	ng/ul	998	0.416
65)	Hexachlorobenzene	20.32	2438	284	1622792	15.00	ng/ul	992	0.290
66)	Pentachlorophenol	20.60	2472	266	1390071	15.00	ng/ul	991	0.249
67)	Phenanthrene	20.97	2516	178	6759291	15.00	ng/ul	994	1.208
68)	Anthracene	21.05	2526	178	7309407	15.00	ng/ul	995	1.306
69)	Carbazole	21.24	2549	167	6579216	15.00	ng/ul	996	1.176
70)	Di-n-Butyl Phthalate	21.58	2590	149	9141381	15.00	ng/ul	997	1.634
71)	Fluoranthene	22.72	2726	202	6749336	15.00	ng/ul	971	1.206
72)	Benzidine	22.82	2738	184	7125283	30.00	ng/ul	964	0.899
73)	Pyrene	23.12	2774	202	6716318	15.00	ng/ul	955	1.694
74)	Butyl Benzyl Phthalate	23.95	2874	149	5228389	15.00	ng/ul	951	1.319
75)	3,3'-Dichlorobenzidine	25.32	3039	252	3794176	15.00	ng/ul	961	0.957
76)	Bis(2-Ethylhexyl)Phthalate	25.07	3009	149	8298407	15.00	ng/ul	952	2.093
77)	Benzo(a)Anthracene	25.57	3068	228	7522295	15.00	ng/ul	976	1.897
78)	Chrysene	25.67	3081	228	6484784	15.00	ng/ul	921	1.635
79)	Di-n-Octylphthalate	26.97	3236	149	13318791	15.00	ng/ul	963	3.358
80)	Benzo(k)Fluoranthene	29.31	3517	252	7150781	15.00	ng/ul	979	1.320
81)	Benzo(a)Pyrene	30.72	3686	252	6492788	15.00	ng/ul	922	1.199
82)	Indeno(1,2,3-cd)Pyrene	37.44	4493	276	10368402	15.00	ng/ul	922	2.614
83)	Dibenzo(a,h)Anthracene	37.51	4501	278	5981540	15.00	ng/ul	952	1.105
84)	Benzo(g,h,i)Perylene	39.48	4738	276	7705564	15.00	ng/ul	880	1.423
85)	N-Nitrosodimethylamine	5.03	604	73	564254	15.00	ng/ul	998	0.310
86)	2,3,4,6-tetrachlorophenol	18.93	2272	232	1710890	15.00	ng/ul	995	0.462
87)	2-Chloroaniline	12.72	1527	127	4276969	15.00	ng/ul	998	0.728
88)	2,4-Diaminotoluene	16.85	2022	121	1678458	15.00	ng/ul	999	0.454
89)	2,3-Dinitrotoluene	18.54	2225	165	2242095	15.00	ng/ul	999	0.606
90)	1-Naphthylamine	18.87	2265	143	3886110	15.00	ng/ul	997	1.049

* Compound is ISTD

Operator ID: DMC
Output File: 15IC0515.1B2
Data File: 15IC0515.MS
Name: 15IC0515
Sample:

Quant Time: 05/16/02 12:35
Injected at: 05/15/02 12:06
Dilution Factor: 1.00
Instrument ID: 138

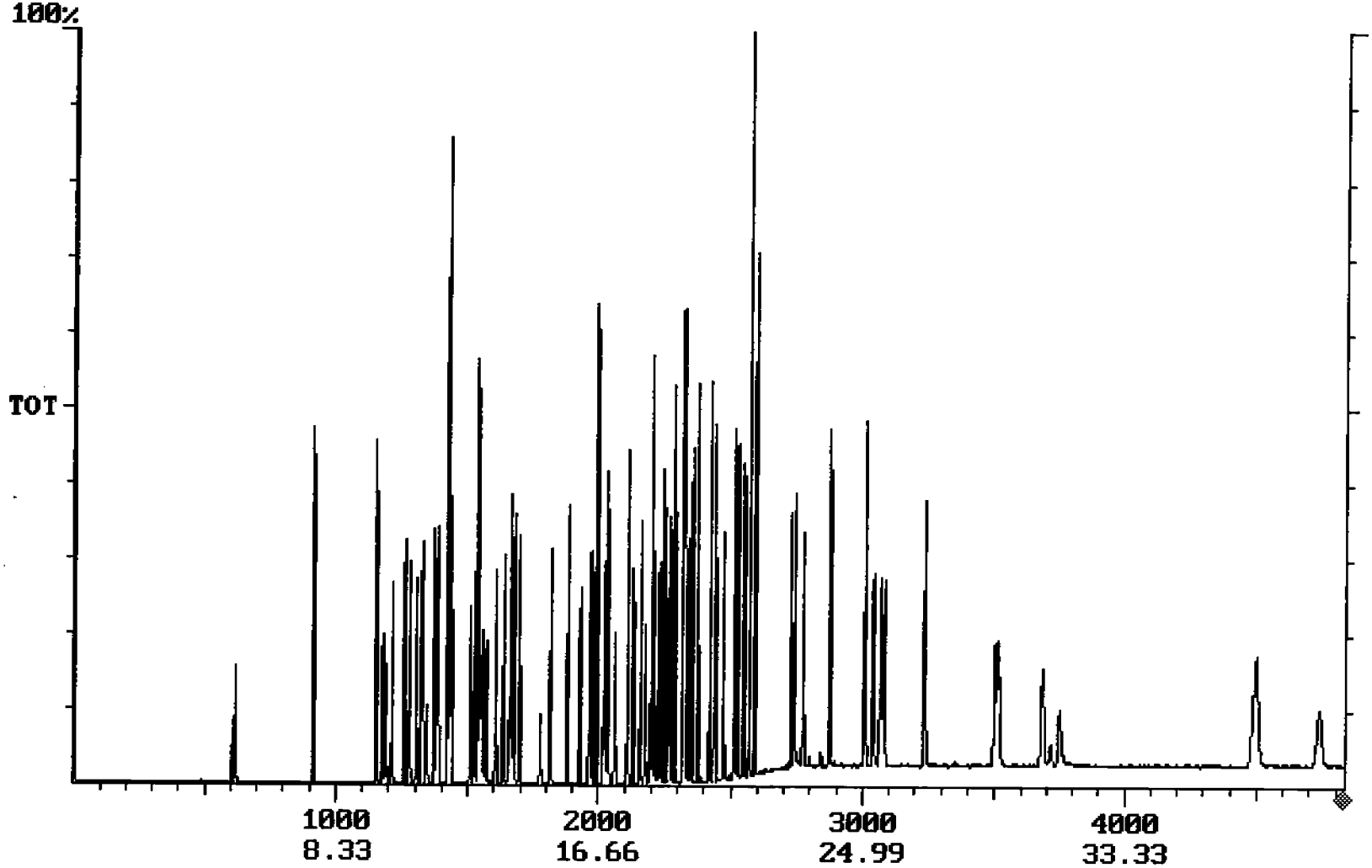
ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.36	2323	152	2171847	15.00	ng/ul	991	0.587
92)	Benzaldehyde	9.63	1155	105	1196075	15.00	ug\L	919	0.657
93)	Acetophenone	11.57	1389	105	5422456	15.00	ug\L	999	0.922
94)	Caprolactum	14.83	1780	85	801977	15.00	ug\L	984	0.137
95)	Biphenyl	16.92	2030	154	5462249	15.00	ug\L	994	1.475
96)	Atrazine	20.35	2442	200	1204385	15.00	ug\L	983	0.216

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\20IC0515 Date: 05/15/02 12:53:45
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4824 Range: 1 to 4824 100% = 11470784



Operator ID: DMC
Output File: 20IC0515.1B2
Data File: 20IC0515.MS
Name: 20IC0515
Sample:

Quant Time: 05/16/02 12:38
Injected at: 05/15/02 12:53
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	RF
1)	*IS:D4-1,4-Dichlorobenzene	10.61	1273	152	621913	5.00	ng/ul	996	1.000
2)	*IS:D8-Naphthalene	13.80	1656	136	1893764	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.28	2194	162	1228283	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.92	2510	188	1848290	5.00	ng/ul	982	1.000
5)	*IS:D12-Chrysene	25.59	3071	240	1247789	5.00	ng/ul	836	1.000
6)	*IS:D12-Perylene	30.95	3714	264	1845436	5.00	ng/ul	892	1.000
7)	ACSUR:2-Fluorophenol	7.62	915	112	8550472	40.00	ng/ul	999	1.719
8)	ACSUR:D6-Phenol	9.58	1150	99	10647451	40.00	ng/ul	938	2.141
9)	ACSUR:2,4,6-Tribromophenol	19.77	2373	330	3822280	40.00	ng/ul	998	0.389
10)	BNSUR:D5-Nitrobenzene	11.94	1433	127	2834856	40.00	ng/ul	985	0.188
11)	BNSUR:Decafluorobiphenyl	11.84	1421	334	12851439	40.00	ng/ul	992	0.849
12)	BNSUR:2-Fluorobiphenyl	16.60	1992	172	13084689	40.00	ng/ul	999	1.332
13)	BNSUR:O-Terphenyl	21.39	2567	230	11344031	40.00	ng/ul	998	1.137
14)	Pyridine	5.12	615	79	2720668	20.00	ng/ul	991	1.094
15)	Phenol	9.62	1154	94	4615006	20.00	ng/ul	857	1.856
16)	Aniline	9.81	1177	93	5310204	20.00	ng/ul	998	2.135
17)	Bis(2-Chloroethyl)Ether	9.91	1189	92	2354558	20.00	ng/ul	995	0.947
18)	2-Chlorophenol	10.10	1212	128	4454465	20.00	ng/ul	998	1.791
19)	1,3-Dichlorobenzene	10.48	1258	146	4045924	20.00	ng/ul	997	1.627
20)	1,4-Dichlorobenzene	10.65	1278	146	4069008	20.00	ng/ul	997	1.636
21)	Benzyl Alcohol	10.86	1303	108	1704287	20.00	ng/ul	997	0.686
22)	1,2-Dichlorobenzene	11.02	1323	146	3712514	20.00	ng/ul	997	1.493
23)	2-Methylphenol	11.07	1329	108	3986054	20.00	ng/ul	992	1.603
24)	Bis(2-Chloroisopropyl)Ether	11.19	1343	45	2575587	20.00	ng/ul	977	1.036
25)	4-Methylphenol	11.43	1372	108	3735032	20.00	ng/ul	997	1.502
26)	N-Nitrosodi-N-Propylamine	11.50	1380	70	2045974	20.00	ng/ul	975	0.823
27)	Hexachloroethane	11.87	1425	119	1676118	20.00	ng/ul	991	0.674
28)	Nitrobenzene	11.99	1439	77	4383701	20.00	ng/ul	992	0.579
29)	Isophorone	12.57	1508	82	6770986	20.00	ng/ul	991	0.894
30)	2-Nitrophenol	12.78	1534	109	2358719	20.00	ng/ul	984	0.312

* Compound is ISTD

Operator ID: DMC
Output File: 20IC0515.1B2
Data File: 20IC0515.MS
Name: 20IC0515
Sample:

Quant Time: 05/16/02 12:38
Injected at: 05/15/02 12:53
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.79	1535	107	4943017	20.00	ng/ul	984	0.653
32)	Benzoic Acid	12.94	1553	105	8976889	40.00	ng/ul	998	0.593
33)	Bis(2-Chloroethoxy)Methane	13.07	1568	92	4105205	20.00	ng/ul	989	0.542
34)	2,4-Dichlorophenol	13.38	1605	162	3043014	20.00	ng/ul	999	0.402
35)	1,2,4-Trichlorobenzene	13.63	1636	180	3323345	20.00	ng/ul	997	0.439
36)	Naphthalene	13.86	1663	128	12189104	20.00	ng/ul	994	1.610
37)	4-Chloroaniline	13.94	1673	127	7474016	20.00	ng/ul	985	0.987
38)	2,6-Dichlorophenol	13.97	1676	162	2535366	20.00	ng/ul	985	0.335
39)	Hexachlorobutadiene	14.13	1696	225	2419285	20.00	ng/ul	994	0.320
40)	4-Chloro-3-Methylphenol	15.12	1815	107	5121833	20.00	ng/ul	992	0.677
41)	2-Methylnaphthalene	15.67	1880	142	5481165	20.00	ng/ul	999	0.724
42)	Hexachlorocyclopentadiene	16.06	1927	237	2447793	20.00	ng/ul	993	0.499
43)	2,4,6-Trichlorophenol	16.37	1964	196	2471032	20.00	ng/ul	995	0.503
44)	2,4,5-Trichlorophenol	16.46	1975	196	2547612	20.00	ng/ul	996	0.519
45)	2-Chloronapthalene	16.97	2036	162	6778756	20.00	ng/ul	998	1.380
46)	2-Nitroaniline	17.18	2062	138	2429989	20.00	ng/ul	996	0.495
47)	Dimethyl Phthalate	17.58	2110	163	9949523	20.00	ng/ul	999	2.026
48)	2,6-Dinitrotoluene	17.75	2130	165	2012895	20.00	ng/ul	993	0.410
49)	Acenaphthylene	17.99	2159	152	8634921	20.00	ng/ul	997	1.758
50)	3-Nitroaniline	18.13	2176	138	2040386	20.00	ng/ul	996	0.416
51)	Acenaphthene	18.36	2203	152	9708360	20.00	ng/ul	994	1.977
52)	2,4-Dinitrophenol	18.34	2201	184	843191	20.00	ng/ul	994	0.172
53)	4-Nitrophenol	18.40	2208	65	1116731	20.00	ng/ul	961	0.228
54)	Dibenzofuran	18.71	2245	168	8739052	20.00	ng/ul	998	1.779
55)	2,4-Dinitrotoluene	18.61	2233	165	2853860	20.00	ng/ul	996	0.581
56)	Benzo(b)Fluoranthene	29.17	3501	252	8775108	20.00	ng/ul	970	1.189
57)	Diethyl Phthalate	19.04	2285	149	10995813	20.00	ng/ul	997	2.239
58)	Fluorene	19.36	2323	166	6646894	20.00	ng/ul	982	1.353
59)	4-Chlorophenyl Phenyl Ether	19.32	2318	204	4193658	20.00	ng/ul	991	0.854
60)	4-Nitroaniline	19.34	2321	108	4368959	20.00	ng/ul	954	0.890

* Compound is ISTD

Operator ID: DMC
Output File: 20IC0515.1B2
Data File: 20IC0515.MS
Name: 20IC0515
Sample:

Quant Time: 05/16/02 12:38
Injected at: 05/15/02 12:53
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.38	2326	198	1730965	20.00	ng/ul	889	0.235
62)	N-Nitrosodiphenylamine	19.51	2341	169	4334402	20.00	ng/ul	998	0.587
63)	1,2-Diphenylhydrazine	19.60	2352	77	7984925	20.00	ng/ul	993	1.081
64)	4-Bromophenyl Phenyl Ether	20.16	2419	248	3041692	20.00	ng/ul	997	0.412
65)	Hexachlorobenzene	20.29	2435	284	2096360	20.00	ng/ul	994	0.284
66)	Pentachlorophenol	20.58	2470	266	1815117	20.00	ng/ul	994	0.246
67)	Phenanthrene	20.95	2514	178	9589670	20.00	ng/ul	999	1.298
68)	Anthracene	21.03	2524	178	9965109	20.00	ng/ul	994	1.348
69)	Carbazole	21.22	2547	167	8663548	20.00	ng/ul	989	1.172
70)	Di-n-Butyl Phthalate	21.57	2588	149	11441842	20.00	ng/ul	991	1.548
71)	Fluoranthene	22.71	2725	202	8697303	20.00	ng/ul	985	1.177
72)	Benzidine	22.80	2736	184	9791935	40.00	ng/ul	979	0.981
73)	Pyrene	23.10	2772	202	9288958	20.00	ng/ul	958	1.862
74)	Butyl Benzyl Phthalate	23.93	2872	149	6694601	20.00	ng/ul	961	1.342
75)	3,3'-Dichlorobenzidine	25.31	3037	252	5293168	20.00	ng/ul	962	1.061
76)	Bis(2-Ethylhexyl)Phthalate	25.06	3007	149	10621396	20.00	ng/ul	955	2.129
77)	Benzo(a)Anthracene	25.55	3066	228	9717135	20.00	ng/ul	972	1.947
78)	Chrysene	25.66	3079	228	8756869	20.00	ng/ul	931	1.755
79)	Di-n-Octylphthalate	26.96	3235	149	17292412	20.00	ng/ul	961	3.465
80)	Benzo(k)Fluoranthene	29.30	3516	252	9958178	20.03	ng/ul	985	1.347
81)	Benzo(a)Pyrene	30.71	3685	252	8840494	20.00	ng/ul	902	1.198
82)	Indeno(1,2,3-cd)Pyrene	37.45	4494	276	14216939	20.00	ng/ul	938	2.849
83)	Dibenzo(a,h)Anthracene	37.51	4501	278	8073451	20.00	ng/ul	941	1.094
84)	Benzo(g,h,i)Perylene	39.47	4736	276	10439313	20.00	ng/ul	874	1.415
85)	N-Nitrosodimethylamine	5.01	601	73	671618	20.02	ng/ul	996	0.270
86)	2,3,4,6-tetrachlorophenol	18.91	2269	232	2292245	20.00	ng/ul	994	0.467
87)	2-Chloroaniline	12.68	1522	127	5794823	20.00	ng/ul	998	0.765
88)	2,4-Diaminotoluene	16.81	2017	121	2169399	20.00	ng/ul	998	0.442
89)	2,3-Dinitrotoluene	18.52	2223	165	3092433	20.00	ng/ul	997	0.630
90)	1-Naphthylamine	18.85	2262	143	5777520	20.00	ng/ul	996	1.176

* Compound is ISTD

Operator ID: DMC
Output File: 20IC0515.1B2
Data File: 20IC0515.MS
Name: 20IC0515
Sample:

Quant Time: 05/16/02 12:38
Injected at: 05/15/02 12:53
Dilution Factor: 1.00
Instrument ID: 138

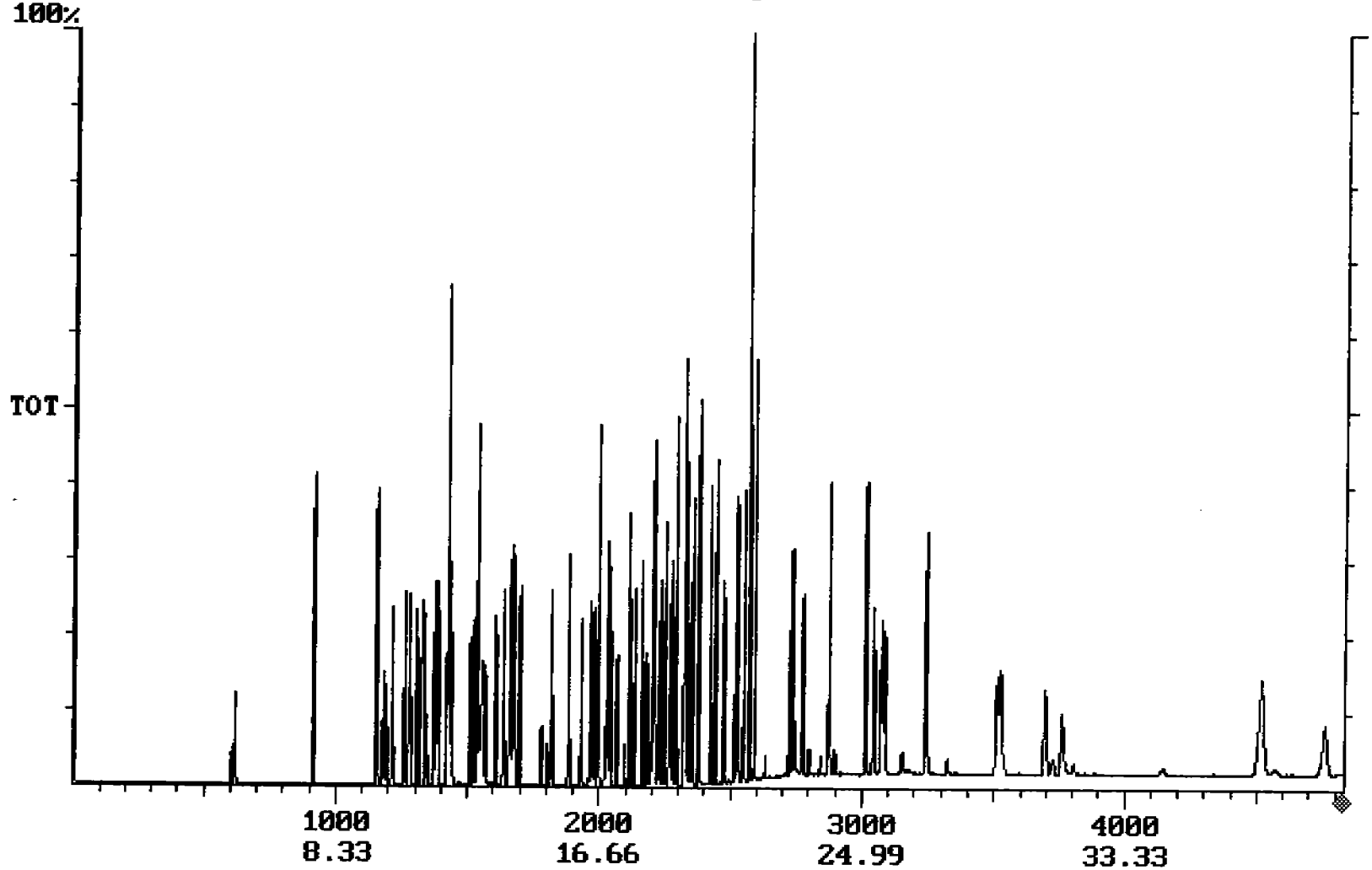
ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.33	2320	152	2750890	20.00	ng/ul	979	0.560
92)	Benzaldehyde	9.59	1151	105	1007503	20.00	ug\L	789	0.406
93)	Acetophenone	11.54	1385	105	7585699	20.00	ug\L	996	1.002
94)	Caprolactum	14.81	1777	85	1020643	20.00	ug\L	991	0.135
95)	Biphenyl	16.88	2026	154	7731448	20.00	ug\L	996	1.574
96)	Atrazine	20.34	2441	200	1394244	20.00	ug\L	966	0.189

* Compound is ISTD

Chromatogram Plot C:\SATURN\DATA\25IC0515 Date: 05/15/02 13:41:14
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4824 Range: 1 to 4824 100% = 16896628



001034

Operator ID: DMC
Output File: 25IC0515.1B2
Data File: 25IC0515.MS
Name: 25IC0515
Sample:

Quant Time: 05/16/02 12:40
Injected at: 05/15/02 13:41
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.62	1275	152	653132	5.00	ng/ul	997	1.000
2)	*IS:D8-Naphthalene	13.82	1659	136	2004930	5.00	ng/ul	998	1.000
3)	*IS:D10-Acenaphthene	18.31	2197	162	1198626	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.94	2513	188	1950696	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.65	3078	240	1230234	5.00	ng/ul	800	1.000
6)	*IS:D12-Perylene	31.05	3726	264	1855992	5.00	ng/ul	890	1.000
7)	ACSUR:2-Fluorophenol	7.63	916	112	11820171	50.00	ng/ul	998	1.810
8)	ACSUR:D6-Phenol	9.60	1152	99	14483456	50.00	ng/ul	937	2.218
9)	ACSUR:2,4,6-Tribromophenol	19.80	2376	330	5491578	50.00	ng/ul	998	0.459
10)	BNSUR:D5-Nitrobenzene	11.96	1435	127	3655614	50.00	ng/ul	985	0.183
11)	BNSUR:Decafluorobiphenyl	11.86	1423	334	16411760	50.00	ng/ul	990	0.819
12)	BNSUR:2-Fluorobiphenyl	16.62	1995	172	16384894	50.00	ng/ul	997	1.367
13)	BNSUR:O-Terphenyl	21.42	2570	230	15744271	50.00	ng/ul	992	1.280
14)	Pyridine	5.12	615	79	3545735	25.00	ng/ul	988	1.086
15)	Phenol	9.62	1155	94	6571238	25.00	ng/ul	849	2.013
16)	Aniline	9.82	1179	93	6731613	25.00	ng/ul	998	2.062
17)	Bis(2-Chloroethyl)Ether	9.92	1191	92	3008390	25.00	ng/ul	990	0.922
18)	2-Chlorophenol	10.11	1213	128	6108735	25.00	ng/ul	998	1.871
19)	1,3-Dichlorobenzene	10.50	1260	146	5464612	25.00	ng/ul	998	1.674
20)	1,4-Dichlorobenzene	10.67	1280	146	5307068	25.00	ng/ul	995	1.626
21)	Benzyl Alcohol	10.88	1306	108	2258325	25.00	ng/ul	997	0.692
22)	1,2-Dichlorobenzene	11.04	1325	146	4791498	25.00	ng/ul	997	1.468
23)	2-Methylphenol	11.08	1330	108	5492737	25.00	ng/ul	987	1.682
24)	Bis(2-Chloroisopropyl)Ether	11.20	1344	45	3239538	25.00	ng/ul	983	0.993
25)	4-Methylphenol	11.45	1374	108	4746520	25.00	ng/ul	998	1.454
26)	N-Nitrosodi-N-Propylamine	11.52	1383	70	2588682	25.00	ng/ul	979	0.793
27)	Hexachloroethane	11.89	1427	119	2238948	25.00	ng/ul	997	0.686
28)	Nitrobenzene	12.01	1441	77	5369602	25.00	ng/ul	976	0.536
29)	Isophorone	12.59	1511	82	8629546	25.00	ng/ul	988	0.861
30)	2-Nitrophenol	12.81	1537	109	2764527	25.00	ng/ul	976	0.276

* Compound is ISTD

Operator ID: DMC
Output File: 25IC0515.1B2
Data File: 25IC0515.MS
Name: 25IC0515
Sample:

Quant Time: 05/16/02 12:40
Injected at: 05/15/02 13:41
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.82	1538	107	6334884	25.00	ng/ul	976	0.632
32)	Benzoic Acid	12.99	1559	105	11097633	50.00	ng/ul	997	0.554
33)	Bis(2-Chloroethoxy)Methane	13.08	1570	92	4978168	25.00	ng/ul	985	0.497
34)	2,4-Dichlorophenol	13.40	1608	162	3811617	25.00	ng/ul	999	0.381
35)	1,2,4-Trichlorobenzene	13.65	1638	180	4205252	25.00	ng/ul	998	0.420
36)	Naphthalene	13.88	1666	128	15205138	25.00	ng/ul	996	1.517
37)	4-Chloroaniline	13.97	1676	127	10268756	25.00	ng/ul	981	1.025
38)	2,6-Dichlorophenol	13.99	1679	162	2905831	25.00	ng/ul	981	0.290
39)	Hexachlorobutadiene	14.16	1699	225	3167374	25.00	ng/ul	994	0.316
40)	4-Chloro-3-Methylphenol	15.14	1817	107	6665238	25.00	ng/ul	990	0.665
41)	2-Methylnaphthalene	15.69	1883	142	7147597	25.00	ng/ul	999	0.714
42)	Hexachlorocyclopentadiene	16.08	1930	237	3246436	25.00	ng/ul	992	0.542
43)	2,4,6-Trichlorophenol	16.39	1967	196	3132034	25.00	ng/ul	996	0.523
44)	2,4,5-Trichlorophenol	16.48	1978	196	3324034	25.00	ng/ul	997	0.555
45)	2-Chloronapthalene	17.00	2040	162	8511636	25.00	ng/ul	997	1.421
46)	2-Nitroaniline	17.22	2066	138	3160334	25.00	ng/ul	996	0.528
47)	Dimethyl Phthalate	17.61	2113	163	12830398	25.00	ng/ul	1000	2.141
48)	2,6-Dinitrotoluene	17.77	2132	165	2473401	25.00	ng/ul	991	0.413
49)	Acenaphthylene	18.02	2162	152	11522712	25.00	ng/ul	999	1.923
50)	3-Nitroaniline	18.16	2179	138	2666938	25.00	ng/ul	995	0.445
51)	Acenaphthene	18.37	2205	152	12960285	25.00	ng/ul	988	2.163
52)	2,4-Dinitrophenol	18.37	2204	184	983902	25.00	ng/ul	988	0.165
53)	4-Nitrophenol	18.42	2211	65	1414330	25.00	ng/ul	964	0.236
54)	Dibenzofuran	18.73	2248	168	11173874	25.00	ng/ul	999	1.865
55)	2,4-Dinitrotoluene	18.63	2236	165	3925409	25.00	ng/ul	996	0.655
56)	Benzo(b)Fluoranthene	29.27	3513	252	11734451	25.00	ng/ul	966	1.265
57)	Diethyl Phthalate	19.07	2288	149	14371405	25.00	ng/ul	984	2.398
58)	Fluorene	19.38	2326	166	9252997	25.00	ng/ul	978	1.544
59)	4-Chlorophenyl Phenyl Ether	19.34	2321	204	5141484	25.00	ng/ul	991	0.858
60)	4-Nitroaniline	19.36	2324	108	5356578	25.00	ng/ul	938	0.894

* Compound is ISTD

Operator ID: DMC
Output File: 25IC0515.1B2
Data File: 25IC0515.MS
Name: 25IC0515
Sample:

Quant Time: 05/16/02 12:40
Injected at: 05/15/02 13:41
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.42	2330	198	1908532	25.00	ng/ul	903	0.196
62)	N-Nitrosodiphenylamine	19.53	2344	169	5472214	25.00	ng/ul	995	0.562
63)	1,2-Diphenylhydrazine	19.62	2355	77	9843640	25.00	ng/ul	996	1.010
64)	4-Bromophenyl Phenyl Ether	20.18	2422	248	3754094	25.00	ng/ul	997	0.385
65)	Hexachlorobenzene	20.32	2439	284	2685683	25.00	ng/ul	992	0.276
66)	Pentachlorophenol	20.61	2473	266	2450168	25.00	ng/ul	990	0.252
67)	Phenanthrene	20.97	2517	178	12416009	25.00	ng/ul	998	1.273
68)	Anthracene	21.06	2527	178	13259131	25.00	ng/ul	995	1.360
69)	Carbazole	21.25	2550	167	12189596	25.00	ng/ul	995	1.250
70)	Di-n-Butyl Phthalate	21.59	2591	149	12932599	25.00	ng/ul	992	1.326
71)	Fluoranthene	22.73	2728	202	11558645	25.00	ng/ul	989	1.186
72)	Benzidine	22.83	2740	184	12743102	50.00	ng/ul	979	1.036
73)	Pyrene	23.13	2776	202	11865058	25.00	ng/ul	963	1.929
74)	Butyl Benzyl Phthalate	23.97	2877	149	7991512	25.00	ng/ul	936	1.300
75)	3,3'-Dichlorobenzidine	25.36	3043	252	6789409	25.00	ng/ul	941	1.104
76)	Bis(2-Ethylhexyl)Phthalate	25.11	3013	149	13135929	25.00	ng/ul	956	2.136
77)	Benzo(a)Anthracene	25.60	3072	228	12988483	25.00	ng/ul	974	2.112
78)	Chrysene	25.71	3085	228	11512052	25.00	ng/ul	950	1.872
79)	Di-n-Octylphthalate	27.02	3242	149	22653043	25.00	ng/ul	961	3.683
80)	Benzo(k)Fluoranthene	29.38	3526	252	12804897	25.00	ng/ul	973	1.380
81)	Benzo(a)Pyrene	30.80	3696	252	11837155	25.00	ng/ul	918	1.276
82)	Indeno(1,2,3-cd)Pyrene	37.62	4515	276	19446470	25.00	ng/ul	936	3.162
83)	Dibenzo(a,h)Anthracene	37.67	4520	278	10537462	25.00	ng/ul	890	1.136
84)	Benzo(g,h,i)Perylene	39.67	4761	276	14035266	25.00	ng/ul	927	1.513
85)	N-Nitrosodimethylamine	5.02	602	73	826132	25.00	ng/ul	997	0.253
86)	2,3,4,6-tetrachlorophenol	18.93	2272	232	3015718	25.00	ng/ul	996	0.504
87)	2-Chloroaniline	12.71	1525	127	7444193	25.00	ng/ul	998	0.743
88)	2,4-Diaminotoluene	16.84	2021	121	2964147	25.00	ng/ul	998	0.495
89)	2,3-Dinitrotoluene	18.55	2226	165	3853579	25.00	ng/ul	997	0.643
90)	1-Naphthylamine	18.88	2265	143	7654656	25.00	ng/ul	998	1.278

* Compound is ISTD

Operator ID: DMC
Output File: 25IC0515.1B2
Data File: 25IC0515.MS
Name: 25IC0515
Sample:

Quant Time: 05/16/02 12:40
Injected at: 05/15/02 13:41
Dilution Factor: 1.00
Instrument ID: 138

ID File: ICC0515.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/15/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.36	2324	152	3811178	25.00	ng/ul	966	0.636
92)	Benzaldehyde	9.59	1151	105	1275456	25.00	ug\L	756	0.391
93)	Acetophenone	11.56	1387	105	9609334	25.00	ug\L	997	0.959
94)	Caprolactum	14.84	1781	85	1276143	25.00	ug\L	989	0.128
95)	Biphenyl	16.91	2029	154	9907748	25.00	ug\L	995	1.654
96)	Atrazine	20.36	2443	200	1557255	25.00	ug\L	972	0.160

* Compound is ISTD

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 138

Calibration File: ICC0515 Calibration Date: 05/15/02

Standard File: 10C0521B Date: 05/21/02

Time: 20:39

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
ACSUR:2-Fluorophenol	1.574	1.552	1.36		
ACSUR:D6-Phenol	1.904	1.863	2.15		
ACSUR:2,4,6-Tribromophenol	0.363	0.383	-5.62		
BNSUR:D5-Nitrobenzene	0.166	0.166	0.36		
BNSUR:Decafluorobiphenyl	0.730	0.681	6.71		
BNSUR:2-Fluorobiphenyl	1.178	1.211	-2.84		
BNSUR:O-Terphenyl	0.889	0.899	-1.22		
Pyridine	1.031	1.067	-3.54		
Phenol	1.701	1.701	-0.02	PASS	
Aniline	1.851	1.617	12.66		
Bis(2-Chloroethyl)Ether	0.862	0.820	4.84		
2-Chlorophenol	1.685	1.621	3.76		
1,3-Dichlorobenzene	1.538	1.562	-1.59		
1,4-Dichlorobenzene	1.533	1.539	-0.38	PASS	
Benzyl Alcohol	0.646	0.596	7.78		
1,2-Dichlorobenzene	1.426	1.462	-2.51		
2-Methylphenol	1.403	1.258	10.39		
Bis(2-Chloroisopropyl)Ether	1.040	0.996	4.25		
4-Methylphenol	1.305	1.278	2.08		
N-Nitrosodi-N-Propylamine	0.785	0.810	-3.19		PASS
Hexachloroethane	0.644	0.611	5.09		
Nitrobenzene	0.547	0.559	-2.20		
Isophorone	0.791	0.791	0.09		
2-Nitrophenol	0.315	0.332	-5.42	PASS	
2,4-Dimethylphenol	0.602	0.580	3.65		
Benzoic Acid	0.461	0.423	8.26		
Bis(2-Chloroethoxy)Methane	0.472	0.462	2.29		
2,4-Dichlorophenol	0.350	0.349	0.13	PASS	
1,2,4-Trichlorobenzene	0.384	0.387	-0.70		
Naphthalene	1.389	1.375	1.02		

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX

Contract No.

Instrument ID: 138

Calibration File: ICC0515

Calibration Date: 05/15/02

Standard File: 10C0521B

Date: 05/21/02

Time: 20:39

Minimum RF for SPCC is 0.0500

Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
4-Chloroaniline	0.768	0.655	14.73		
2,6-Dichlorophenol	0.325	0.317	2.27		
Hexachlorobutadiene	0.281	0.283	-0.57	PASS	
4-Chloro-3-Methylphenol	0.594	0.576	2.93	PASS	
2-Methylnaphthalene	0.646	0.627	3.00		
Hexachlorocyclopentadiene	0.442	0.447	-1.32		PASS
2,4,6-Trichlorophenol	0.452	0.475	-5.04	PASS	
2,4,5-Trichlorophenol	0.489	0.494	-1.13		
2-Chloronapthalene	1.258	1.256	0.15		
2-Nitroaniline	0.446	0.456	-2.21		
Dimethyl Phthalate	1.884	1.886	-0.14		
2,6-Dinitrotoluene	0.370	0.379	-2.44		
Acenaphthylene	1.644	1.669	-1.52		
3-Nitroaniline	0.366	0.348	5.09		
Acenaphthene	1.746	1.796	-2.85	PASS	
2,4-Dinitrophenol	0.201	0.232	-15.60		PASS
4-Nitrophenol	0.222	0.254	-14.75		PASS
Dibenzofuran	1.693	1.732	-2.32		
2,4-Dinitrotoluene	0.578	0.590	-2.15		
Benzo(b)Fluoranthene	1.126	1.142	-1.41		
Diethyl Phthalate	2.124	2.152	-1.32		
Fluorene	1.184	1.229	-3.81		
4-Chlorophenyl Phenyl Ether	0.773	0.780	-0.91		
4-Nitroaniline	0.861	0.902	-4.76		
4,6-Dinitro-2-Methylphenol	0.215	0.244	-13.55		
N-Nitrosodiphenylamine	0.494	0.475	3.90	PASS	
1,2-Diphenylhydrazine	1.111	1.097	1.23		
4-Bromophenyl Phenyl Ether	0.366	0.370	-0.95		
Hexachlorobenzene	0.276	0.269	2.35		
Pentachlorophenol	0.224	0.219	2.14	PASS	

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX

Contract No.

Instrument ID: 138

Calibration File: ICC0515

Calibration Date: 05/15/02

Standard File: 10C0521B

Date: 05/21/02

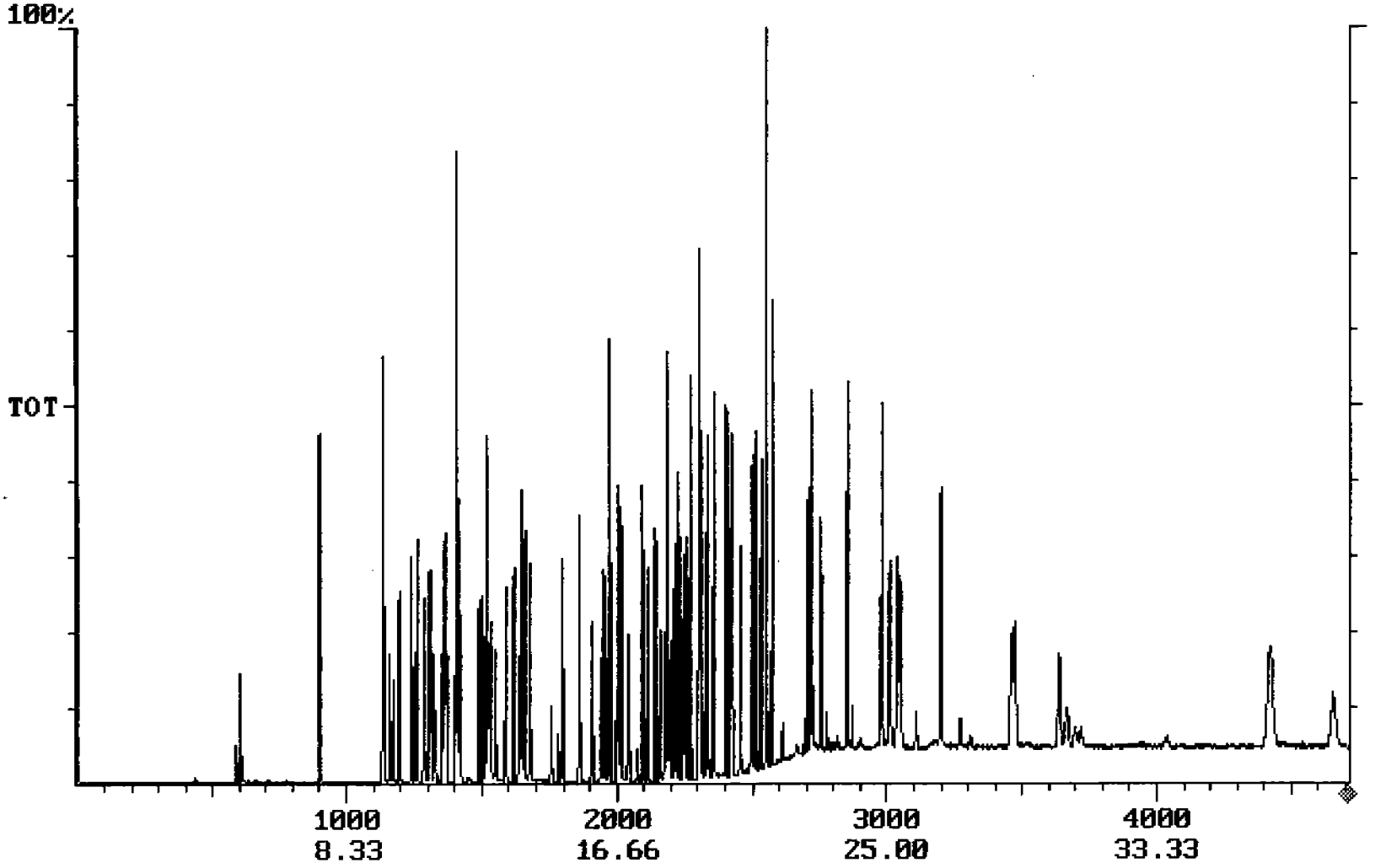
Time: 20:39

Minimum RF for SPCC is 0.0500

Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Phenanthrene	1.126	1.052	6.55		
Anthracene	1.171	1.098	6.19		
Carbazole	1.065	1.115	-4.74		
Di-n-Butyl Phthalate	1.622	1.616	0.38		
Fluoranthene	1.074	1.079	-0.44	PASS	
Benzidine	0.875	1.027	-17.44		
Pyrene	1.457	1.432	1.71		
Butyl Benzyl Phthalate	1.194	1.150	3.70		
3,3'-Dichlorobenzidine	0.814	0.806	0.95		
Bis(2-Ethylhexyl)Phthalate	1.862	1.809	2.82		
Benzo(a)Anthracene	1.591	1.535	3.55		
Chrysene	1.599	1.378	13.83		
Di-n-Octylphthalate	3.018	2.951	2.21	PASS	
Benzo(k)Fluoranthene	1.252	1.258	-0.48		
Benzo(a)Pyrene	1.074	1.123	-4.53	PASS	
Indeno(1,2,3-cd)Pyrene	2.146	2.091	2.59		
Dibenzo(a,h)Anthracene	1.017	1.043	-2.62		
Benzo(g,h,i)Perylene	1.280	1.298	-1.36		
N-Nitrosodimethylamine	0.304	0.319	-5.06		
2,3,4,6-tetrachlorophenol	0.421	0.416	1.10		
2-Chloroaniline	0.636	0.585	8.05		
2,4-Diaminotoluene	0.452	0.435	3.84		
2,3-Dinitrotoluene	0.576	0.568	1.38		
1-Naphthylamine	0.962	0.840	12.67		
5-Nitro-o-toluidine	0.507	0.511	-0.69		
Benzaldehyde	1.394	1.521	-9.13		
Acetophenone	0.916	0.892	2.62		
Caprolactum	0.137	0.130	4.56		
Biphenyl	1.453	1.463	-0.66		
Atrazine	0.270	0.226	16.35		

Chromatogram Plot C:\SATURN\DATA\10C0521B Date: 05/21/02 20:39:42
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 7837498



Operator ID: DMC
Output File: 10C0521B.1B2
Data File: 10C0521B.MS
Name: 10C0521B
Sample:

Quant Time: 05/22/02 06:32
Injected at: 05/21/02 20:39
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.46	1255	152	834343	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	2664960	5.00	ng/ul	998	1.000
3)	*IS:D10-Acenaphthene	18.15	2178	162	1570603	5.00	ng/ul	995	1.000
4)	*IS:D10-Phenanthrene	20.79	2495	188	2517957	5.00	ng/ul	995	1.000
5)	*IS:D12-Chrysene	25.36	3043	240	1915509	5.00	ng/ul	925	1.000
6)	*IS:D12-Perylene	30.54	3665	264	2332810	5.00	ng/ul	879	1.000
7)	ACSUR:2-Fluorophenol	7.51	901	112	5180499	19.73	ng/ul	998	1.574
8)	ACSUR:D6-Phenol	9.46	1135	99	6216442	19.57	ng/ul	992	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.65	2358	330	2409230	22.48	ng/ul	997	0.342
10)	BNSUR:D5-Nitrobenzene	11.79	1415	127	1766137	19.93	ng/ul	997	0.167
11)	BNSUR:Decafluorobiphenyl	11.70	1404	334	7262711	18.66	ng/ul	996	0.731
12)	BNSUR:2-Fluorobiphenyl	16.43	1972	172	7608234	20.57	ng/ul	999	1.178
13)	BNSUR:O-Terphenyl	21.27	2552	230	6891137	21.67	ng/ul	994	0.831
14)	Pyridine	5.02	602	79	1781083	10.35	ng/ul	992	1.031
15)	Phenol	9.49	1139	94	2838411	10.00	ng/ul	985	1.701
16)	Aniline	9.67	1160	93	2698340	8.73	ng/ul	994	1.852
17)	Bis(2-Chloroethyl)Ether	9.77	1173	92	1368690	9.52	ng/ul	994	0.862
18)	2-Chlorophenol	9.96	1195	128	2705415	9.62	ng/ul	998	1.685
19)	1,3-Dichlorobenzene	10.34	1241	146	2606450	10.16	ng/ul	1000	1.538
20)	1,4-Dichlorobenzene	10.51	1261	146	2567420	10.04	ng/ul	1000	1.533
21)	Benzyl Alcohol	10.72	1287	108	994492	9.22	ng/ul	996	0.647
22)	1,2-Dichlorobenzene	10.87	1305	146	2439176	10.25	ng/ul	997	1.426
23)	2-Methylphenol	10.94	1313	108	2098549	9.35	ng/ul	991	1.345
24)	Bis(2-Chloroisopropyl)Ether	11.04	1325	45	1661891	9.58	ng/ul	986	1.041
25)	4-Methylphenol	11.29	1355	108	2133099	9.79	ng/ul	998	1.306
26)	N-Nitrosodi-N-Propylamine	11.36	1363	70	1351966	10.32	ng/ul	994	0.786
27)	Hexachloroethane	11.72	1407	119	1020225	9.49	ng/ul	993	0.645
28)	Nitrobenzene	11.84	1421	77	2979297	10.22	ng/ul	988	0.547
29)	Isophorone	12.41	1490	82	4213444	9.99	ng/ul	997	0.792
30)	2-Nitrophenol	12.64	1517	109	1770932	11.55	ng/ul	993	0.288

* Compound is ISTD

Operator ID: DMC
Output File: 10C0521B.1B2
Data File: 10C0521B.MS
Name: 10C0521B
Sample:

Quant Time: 05/22/02 06:32
Injected at: 05/21/02 20:39
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.65	1518	107	3091632	9.63	ng/ul	990	0.603
32)	Benzoic Acid	12.77	1532	105	4506779	18.14	ng/ul	999	0.467
33)	Bis(2-Chloroethoxy)Methane	12.92	1550	92	2460455	9.77	ng/ul	990	0.473
34)	2,4-Dichlorophenol	13.23	1588	162	1860907	9.99	ng/ul	997	0.350
35)	1,2,4-Trichlorobenzene	13.48	1617	180	2062759	10.07	ng/ul	995	0.385
36)	Naphthalene	13.70	1644	128	7330583	9.90	ng/ul	999	1.390
37)	4-Chloroaniline	13.79	1655	127	3491554	9.16	ng/ul	997	0.716
38)	2,6-Dichlorophenol	13.82	1658	162	1690489	9.77	ng/ul	985	0.325
39)	Hexachlorobutadiene	13.97	1677	225	1508677	10.06	ng/ul	992	0.282
40)	4-Chloro-3-Methylphenol	14.97	1797	107	3071822	9.71	ng/ul	996	0.594
41)	2-Methylnaphthalene	15.50	1860	142	3340103	9.70	ng/ul	998	0.647
42)	Hexachlorocyclopentadiene	15.89	1907	237	1405373	10.46	ng/ul	995	0.428
43)	2,4,6-Trichlorophenol	16.21	1945	196	1491581	10.50	ng/ul	998	0.453
44)	2,4,5-Trichlorophenol	16.30	1956	196	1551870	10.11	ng/ul	996	0.489
45)	2-Chloronapthalene	16.80	2016	162	3945044	9.99	ng/ul	998	1.258
46)	2-Nitroaniline	17.02	2043	138	1432495	10.22	ng/ul	997	0.447
47)	Dimethyl Phthalate	17.43	2092	163	5924841	10.01	ng/ul	999	1.884
48)	2,6-Dinitrotoluene	17.60	2112	165	1191429	10.24	ng/ul	993	0.371
49)	Acenaphthylene	17.84	2141	152	5241530	10.15	ng/ul	998	1.644
50)	3-Nitroaniline	17.99	2159	138	1091677	9.49	ng/ul	997	0.367
51)	Acenaphthene	18.22	2186	152	5642209	10.80	ng/ul	995	1.664
52)	2,4-Dinitrophenol	18.22	2186	184	728758	11.81	ng/ul	997	0.197
53)	4-Nitrophenol	18.28	2194	65	798703	11.47	ng/ul	994	0.222
54)	Dibenzofuran	18.57	2228	168	5440165	10.23	ng/ul	999	1.693
55)	2,4-Dinitrotoluene	18.48	2218	165	1853585	10.21	ng/ul	997	0.578
56)	Benzo(b)Fluoranthene	28.83	3460	252	5327605	10.14	ng/ul	967	1.127
57)	Diethyl Phthalate	18.92	2270	149	6758978	10.13	ng/ul	997	2.124
58)	Fluorene	19.22	2307	166	3861000	11.03	ng/ul	990	1.115
59)	4-Chlorophenyl Phenyl Ether	19.19	2303	204	2449050	10.09	ng/ul	987	0.773
60)	4-Nitroaniline	19.22	2306	108	2834092	10.48	ng/ul	994	0.862

* Compound is ISTD

Operator ID: DMC
Output File: 10C0521B.1B2
Data File: 10C0521B.MS
Name: 10C0521B
Sample:

Quant Time: 05/22/02 06:32
Injected at: 05/21/02 20:39
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.26	2311	198	1228192	11.35	ng/ul	964	0.215
62)	N-Nitrosodiphenylamine	19.39	2327	169	2392640	9.61	ng/ul	996	0.495
63)	1,2-Diphenylhydrazine	19.48	2337	77	5526854	9.88	ng/ul	987	1.112
64)	4-Bromophenyl Phenyl Ether	20.03	2404	248	1862056	10.10	ng/ul	997	0.367
65)	Hexachlorobenzene	20.17	2421	284	1355130	9.77	ng/ul	991	0.276
66)	Pentachlorophenol	20.47	2456	266	1103435	9.79	ng/ul	994	0.224
67)	Phenanthrene	20.83	2500	178	5299015	9.35	ng/ul	992	1.126
68)	Anthracene	20.91	2509	178	5531808	9.38	ng/ul	999	1.171
69)	Carbazole	21.11	2533	167	5617412	10.47	ng/ul	987	1.065
70)	Di-n-Butyl Phthalate	21.45	2574	149	8139601	11.38	ng/ul	982	1.421
71)	Fluoranthene	22.56	2707	202	5431428	10.04	ng/ul	985	1.074
72)	Benzidine	22.66	2719	184	7870637	23.49	ng/ul	978	0.875
73)	Pyrene	22.94	2753	202	5487830	10.26	ng/ul	978	1.397
74)	Butyl Benzyl Phthalate	23.76	2851	149	4404010	9.63	ng/ul	886	1.194
75)	3,3'-Dichlorobenzidine	25.09	3011	252	3089356	10.34	ng/ul	853	0.780
76)	Bis(2-Ethylhexyl)Phthalate	24.83	2980	149	6932319	10.21	ng/ul	912	1.773
77)	Benzo(a)Anthracene	25.32	3038	228	5879495	10.04	ng/ul	947	1.529
78)	Chrysene	25.42	3050	228	5272499	9.74	ng/ul	947	1.414
79)	Di-n-Octylphthalate	26.67	3200	149	11305379	10.31	ng/ul	963	2.863
80)	Benzo(k)Fluoranthene	28.92	3471	252	5868544	10.05	ng/ul	967	1.252
81)	Benzo(a)Pyrene	30.31	3637	252	5239601	10.45	ng/ul	947	1.075
82)	Indeno(1,2,3-cd)Pyrene	36.82	4418	276	8009566	10.33	ng/ul	922	2.024
83)	Dibenzo(a,h)Anthracene	36.87	4424	278	4867218	10.26	ng/ul	940	1.017
84)	Benzo(g,h,i)Perylene	38.79	4655	276	6053683	10.14	ng/ul	942	1.281
85)	N-Nitrosodimethylamine	4.90	588	73	533196	11.11	ng/ul	986	0.288
86)	2,3,4,6-tetrachlorophenol	18.78	2254	232	1307854	9.89	ng/ul	990	0.421
87)	2-Chloroaniline	12.53	1504	127	3119117	9.52	ng/ul	998	0.615
88)	2,4-Diaminotoluene	16.66	1999	121	1364527	9.60	ng/ul	999	0.453
89)	2,3-Dinitrotoluene	18.39	2207	165	1783407	9.86	ng/ul	997	0.576
90)	1-Naphthylamine	18.71	2246	143	2638969	9.25	ng/ul	999	0.909

* Compound is ISTD

Operator ID: DMC
Output File: 10C0521B.1B2
Data File: 10C0521B.MS
Name: 10C0521B
Sample:

Quant Time: 05/22/02 06:32
Injected at: 05/21/02 20:39
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.21	2305	152	1604554	10.40	ng/ul	935	0.491

* Compound is ISTD

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX

Contract No.

Instrument ID: 138

Calibration File: ICC0515

Calibration Date: 05/15/02

Standard File: 10C0522A

Date: 05/22/02

Time: 09:28

Minimum RF for SPCC is 0.0500

Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
ACSUR:2-Fluorophenol	1.574	1.597	-1.46		
ACSUR:D6-Phenol	1.904	2.025	-6.37		
ACSUR:2,4,6-Tribromophenol	0.363	0.369	-1.60		
BNSUR:D5-Nitrobenzene	0.166	0.180	-8.28		
BNSUR:Decafluorobiphenyl	0.730	0.709	2.96		
BNSUR:2-Fluorobiphenyl	1.178	1.270	-7.84		
BNSUR:O-Terphenyl	0.889	0.911	-2.53		
Pyridine	1.031	1.114	-8.04		
Phenol	1.701	1.726	-1.50	PASS	
Aniline	1.851	1.771	4.35		
Bis(2-Chloroethyl)Ether	0.862	0.890	-3.24		
2-Chlorophenol	1.685	1.718	-2.00		
1,3-Dichlorobenzene	1.538	1.602	-4.16		
1,4-Dichlorobenzene	1.533	1.578	-2.97	PASS	
Benzyl Alcohol	0.646	0.667	-3.26		
1,2-Dichlorobenzene	1.426	1.480	-3.80		
2-Methylphenol	1.403	1.263	10.01		
Bis(2-Chloroisopropyl)Ether	1.040	1.022	1.72		
4-Methylphenol	1.305	1.339	-2.54		
N-Nitrosodi-N-Propylamine	0.785	0.756	3.69		PASS
Hexachloroethane	0.644	0.596	7.50		
Nitrobenzene	0.547	0.538	1.71		
Isophorone	0.791	0.830	-4.91		
2-Nitrophenol	0.315	0.355	-12.52	PASS	
2,4-Dimethylphenol	0.602	0.607	-0.84		
Benzoic Acid	0.461	0.467	-1.42		
Bis(2-Chloroethoxy)Methane	0.472	0.483	-2.29		
2,4-Dichlorophenol	0.350	0.371	-6.00	PASS	
1,2,4-Trichlorobenzene	0.384	0.406	-5.59		
Naphthalene	1.389	1.426	-2.61		

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 138

Calibration File: ICC0515 Calibration Date: 05/15/02

Standard File: 10C0522A Date: 05/22/02

Time: 09:28

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
4-Chloroaniline	0.768	0.749	2.45		
2,6-Dichlorophenol	0.325	0.333	-2.55		
Hexachlorobutadiene	0.281	0.295	-4.86	PASS	
4-Chloro-3-Methylphenol	0.594	0.595	-0.16	PASS	
2-Methylnaphthalene	0.646	0.656	-1.52		
Hexachlorocyclopentadiene	0.442	0.451	-2.22		PASS
2,4,6-Trichlorophenol	0.452	0.472	-4.43	PASS	
2,4,5-Trichlorophenol	0.489	0.500	-2.37		
2-Chloronapthalene	1.258	1.281	-1.88		
2-Nitroaniline	0.446	0.444	0.50		
Dimethyl Phthalate	1.884	1.951	-3.60		
2,6-Dinitrotoluene	0.370	0.378	-2.07		
Acenaphthylene	1.644	1.756	-6.82		
3-Nitroaniline	0.366	0.374	-2.06		
Acenaphthene	1.746	1.785	-2.22	PASS	
2,4-Dinitrophenol	0.201	0.233	-16.09		PASS
4-Nitrophenol	0.222	0.227	-2.47		PASS
Dibenzofuran	1.693	1.698	-0.32		
2,4-Dinitrotoluene	0.578	0.584	-1.13		
Benzo(b)Fluoranthene	1.126	1.174	-4.24		
Diethyl Phthalate	2.124	2.187	-2.99		
Fluorene	1.184	1.251	-5.63		
4-Chlorophenyl Phenyl Ether	0.773	0.805	-4.18		
4-Nitroaniline	0.861	0.949	-10.15		
4,6-Dinitro-2-Methylphenol	0.215	0.248	-15.66		
N-Nitrosodiphenylamine	0.494	0.479	3.15	PASS	
1,2-Diphenylhydrazine	1.111	1.098	1.13		
4-Bromophenyl Phenyl Ether	0.366	0.340	7.25		
Hexachlorobenzene	0.276	0.269	2.24		
Pentachlorophenol	0.224	0.216	3.37	PASS	

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 138

Calibration File: ICC0515 Calibration Date: 05/15/02

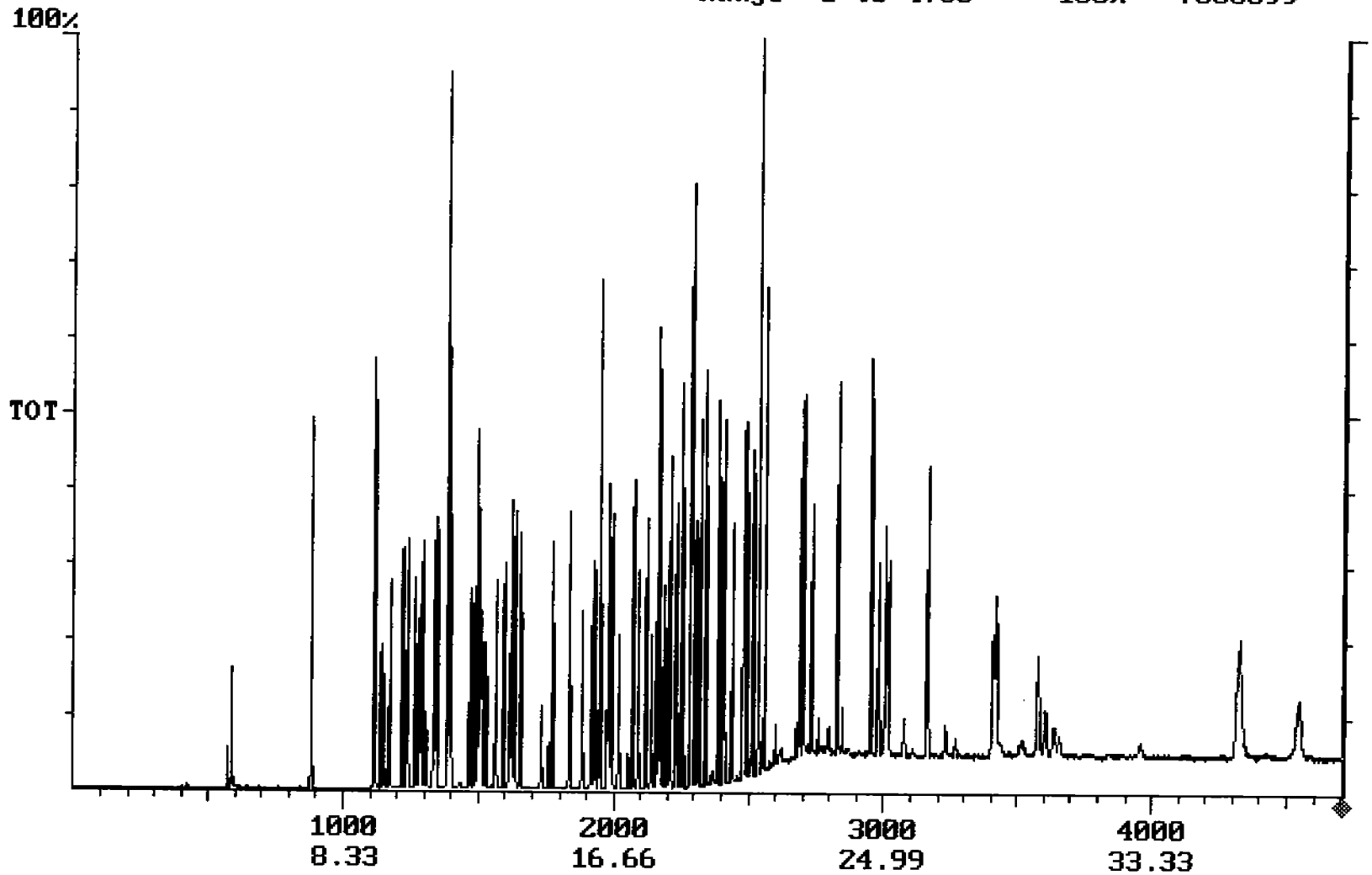
Standard File: 10C0522A Date: 05/22/02

Time: 09:28

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Phenanthrene	1.126	1.066	5.37		
Anthracene	1.171	1.118	4.55		
Carbazole	1.065	1.050	1.38		
Di-n-Butyl Phthalate	1.622	1.480	8.80		
Fluoranthene	1.074	1.026	4.41	PASS	
Benzidine	0.875	1.056	-20.71		
Pyrene	1.457	1.513	-3.80		
Butyl Benzyl Phthalate	1.194	1.151	3.62		
3,3'-Dichlorobenzidine	0.814	0.853	-4.74		
Bis(2-Ethylhexyl)Phthalate	1.862	1.859	0.17		
Benzo(a)Anthracene	1.591	1.716	-7.84		
Chrysene	1.599	1.420	11.20		
Di-n-Octylphthalate	3.018	3.015	0.09	PASS	
Benzo(k)Fluoranthene	1.252	1.210	3.35		
Benzo(a)Pyrene	1.074	1.101	-2.47	PASS	
Indeno(1,2,3-cd)Pyrene	2.146	2.217	-3.31		
Dibenzo(a,h)Anthracene	1.017	1.089	-7.12		
Benzo(g,h,i)Perylene	1.280	1.314	-2.61		
N-Nitrosodimethylamine	0.304	0.329	-8.26		
2,3,4,6-tetrachlorophenol	0.421	0.454	-7.76		
2-Chloroaniline	0.636	0.631	0.82		
2,4-Diaminotoluene	0.452	0.340	24.85		
2,3-Dinitrotoluene	0.576	0.594	-3.20		
1-Naphthylamine	0.962	0.923	4.08		
5-Nitro-o-toluidine	0.507	0.557	-9.75		
Benzaldehyde	1.394	1.521	-9.08		
Acetophenone	0.916	0.907	1.03		
Caprolactum	0.137	0.131	4.05		
Biphenyl	1.453	1.469	-1.08		
Atrazine	0.270	0.236	12.75		

Chromatogram Plot C:\SATURN\DATA\10C0522A Date: 05/22/02 09:28:56
Comment: INSTRUMENT 138
Scan: 4703 Seg: 1 Group: 0 Retention: 39.19 RIC: 350436 Masses: 40-370
Plotted: 1 to 4703 Range: 1 to 4703 100% = 7068899



001050

Operator ID: DMC
Output File: 10C0522A.1B2
Data File: 10C0522A.MS
Name: 10C0522A
Sample:

Quant Time: 05/22/02 13:39
Injected at: 05/22/02 09:28
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.28	1234	152	812787	5.00	ng/ul	1000	1.000
2)	*IS:D8-Naphthalene	13.45	1614	136	2530952	5.00	ng/ul	1000	1.000
3)	*IS:D10-Acenaphthene	17.97	2156	162	1533785	5.00	ng/ul	1000	1.000
4)	*IS:D10-Phenanthrene	20.64	2477	188	2511130	5.00	ng/ul	1000	1.000
5)	*IS:D12-Chrysene	25.08	3010	240	1802718	5.00	ng/ul	917	1.000
6)	*IS:D12-Perylene	30.03	3604	264	2290180	5.00	ng/ul	938	1.000
7)	ACSUR:2-Fluorophenol	7.34	881	112	5191398	20.29	ng/ul	1000	1.574
8)	ACSUR:D6-Phenol	9.28	1114	99	6583162	21.27	ng/ul	1000	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.49	2339	330	2263082	21.69	ng/ul	1000	0.341
10)	BNSUR:D5-Nitrobenzene	11.61	1393	127	1822606	21.66	ng/ul	1000	0.167
11)	BNSUR:Decafluorobiphenyl	11.53	1384	334	7174772	19.41	ng/ul	1000	0.731
12)	BNSUR:2-Fluorobiphenyl	16.23	1948	172	7790930	21.57	ng/ul	1000	1.178
13)	BNSUR:O-Terphenyl	21.12	2535	230	6569526	21.89	ng/ul	1000	0.833
14)	Pyridine	4.87	584	79	1810406	10.80	ng/ul	1000	1.031
15)	Phenol	9.32	1118	94	2805920	10.15	ng/ul	1000	1.701
16)	Aniline	9.49	1139	93	2878747	9.57	ng/ul	1000	1.852
17)	Bis(2-Chloroethyl)Ether	9.59	1151	92	1446451	10.32	ng/ul	1000	0.862
18)	2-Chlorophenol	9.77	1173	128	2793333	10.20	ng/ul	1000	1.685
19)	1,3-Dichlorobenzene	10.15	1218	146	2603511	10.42	ng/ul	998	1.538
20)	1,4-Dichlorobenzene	10.32	1239	146	2565419	10.30	ng/ul	1000	1.533
21)	Benzyl Alcohol	10.54	1265	108	1084754	10.33	ng/ul	1000	0.647
22)	1,2-Dichlorobenzene	10.69	1283	146	2405974	10.38	ng/ul	999	1.426
23)	2-Methylphenol	10.76	1291	108	2052991	9.39	ng/ul	999	1.346
24)	Bis(2-Chloroisopropyl)Ether	10.87	1304	45	1661672	9.83	ng/ul	1000	1.041
25)	4-Methylphenol	11.12	1334	108	2176063	10.25	ng/ul	1000	1.306
26)	N-Nitrosodi-N-Propylamine	11.17	1340	70	1229285	9.63	ng/ul	1000	0.786
27)	Hexachloroethane	11.52	1383	119	968594	9.25	ng/ul	1000	0.645
28)	Nitrobenzene	11.66	1399	77	2721008	9.83	ng/ul	1000	0.547
29)	Isophorone	12.22	1467	82	4201868	10.49	ng/ul	1000	0.792
30)	2-Nitrophenol	12.44	1493	109	1795127	12.42	ng/ul	1000	0.286

* Compound is ISTD

Operator ID: DMC
Output File: 10C0522A.1B2
Data File: 10C0522A.MS
Name: 10C0522A
Sample:

Quant Time: 05/22/02 13:39
Injected at: 05/22/02 09:28
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.47	1496	107	3073048	10.08	ng/ul	1000	0.603
32)	Benzoic Acid	12.59	1511	105	4731730	19.55	ng/ul	1000	0.479
33)	Bis(2-Chloroethoxy)Methane	12.72	1527	92	2446194	10.23	ng/ul	999	0.473
34)	2,4-Dichlorophenol	13.03	1563	162	1875708	10.60	ng/ul	1000	0.350
35)	1,2,4-Trichlorobenzene	13.27	1593	180	2054096	10.56	ng/ul	1000	0.385
36)	Naphthalene	13.51	1621	128	7216971	10.26	ng/ul	1000	1.390
37)	4-Chloroaniline	13.60	1632	127	3793547	10.20	ng/ul	1000	0.735
38)	2,6-Dichlorophenol	13.62	1634	162	1684678	10.25	ng/ul	1000	0.325
39)	Hexachlorobutadiene	13.78	1654	225	1494010	10.49	ng/ul	1000	0.282
40)	4-Chloro-3-Methylphenol	14.78	1774	107	3010270	10.02	ng/ul	1000	0.594
41)	2-Methylnaphthalene	15.30	1836	142	3320129	10.15	ng/ul	1000	0.647
42)	Hexachlorocyclopentadiene	15.69	1883	237	1384531	10.54	ng/ul	1000	0.429
43)	2,4,6-Trichlorophenol	16.00	1920	196	1448205	10.44	ng/ul	1000	0.453
44)	2,4,5-Trichlorophenol	16.10	1932	196	1534194	10.24	ng/ul	1000	0.489
45)	2-Chloronapthalene	16.59	1991	162	3930864	10.19	ng/ul	1000	1.258
46)	2-Nitroaniline	16.82	2018	138	1361866	9.95	ng/ul	1000	0.447
47)	Dimethyl Phthalate	17.25	2070	163	5986176	10.36	ng/ul	1000	1.884
48)	2,6-Dinitrotoluene	17.42	2090	165	1159303	10.21	ng/ul	998	0.371
49)	Acenaphthylene	17.66	2119	152	5385523	10.68	ng/ul	1000	1.644
50)	3-Nitroaniline	17.82	2138	138	1146432	10.21	ng/ul	1000	0.367
51)	Acenaphthene	18.04	2165	152	5476207	10.74	ng/ul	1000	1.663
52)	2,4-Dinitrophenol	18.04	2165	184	714718	11.88	ng/ul	1000	0.197
53)	4-Nitrophenol	18.12	2174	65	696552	10.25	ng/ul	1000	0.222
54)	Dibenzofuran	18.40	2208	168	5208691	10.03	ng/ul	1000	1.693
55)	2,4-Dinitrotoluene	18.32	2198	165	1792011	10.11	ng/ul	1000	0.578
56)	Benzo(b)Fluoranthene	28.40	3408	252	5377722	10.42	ng/ul	954	1.127
57)	Diethyl Phthalate	18.76	2251	149	6709203	10.30	ng/ul	1000	2.124
58)	Fluorene	19.07	2288	166	3836611	11.20	ng/ul	1000	1.117
59)	4-Chlorophenyl Phenyl Ether	19.03	2284	204	2469302	10.42	ng/ul	1000	0.773
60)	4-Nitroaniline	19.06	2287	108	2910082	11.01	ng/ul	1000	0.862

* Compound is ISTD

Operator ID: DMC
Output File: 10C0522A.1B2
Data File: 10C0522A.MS
Name: 10C0522A
Sample:

Quant Time: 05/22/02 13:39
Injected at: 05/22/02 09:28
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.11	2293	198	1247644	11.57	ng/ul	1000	0.215
62)	N-Nitrosodiphenylamine	19.23	2308	169	2404929	9.69	ng/ul	1000	0.495
63)	1,2-Diphenylhydrazine	19.32	2319	77	5516647	9.89	ng/ul	1000	1.112
64)	4-Bromophenyl Phenyl Ether	19.89	2387	248	1706150	9.28	ng/ul	1000	0.367
65)	Hexachlorobenzene	20.02	2402	284	1352963	9.78	ng/ul	1000	0.276
66)	Pentachlorophenol	20.32	2438	266	1086660	9.66	ng/ul	987	0.224
67)	Phenanthrene	20.67	2481	178	5351302	9.46	ng/ul	1000	1.126
68)	Anthracene	20.76	2491	178	5613119	9.54	ng/ul	1000	1.171
69)	Carbazole	20.96	2515	167	5274906	9.86	ng/ul	1000	1.065
70)	Di-n-Butyl Phthalate	21.31	2557	149	7431239	10.21	ng/ul	1000	1.449
71)	Fluoranthene	22.38	2686	202	5155014	9.56	ng/ul	983	1.074
72)	Benzidine	22.48	2698	184	7613419	24.14	ng/ul	1000	0.875
73)	Pyrene	22.76	2731	202	5454361	10.71	ng/ul	982	1.413
74)	Butyl Benzyl Phthalate	23.56	2827	149	4148221	9.64	ng/ul	947	1.194
75)	3,3'-Dichlorobenzidine	24.83	2980	252	3074250	10.80	ng/ul	969	0.790
76)	Bis(2-Ethylhexyl)Phthalate	24.60	2952	149	6701229	10.46	ng/ul	944	1.777
77)	Benzo(a)Anthracene	25.05	3006	228	6186673	10.97	ng/ul	981	1.565
78)	Chrysene	25.15	3018	228	5118540	10.07	ng/ul	978	1.410
79)	Di-n-Octylphthalate	26.35	3162	149	10870258	10.51	ng/ul	936	2.869
80)	Benzo(k)Fluoranthene	28.51	3421	252	5541874	9.67	ng/ul	974	1.252
81)	Benzo(a)Pyrene	29.82	3578	252	5042145	10.25	ng/ul	954	1.075
82)	Indeno(1,2,3-cd)Pyrene	35.99	4319	276	7994526	10.78	ng/ul	962	2.058
83)	Dibenzo(a,h)Anthracene	36.06	4328	278	4987738	10.71	ng/ul	962	1.017
84)	Benzo(g,h,i)Perylene	37.87	4544	276	6016660	10.26	ng/ul	953	1.281
85)	N-Nitrosodimethylamine	4.76	571	73	534248	11.48	ng/ul	1000	0.287
86)	2,3,4,6-tetrachlorophenol	18.62	2234	232	1391607	10.78	ng/ul	1000	0.421
87)	2-Chloroaniline	12.34	1481	127	3195162	10.17	ng/ul	1000	0.621
88)	2,4-Diaminotoluene	16.45	1974	121	1042724	7.51	ng/ul	1000	0.453
89)	2,3-Dinitrotoluene	18.22	2186	165	1822602	10.32	ng/ul	1000	0.576
90)	1-Naphthylamine	18.55	2226	143	2830883	9.97	ng/ul	1000	0.926

* Compound is ISTD

Operator ID: DMC
Output File: 10C0522A.1B2
Data File: 10C0522A.MS
Name: 10C0522A
Sample:

Quant Time: 05/22/02 13:39
Injected at: 05/22/02 09:28
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.05	2286	152	1707920	11.20	ng/ul	1000	0.498

* Compound is ISTD

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX Contract No.

Instrument ID: 138

Calibration File: ICC0515 Calibration Date: 05/15/02

Standard File: 10C0522B Date: 05/22/02

Time: 23:45

Minimum RF for SPCC is 0.0500 Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
ACSUR:2-Fluorophenol	1.574	1.616	-2.69		
ACSUR:D6-Phenol	1.904	1.907	-0.17		
ACSUR:2,4,6-Tribromophenol	0.363	0.376	-3.69		
BNSUR:D5-Nitrobenzene	0.166	0.168	-1.07		
BNSUR:Decafluorobiphenyl	0.730	0.678	7.18		
BNSUR:2-Fluorobiphenyl	1.178	1.176	0.16		
BNSUR:O-Terphenyl	0.889	0.881	0.86		
Pyridine	1.031	1.109	-7.58		
Phenol	1.701	1.706	-0.32	PASS	
Aniline	1.851	1.858	-0.33		
Bis(2-Chloroethyl)Ether	0.862	0.829	3.85		
2-Chlorophenol	1.685	1.677	0.46		
1,3-Dichlorobenzene	1.538	1.533	0.32		
1,4-Dichlorobenzene	1.533	1.461	4.70	PASS	
Benzyl Alcohol	0.646	0.612	5.37		
1,2-Dichlorobenzene	1.426	1.436	-0.71		
2-Methylphenol	1.403	1.216	13.34		
Bis(2-Chloroisopropyl)Ether	1.040	0.996	4.24		
4-Methylphenol	1.305	1.220	6.51		
N-Nitrosodi-N-Propylamine	0.785	0.754	3.94		PASS
Hexachloroethane	0.644	0.615	4.50		
Nitrobenzene	0.547	0.540	1.22		
Isophorone	0.791	0.794	-0.34		
2-Nitrophenol	0.315	0.344	-9.22	PASS	
2,4-Dimethylphenol	0.602	0.627	-4.16		
Benzoic Acid	0.461	0.463	-0.54		
Bis(2-Chloroethoxy)Methane	0.472	0.440	6.86		
2,4-Dichlorophenol	0.350	0.375	-7.19	PASS	
1,2,4-Trichlorobenzene	0.384	0.401	-4.38		
Naphthalene	1.389	1.398	-0.62		

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX

Contract No.

Instrument ID: 138

Calibration File: ICC0515

Calibration Date: 05/15/02

Standard File: 10C0522B

Date: 05/22/02

Time: 23:45

Minimum RF for SPCC is 0.0500

Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
4-Chloroaniline	0.768	0.762	0.79		
2,6-Dichlorophenol	0.325	0.331	-2.09		
Hexachlorobutadiene	0.281	0.295	-4.74	PASS	
4-Chloro-3-Methylphenol	0.594	0.581	2.08	PASS	
2-Methylnaphthalene	0.646	0.658	-1.90		
Hexachlorocyclopentadiene	0.442	0.433	2.05		PASS
2,4,6-Trichlorophenol	0.452	0.460	-1.65	PASS	
2,4,5-Trichlorophenol	0.489	0.476	2.63		
2-Chloronapthalene	1.258	1.347	-7.12		
2-Nitroaniline	0.446	0.463	-3.72		
Dimethyl Phthalate	1.884	1.909	-1.37		
2,6-Dinitrotoluene	0.370	0.372	-0.35		
Acenaphthylene	1.644	1.744	-6.11		
3-Nitroaniline	0.366	0.365	0.44		
Acenaphthene	1.746	1.755	-0.51	PASS	
2,4-Dinitrophenol	0.201	0.249	-23.92		PASS
4-Nitrophenol	0.222	0.238	-7.48		PASS
Dibenzofuran	1.693	1.723	-1.80		
2,4-Dinitrotoluene	0.578	0.563	2.60		
Benzo(b)Fluoranthene	1.126	1.198	-6.35		
Diethyl Phthalate	2.124	2.209	-4.00		
Fluorene	1.184	1.192	-0.64		
4-Chlorophenyl Phenyl Ether	0.773	0.754	2.47		
4-Nitroaniline	0.861	0.839	2.64		
4,6-Dinitro-2-Methylphenol	0.215	0.259	-20.42		
N-Nitrosodiphenylamine	0.494	0.518	-4.78	PASS	
1,2-Diphenylhydrazine	1.111	1.132	-1.89		
4-Bromophenyl Phenyl Ether	0.366	0.393	-7.35		
Hexachlorobenzene	0.276	0.271	1.62		
Pentachlorophenol	0.224	0.222	0.86	PASS	

CONTINUING CALIBRATION REPORT

EPA Method 8270C

Case No.

Contract Lab: TRIMATRIX

Contract No.

Instrument ID: 138

Calibration File: ICC0515

Calibration Date: 05/15/02

Standard File: 10C0522B

Date: 05/22/02

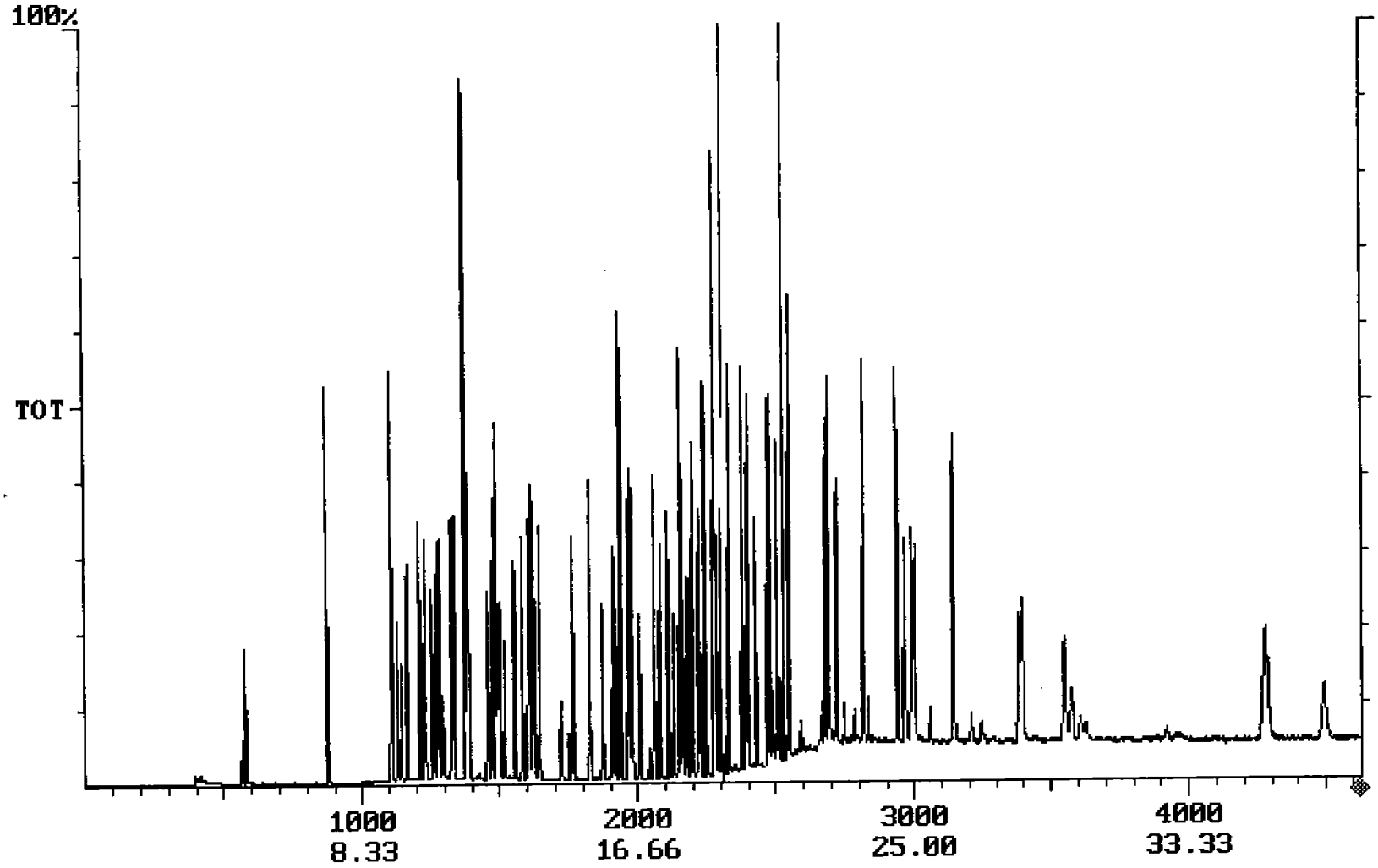
Time: 23:45

Minimum RF for SPCC is 0.0500

Maximum % Difference for CCC is 20.000%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Phenanthrene	1.126	1.110	1.39		
Anthracene	1.171	1.202	-2.66		
Carbazole	1.065	1.084	-1.83		
Di-n-Butyl Phthalate	1.622	1.506	7.18		
Fluoranthene	1.074	1.087	-1.23	PASS	
Benzidine	0.875	1.014	-15.94		
Pyrene	1.457	1.557	-6.83		
Butyl Benzyl Phthalate	1.194	1.183	0.93		
3,3'-Dichlorobenzidine	0.814	0.853	-4.73		
Bis(2-Ethylhexyl)Phthalate	1.862	1.805	3.03		
Benzo(a)Anthracene	1.591	1.717	-7.91		
Chrysene	1.599	1.387	13.25		
Di-n-Octylphthalate	3.018	3.069	-1.70	PASS	
Benzo(k)Fluoranthene	1.252	1.213	3.06		
Benzo(a)Pyrene	1.074	1.110	-3.29	PASS	
Indeno(1,2,3-cd)Pyrene	2.146	2.191	-2.06		
Dibenzo(a,h)Anthracene	1.017	1.017	-0.04		
Benzo(g,h,i)Perylene	1.280	1.282	-0.12		
N-Nitrosodimethylamine	0.304	0.321	-5.89		
2,3,4,6-tetrachlorophenol	0.421	0.460	-9.29		
2-Chloroaniline	0.636	0.627	1.45		
2,4-Diaminotoluene	0.452	0.414	8.52		
2,3-Dinitrotoluene	0.576	0.583	-1.31		
1-Naphthylamine	0.962	0.974	-1.27		
5-Nitro-o-toluidine	0.507	0.470	7.35		
Benzaldehyde	1.394	1.503	-7.85		
Acetophenone	0.916	0.890	2.86		
Caprolactum	0.137	0.133	2.80		
Biphenyl	1.453	1.440	0.90		
Atrazine	0.270	0.247	8.60		

Chromatogram Plot C:\SATURN\DATA\10C0522B Date: 05/22/02 23:45:29
Comment: INSTRUMENT 138
Scan: 2310 Seg: 1 Group: 0 Retention: 19.24 RIC: 3124972 Masses: 49-183
Plotted: 1 to 4619 Range: 1 to 4619 100% = 6493439



001058

Operator ID: DMC
Output File: 10C0522B.1B2
Data File: 10C0522B.MS
Name: 10C0522B
Sample:

Quant Time: 05/23/02 08:49
Injected at: 05/22/02 23:45
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.22	1226	152	760249	5.00	ng/ul	1000	1.000
2)	*IS:D8-Naphthalene	13.37	1605	136	2341573	5.00	ng/ul	1000	1.000
3)	*IS:D10-Acenaphthene	17.89	2147	162	1398863	5.00	ng/ul	1000	1.000
4)	*IS:D10-Phenanthrene	20.57	2469	188	2174890	5.00	ng/ul	1000	1.000
5)	*IS:D12-Chrysene	24.96	2995	240	1620860	5.00	ng/ul	937	1.000
6)	*IS:D12-Perylene	29.79	3575	264	2074058	5.00	ng/ul	923	1.000
7)	ACSUR:2-Fluorophenol	7.28	874	112	4914568	20.54	ng/ul	1000	1.574
8)	ACSUR:D6-Phenol	9.23	1108	99	5798829	20.03	ng/ul	1000	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.42	2331	330	2106643	22.10	ng/ul	1000	0.341
10)	BNSUR:D5-Nitrobenzene	11.53	1384	127	1573955	20.21	ng/ul	1000	0.167
11)	BNSUR:Decafluorobiphenyl	11.48	1377	334	6349214	18.56	ng/ul	1000	0.731
12)	BNSUR:2-Fluorobiphenyl	16.15	1938	172	6578378	19.97	ng/ul	1000	1.178
13)	BNSUR:O-Terphenyl	21.06	2527	230	5711290	21.31	ng/ul	1000	0.827
14)	Pyridine	4.82	578	79	1686205	10.76	ng/ul	999	1.031
15)	Phenol	9.27	1112	94	2594007	10.03	ng/ul	1000	1.701
16)	Aniline	9.43	1132	93	2824407	10.03	ng/ul	1000	1.852
17)	Bis(2-Chloroethyl)Ether	9.54	1145	92	1260137	9.62	ng/ul	1000	0.862
18)	2-Chlorophenol	9.72	1166	128	2549917	9.95	ng/ul	1000	1.685
19)	1,3-Dichlorobenzene	10.09	1211	146	2330379	9.97	ng/ul	1000	1.538
20)	1,4-Dichlorobenzene	10.26	1231	146	2220838	9.53	ng/ul	999	1.533
21)	Benzyl Alcohol	10.48	1258	108	929839	9.46	ng/ul	991	0.647
22)	1,2-Dichlorobenzene	10.62	1275	146	2183510	10.07	ng/ul	999	1.426
23)	2-Methylphenol	10.70	1284	108	1849231	9.08	ng/ul	999	1.340
24)	Bis(2-Chloroisopropyl)Ether	10.80	1296	45	1514379	9.58	ng/ul	989	1.041
25)	4-Methylphenol	11.05	1326	108	1855728	9.35	ng/ul	999	1.306
26)	N-Nitrosodi-N-Propylamine	11.12	1334	70	1146824	9.61	ng/ul	1000	0.786
27)	Hexachloroethane	11.46	1375	119	935408	9.55	ng/ul	1000	0.645
28)	Nitrobenzene	11.58	1390	77	2530037	9.88	ng/ul	1000	0.547
29)	Isophorone	12.15	1458	82	3718224	10.03	ng/ul	1000	0.792
30)	2-Nitrophenol	12.37	1484	109	1612023	12.01	ng/ul	1000	0.287

* Compound is ISTD

Operator ID: DMC
Output File: 10C0522B.1B2
Data File: 10C0522B.MS
Name: 10C0522B
Sample:

Quant Time: 05/23/02 08:49
Injected at: 05/22/02 23:45
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.40	1488	107	2936714	10.42	ng/ul	1000	0.603
32)	Benzoic Acid	12.52	1502	105	4339656	19.43	ng/ul	1000	0.478
33)	Bis(2-Chloroethoxy)Methane	12.66	1519	92	2060815	9.31	ng/ul	998	0.473
34)	2,4-Dichlorophenol	12.96	1555	162	1754800	10.72	ng/ul	1000	0.350
35)	1,2,4-Trichlorobenzene	13.21	1585	180	1878681	10.44	ng/ul	1000	0.385
36)	Naphthalene	13.43	1612	128	6547625	10.06	ng/ul	1000	1.390
37)	4-Chloroaniline	13.52	1622	127	3569430	10.34	ng/ul	1000	0.738
38)	2,6-Dichlorophenol	13.54	1625	162	1551646	10.21	ng/ul	1000	0.325
39)	Hexachlorobutadiene	13.71	1645	225	1380626	10.47	ng/ul	1000	0.282
40)	4-Chloro-3-Methylphenol	14.71	1765	107	2722597	9.79	ng/ul	1000	0.594
41)	2-Methylnaphthalene	15.22	1826	142	3083102	10.19	ng/ul	1000	0.647
42)	Hexachlorocyclopentadiene	15.61	1873	237	1210067	10.15	ng/ul	1000	0.427
43)	2,4,6-Trichlorophenol	15.92	1910	196	1285606	10.16	ng/ul	1000	0.453
44)	2,4,5-Trichlorophenol	16.01	1921	196	1330879	9.74	ng/ul	1000	0.489
45)	2-Chloronapthalene	16.51	1981	162	3769559	10.71	ng/ul	1000	1.258
46)	2-Nitroaniline	16.72	2007	138	1294743	10.37	ng/ul	1000	0.447
47)	Dimethyl Phthalate	17.17	2061	163	5341790	10.14	ng/ul	1000	1.884
48)	2,6-Dinitrotoluene	17.33	2080	165	1039525	10.04	ng/ul	1000	0.371
49)	Acenaphthylene	17.57	2109	152	4879449	10.61	ng/ul	1000	1.644
50)	3-Nitroaniline	17.74	2129	138	1019965	9.96	ng/ul	1000	0.367
51)	Acenaphthene	17.97	2156	152	4910724	10.58	ng/ul	1000	1.660
52)	2,4-Dinitrophenol	17.98	2157	184	695813	12.88	ng/ul	1000	0.194
53)	4-Nitrophenol	18.04	2165	65	666310	10.75	ng/ul	1000	0.222
54)	Dibenzofuran	18.32	2199	168	4820837	10.18	ng/ul	1000	1.693
55)	2,4-Dinitrotoluene	18.24	2189	165	1574061	9.74	ng/ul	1000	0.578
56)	Benzo(b)Fluoranthene	28.20	3384	252	4968490	10.63	ng/ul	982	1.127
57)	Diethyl Phthalate	18.69	2243	149	6179395	10.40	ng/ul	1000	2.124
58)	Fluorene	19.00	2280	166	3333763	10.73	ng/ul	1000	1.111
59)	4-Chlorophenyl Phenyl Ether	18.96	2276	204	2108349	9.75	ng/ul	1000	0.773
60)	4-Nitroaniline	18.99	2279	108	2346056	9.74	ng/ul	1000	0.862

* Compound is ISTD

Operator ID: DMC
Output File: 10C0522B.1B2
Data File: 10C0522B.MS
Name: 10C0522B
Sample:

Quant Time: 05/23/02 08:49
Injected at: 05/22/02 23:45
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.04	2285	198	1125085	12.04	ng/ul	1000	0.215
62)	N-Nitrosodiphenylamine	19.17	2300	169	2253411	10.48	ng/ul	1000	0.495
63)	1,2-Diphenylhydrazine	19.25	2310	77	4923900	10.19	ng/ul	1000	1.112
64)	4-Bromophenyl Phenyl Ether	19.82	2379	248	1710307	10.74	ng/ul	1000	0.367
65)	Hexachlorobenzene	19.95	2394	284	1179177	9.84	ng/ul	1000	0.276
66)	Pentachlorophenol	20.25	2430	266	965588	9.91	ng/ul	1000	0.224
67)	Phenanthrene	20.61	2473	178	4829735	9.86	ng/ul	1000	1.126
68)	Anthracene	20.69	2483	178	5228798	10.27	ng/ul	1000	1.171
69)	Carbazole	20.89	2507	167	4717175	10.18	ng/ul	999	1.065
70)	Di-n-Butyl Phthalate	21.25	2550	149	6550844	10.44	ng/ul	1000	1.443
71)	Fluoranthene	22.30	2676	202	4728111	10.12	ng/ul	993	1.074
72)	Benzidine	22.41	2689	184	6574641	23.19	ng/ul	1000	0.875
73)	Pyrene	22.67	2721	202	5047440	10.96	ng/ul	985	1.422
74)	Butyl Benzyl Phthalate	23.46	2815	149	3833657	9.91	ng/ul	899	1.194
75)	3,3'-Dichlorobenzidine	24.71	2965	252	2763934	10.80	ng/ul	966	0.790
76)	Bis(2-Ethylhexyl)Phthalate	24.48	2938	149	5852465	10.19	ng/ul	970	1.773
77)	Benzo(a)Anthracene	24.92	2991	228	5566437	10.97	ng/ul	980	1.566
78)	Chrysene	25.01	3002	228	4496398	9.82	ng/ul	978	1.413
79)	Di-n-Octylphthalate	26.19	3143	149	9948054	10.68	ng/ul	972	2.874
80)	Benzo(k)Fluoranthene	28.31	3397	252	5033609	9.69	ng/ul	981	1.252
81)	Benzo(a)Pyrene	29.57	3549	252	4603020	10.33	ng/ul	955	1.075
82)	Indeno(1,2,3-cd)Pyrene	35.62	4274	276	7101291	10.68	ng/ul	954	2.051
83)	Dibenzo(a,h)Anthracene	35.66	4279	278	4218400	10.00	ng/ul	962	1.017
84)	Benzo(g,h,i)Perylene	37.45	4494	276	5293313	9.97	ng/ul	907	1.281
85)	N-Nitrosodimethylamine	4.71	565	73	488733	11.19	ng/ul	999	0.288
86)	2,3,4,6-tetrachlorophenol	18.55	2226	232	1287136	10.93	ng/ul	1000	0.421
87)	2-Chloroaniline	12.28	1473	127	2937285	10.12	ng/ul	999	0.621
88)	2,4-Diaminotoluene	16.37	1964	121	985654	7.79	ng/ul	1000	0.453
89)	2,3-Dinitrotoluene	18.15	2178	165	1631750	10.13	ng/ul	1000	0.576
90)	1-Naphthylamine	18.48	2218	143	2725711	10.41	ng/ul	1000	0.936

* Compound is ISTD

Operator ID: DMC
Output File: 10C0522B.1B2
Data File: 10C0522B.MS
Name: 10C0522B
Sample:

Quant Time: 05/23/02 08:49
Injected at: 05/22/02 23:45
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	18.98	2278	152	1314994	9.68	ng/ul	1000	0.486

* Compound is ISTD

SECTION - D

RAW QUALITY CONTROL DATA

GC/MS
SEMI-VOLATILE ORGANIC COMPOUND
DATA

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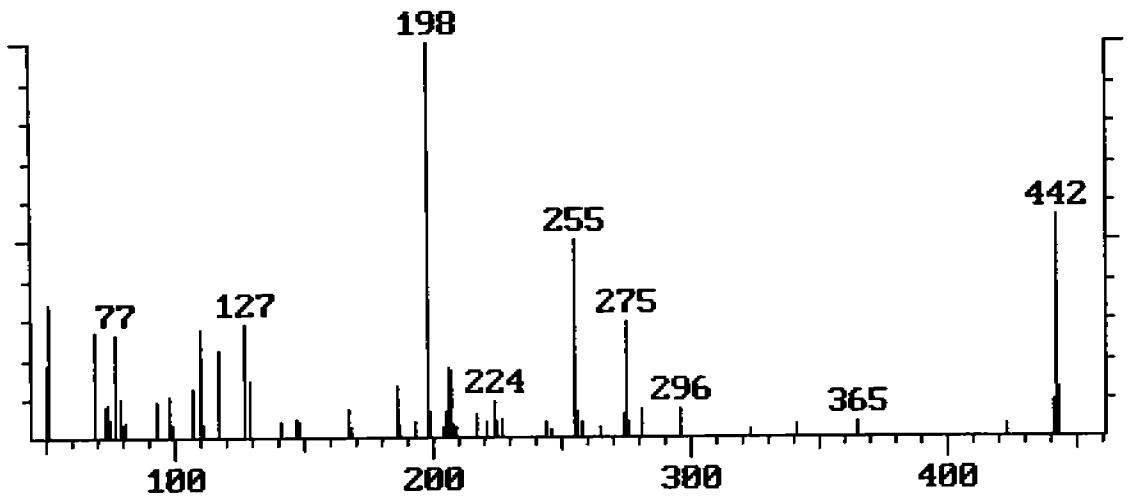
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

DFTPP CLP Report

Spectrum of Scan Number 1280

Data File: DFT0518C
Cali File: ICC0209Q

Acqu Date: 05/18/02
Acqu Time: 19:09



Mass	Acceptance Criterion	Value	Pass/Fail
51	30.0 - 80.0% of mass 198	33.38	Pass
68	Less than 2.0% of mass 69	0.00	Pass
69	Mass 69 relative abundance	26.53	Pass
70	Less than 2.0% of mass 69	0.00	Pass
127	25.0 - 75.0% of mass 198	28.67	Pass
197	Less than 1.0% of mass 198	0.00	Pass
198	Base Peak, 100% relative abundance	100.00	Pass
199	5.0 - 9.0% of mass 198	6.13	Pass
275	10.0 - 30.0% of mass 198	29.39	Pass
365	Greater than 0.75% of mass 198	3.85	Pass
441	Present, but less than mass 443	16.03	Pass
442	40.0% - 110.0% of mass 198	56.06	Pass
443	15.0 - 24.0% of mass 442	21.37	Pass

Press any key to continue.

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0518C DFTPP Injection Date: 05/18/02

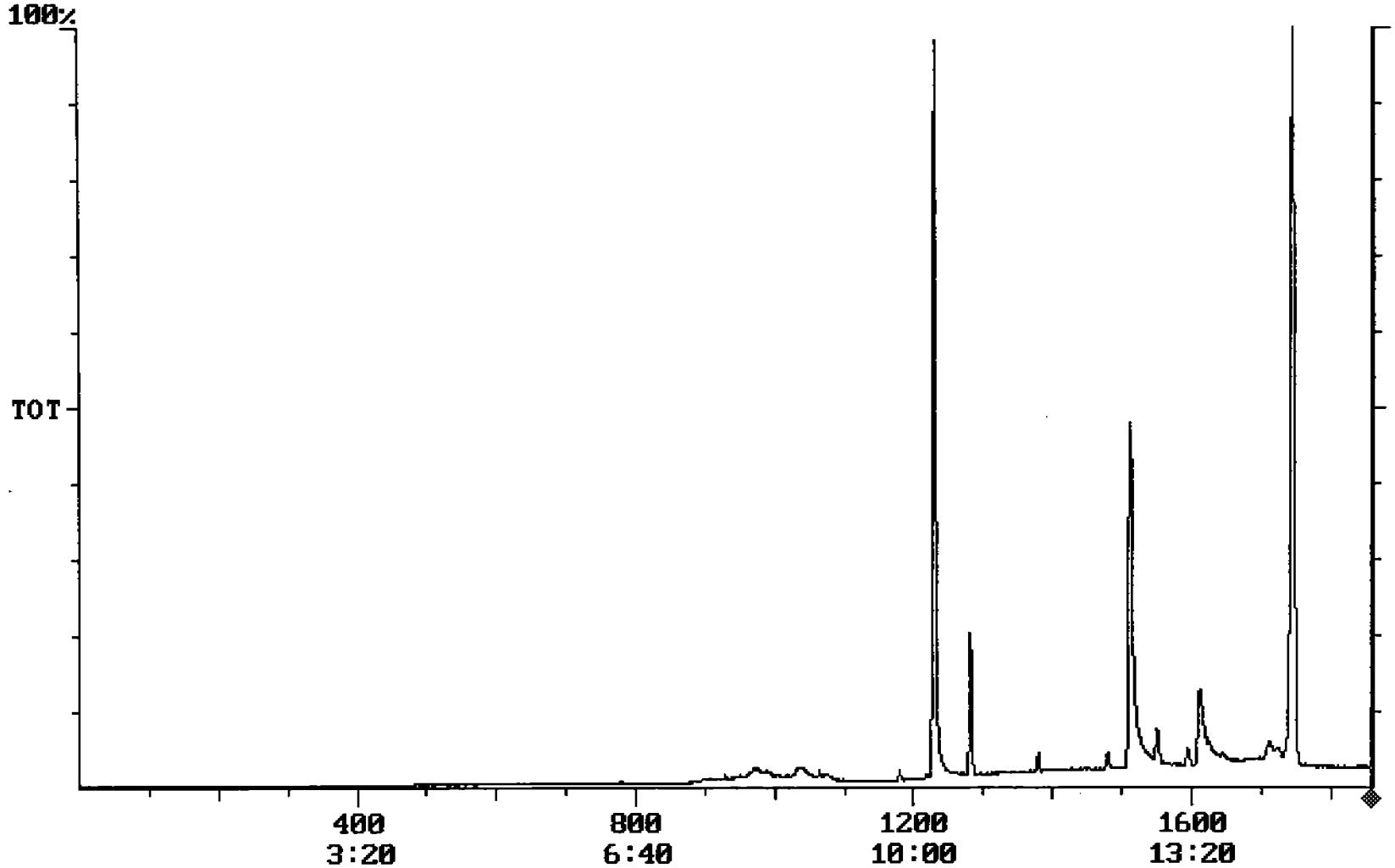
Instrument ID: 133 DFTPP Injection Time: 19:09

GC Column: ID: 0.000(mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	33.4
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	26.5
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	28.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.1
275	10.0 - 30.0% of mass 198	29.4
365	Greater than 0.75% of mass 198	3.9
441	Present, but less than mass 443	9.0
442	40.0% - 110.0% of mass 198	56.1
443	15.0 - 24.0% of mass 442	12.0 (21.4) 2

1-Value is % mass 69 2-Value is % mass 442

Chromatogram Plot C:\SATURN\DATA\DFT0518C Date: 05/18/02 19:09:41
Comment: INSTRUMENT 133
Scan: 1856 Seg: 1 Group: 0 Retention: 15:28 RIC: 417360 Masses: 43-399
Plotted: 1 to 1856 Range: 1 to 1856 100% = 17161585



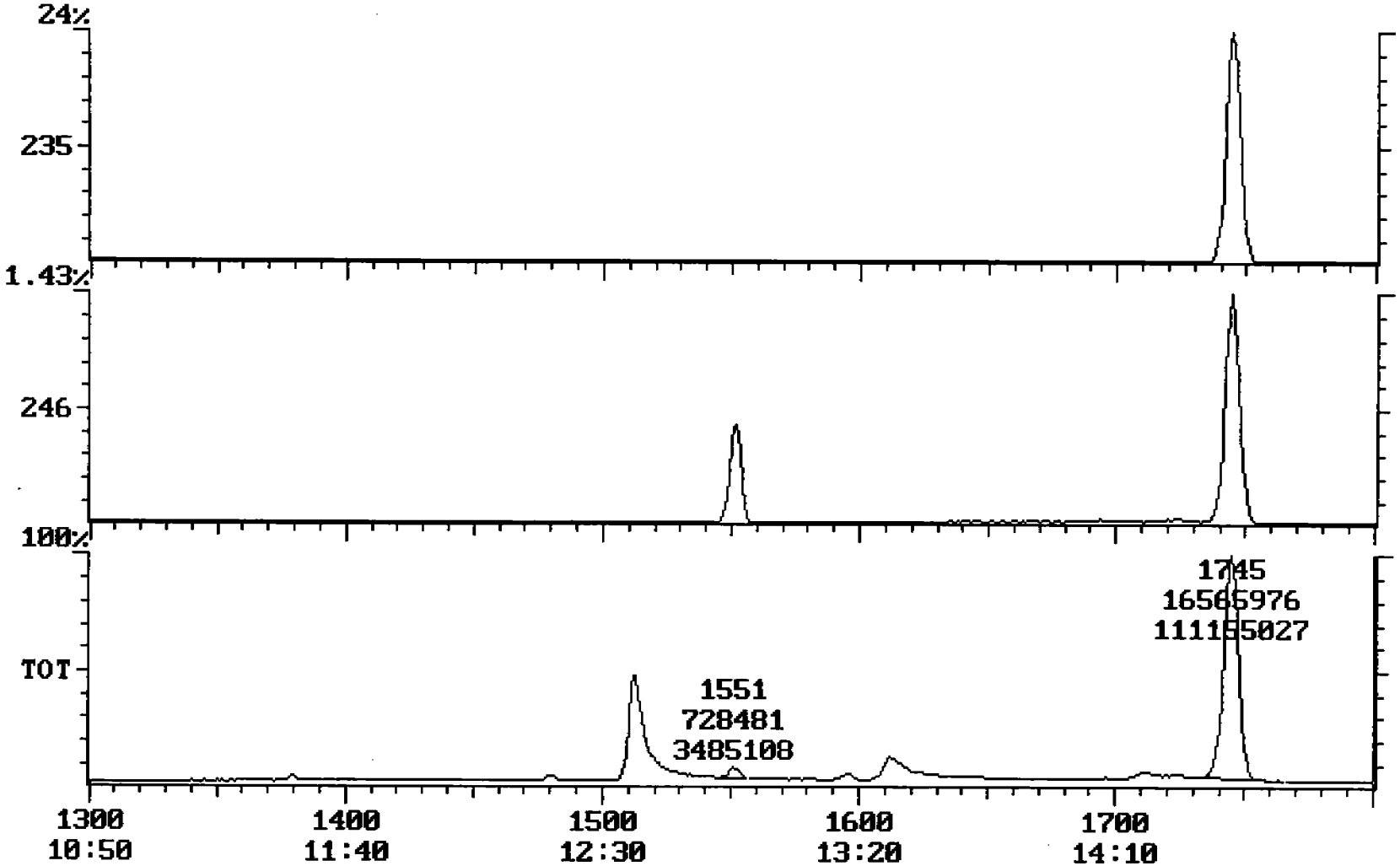
==========Mass List of Sca

Comment: INSTRUMENT 133

Base Pk: 198 Int: 350430 Pks: 58 Range: 50-443 Thrsh: 0.00% RIC: 2439018

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
50	62,488	17.83	147	15,497	4.42	244	12,498	3.57
51	116,977	33.38	148	12,498	3.57	246	6,499	1.85
69	92,981	26.53	167	23,495	6.70	255	174,965	49.93
73	26,495	7.56	168	8,998	2.57	256	20,996	5.99
74	27,495	7.85	186	44,991	12.84	258	11,998	3.42
75	14,497	4.14	187	10,998	3.14	265	6,999	2.00
77	90,982	25.96	193	11,998	3.42	274	20,496	5.85
79	33,993	9.70	198	350,430	100.00	275	102,979	29.39
80	9,498	2.71	199	21,496	6.13	276	12,997	3.71
81	12,997	3.71	204	8,998	2.57	281	24,995	7.13
93	30,494	8.70	205	22,496	6.42	296	23,995	6.85
98	34,993	9.99	206	59,988	17.12	323	6,499	1.85
99	9,998	2.85	207	57,988	16.55	341	10,998	3.14
107	41,492	11.84	208	10,498	3.00	365	13,497	3.85
110	95,981	27.39	209	7,499	2.14	423	10,998	3.14
111	9,498	2.71	217	18,996	5.42	441	31,494	8.99
117	77,485	22.11	221	11,498	3.28	442	196,461	56.06
127	100,480	28.67	224	31,994	9.13	443	41,992	11.98
129	48,490	13.84	225	13,497	3.85			
141	11,998	3.42	227	14,497	4.14			

Chromatogram Plot C:\SATURN\DATA\DFT0518C Date: 05/18/02 19:09:41
Comment: INSTRUMENT 133
Scan: 1800 Seg: 1 Group: 0 Retention: 15:00 RIC: 436655 Masses: 43-399
Plotted: 1300 to 1800 Range: 1 to 1856 100% = 17161585



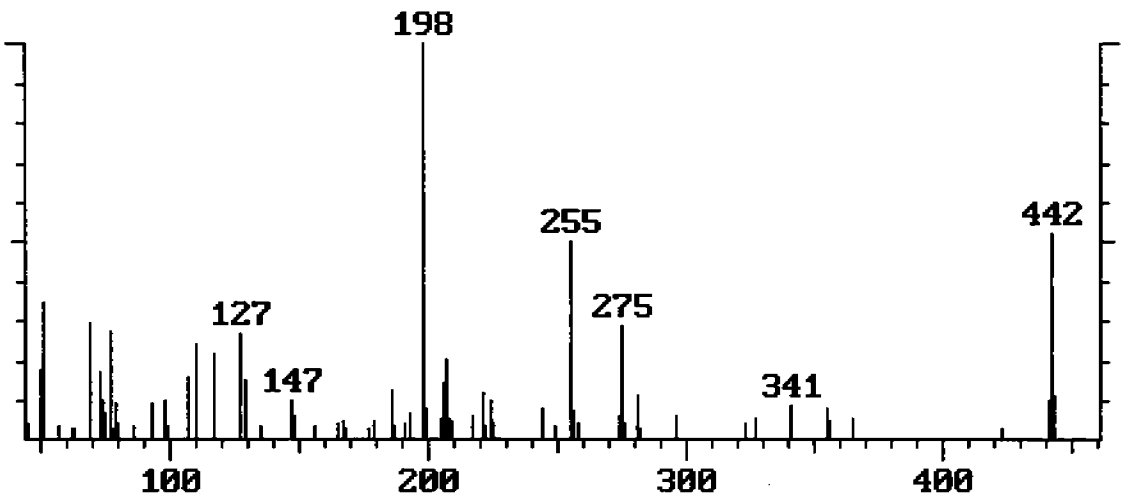
$\frac{348510}{11464013} = .0304$

DFTPP CLP Report

Spectrum of Scan Number 1277

Data File: DFT0521A
Cali File: ICCAAQ

Acqu Date: 05/21/02
Acqu Time: 07:33



Mass	Acceptance Criterion	Value	Pass/Fail
51	30.0 - 80.0% of mass 198	34.34	Pass
68	Less than 2.0% of mass 69	0.00	Pass
69	Mass 69 relative abundance	29.00	Pass
70	Less than 2.0% of mass 69	0.00	Pass
127	25.0 - 75.0% of mass 198	26.70	Pass
197	Less than 1.0% of mass 198	0.00	Pass
198	Base Peak, 100% relative abundance	100.00	Pass
199	5.0 - 9.0% of mass 198	7.21	Pass
275	10.0 - 30.0% of mass 198	28.57	Pass
365	Greater than 0.75% of mass 198	4.91	Pass
441	Present, but less than mass 443	17.83	Pass
442	40.0% - 110.0% of mass 198	51.80	Pass
443	15.0 - 24.0% of mass 442	21.45	Pass

Press any key to continue.

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0521A DFTPP Injection Date: 05/21/02

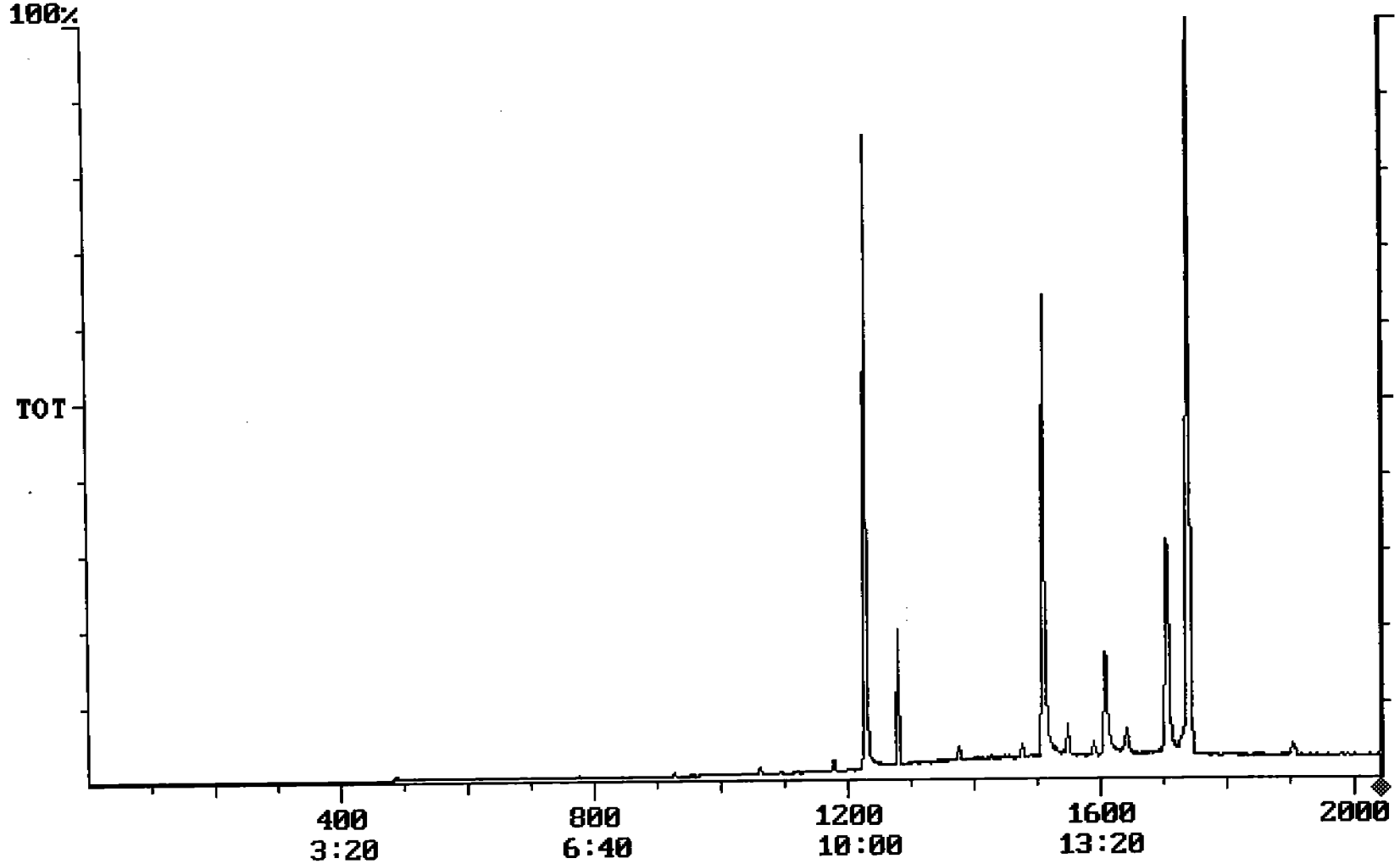
Instrument ID: 135 DFTPP Injection Time: 07:33

GC Column: ID: 0.000(mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	34.3
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	29.0
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	26.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	28.6
365	Greater than 0.75% of mass 198	4.9
441	Present, but less than mass 443	9.2
442	40.0% - 110.0% of mass 198	51.8
443	15.0 - 24.0% of mass 442	11.1 (21.4) 2

1-Value is % mass 69 2-Value is % mass 442

Chromatogram Plot C:\SATURN\DATA\DFT0521A Date: 05/21/02 07:33:17
Comment: INSTRUMENT 133
Scan: 2040 Seg: 1 Group: 0 Retention: 17:00 RIC: 574408 Masses: 43-415
Plotted: 1 to 2040 Range: 1 to 2040 100% = 19451128



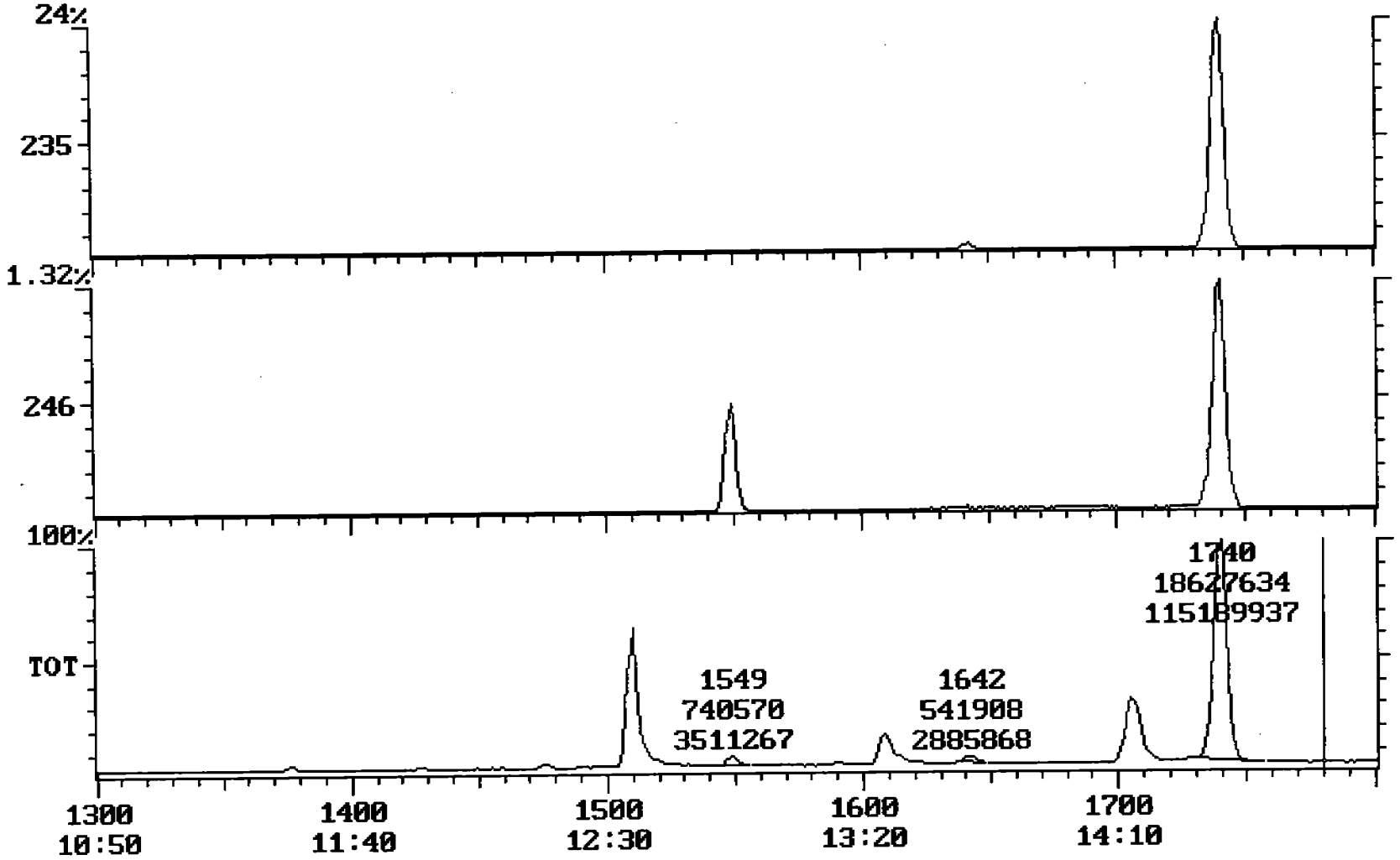
Mass List of Scan 1277 File: DFT0521A Acquired: 21 M

Comment: INSTRUMENT 133

Base Pk: 198 Int: 194624 Pks: 70 Range: 43-443 Thrsh: 0.00% RIC: 1515708

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
43	5,617	2.89	135	5,898	3.03	225	7,302	3.75
45	6,459	3.32	147	18,255	9.38	244	15,166	7.79
50	33,420	17.17	148	11,234	5.77	249	5,336	2.74
51	66,841	34.34	156	5,617	2.89	255	97,733	50.22
57	5,898	3.03	165	6,740	3.46	256	13,200	6.78
62	4,774	2.45	167	8,425	4.33	258	6,459	3.32
63	3,932	2.02	168	5,055	2.60	274	10,391	5.34
69	56,449	29.00	177	4,213	2.16	275	55,607	28.57
73	32,859	16.88	179	8,425	4.33	276	7,021	3.61
74	18,536	9.52	186	23,029	11.83	281	21,063	10.82
75	11,795	6.06	187	6,179	3.17	282	5,055	2.60
77	52,798	27.13	191	6,459	3.32	296	10,391	5.34
78	4,774	2.45	193	12,638	6.49	323	6,459	3.32
79	16,570	8.51	198	194,624	100.00	327	8,987	4.62
80	6,740	3.46	199	14,042	7.21	341	15,727	8.08
86	6,179	3.17	205	8,987	4.62	355	15,166	7.79
93	17,131	8.80	206	27,803	14.29	356	8,144	4.18
98	17,974	9.24	207	38,756	19.91	365	9,549	4.91
99	5,617	2.89	208	10,110	5.19	423	4,213	2.16
107	29,488	15.15	209	7,864	4.04	441	17,974	9.24
110	46,058	23.67	217	10,391	5.34	442	100,823	51.80
117	41,003	21.07	221	22,187	11.40	443	21,625	11.11
127	51,956	26.70	222	6,179	3.17			
129	28,365	14.57	224	17,974	9.24			

Chromatogram Plot C:\SATURN\DATA\DFT0521A Date: 05/21/02 07:33:17
Comment: INSTRUMENT 133
Scan: 1780 Seg: 1 Group: 0 Retention: 14:50 RIC: 584885 Masses: 43-415
Plotted: 1300 to 1800 Range: 1 to 2040 100% = 19451128



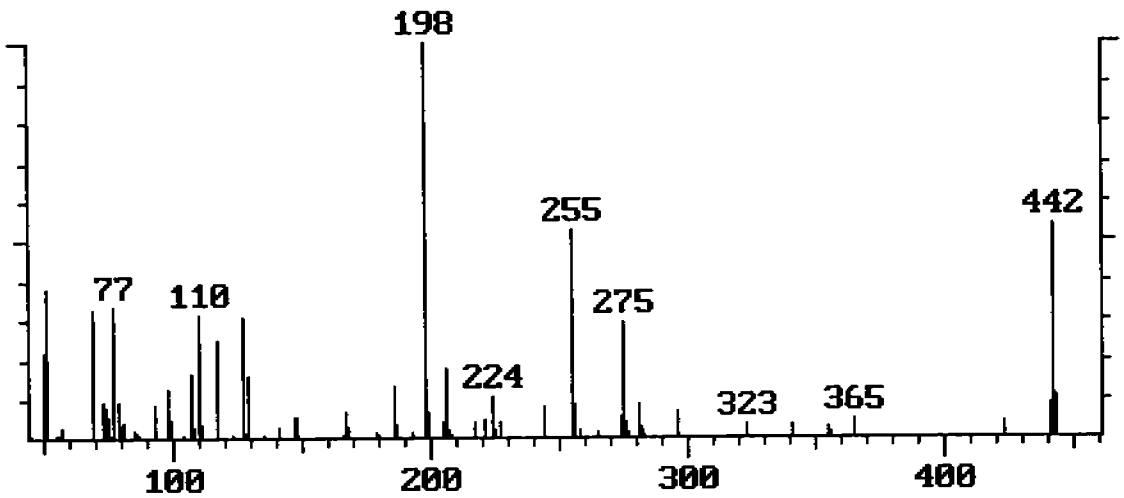
$\frac{6397135}{12157072} = .526$

DFTPP CLP Report

Spectrum of Current Spectrum Buffer

Data File: DFT0521B
Cali File: ICC0518Q

Acqu Date: 05/21/02
Acqu Time: 19:48



Mass	Acceptance Criterion	Value	Pass/Fail
51	30.0 - 80.0% of mass 198	37.79	Pass
68	Less than 2.0% of mass 69	0.00	Pass
69	Mass 69 relative abundance	32.23	Pass
70	Less than 2.0% of mass 69	0.00	Pass
127	25.0 - 75.0% of mass 198	30.46	Pass
197	Less than 1.0% of mass 198	0.00	Pass
198	Base Peak, 100% relative abundance	100.00	Pass
199	5.0 - 9.0% of mass 198	6.31	Pass
275	10.0 - 30.0% of mass 198	29.13	Pass
365	Greater than 0.75% of mass 198	4.18	Pass
441	Present, but less than mass 443	15.27	Pass
442	40.0% - 110.0% of mass 198	53.63	Pass
443	15.0 - 24.0% of mass 442	18.87	Pass

Press any key to continue.

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0521B DFTPP Injection Date: 05/21/02

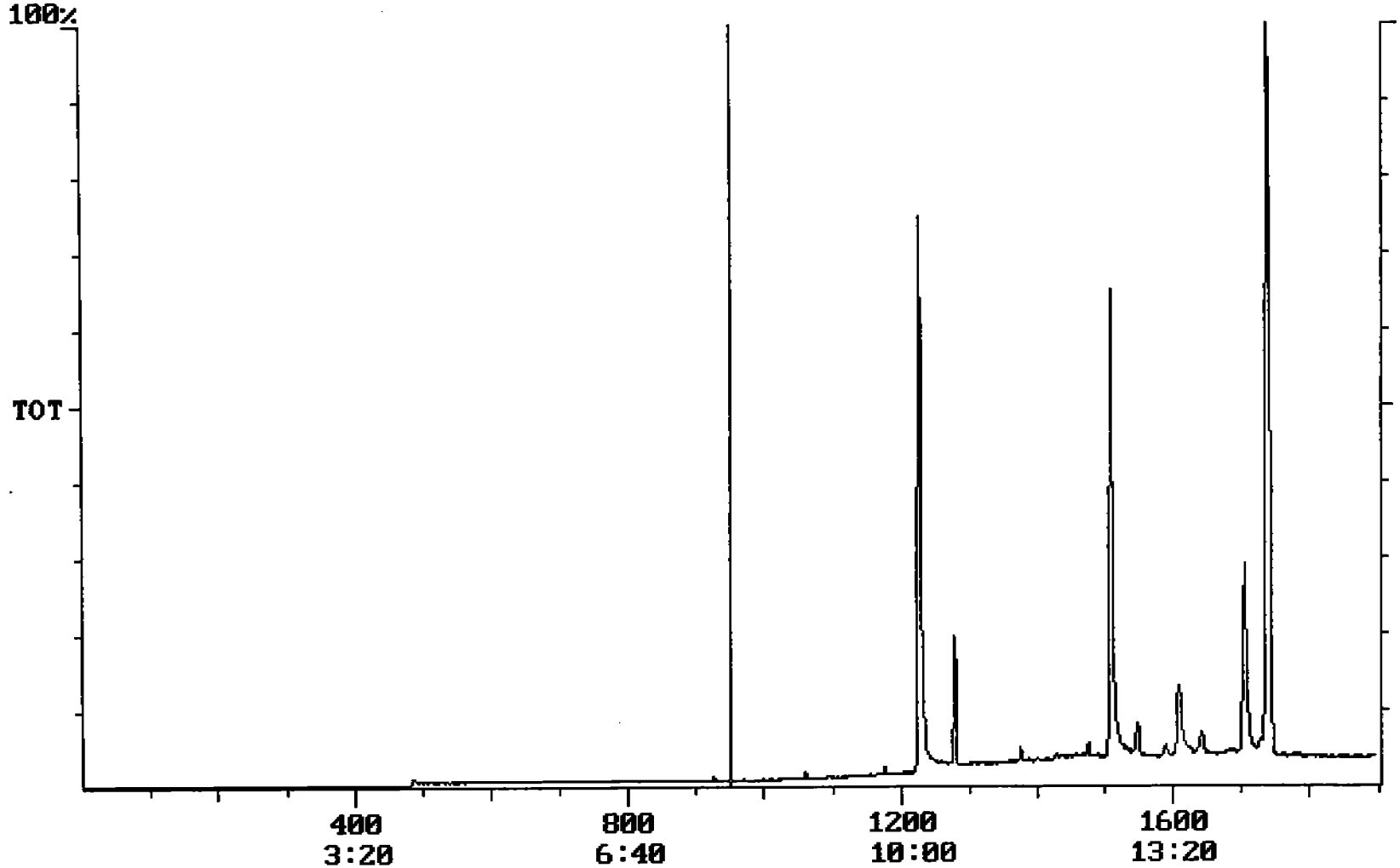
Instrument ID: 1S> DFTPP Injection Time: 19:48

GC Column: ID: 0.000(mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	37.8
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	32.2
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	30.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.3
275	10.0 - 30.0% of mass 198	29.1
365	Greater than 0.75% of mass 198	4.2
441	Present, but less than mass 443	8.2
442	40.0% - 110.0% of mass 198	53.6
443	15.0 - 24.0% of mass 442	10.1 (18.9) 2

1-Value is % mass 69 2-Value is % mass 442

Chromatogram Plot C:\SATURN\DATA\DFT0521B Date: 05/21/02 19:48:22
Comment: INSTRUMENT 133
Scan: 950 Seg: -- Group: -- Retention: 7:55 RIC: 112761 Masses: 41-387
Plotted: 1 to 1900 Range: 1 to 1894 100% = 15444422



001076

==========Mass List Averag

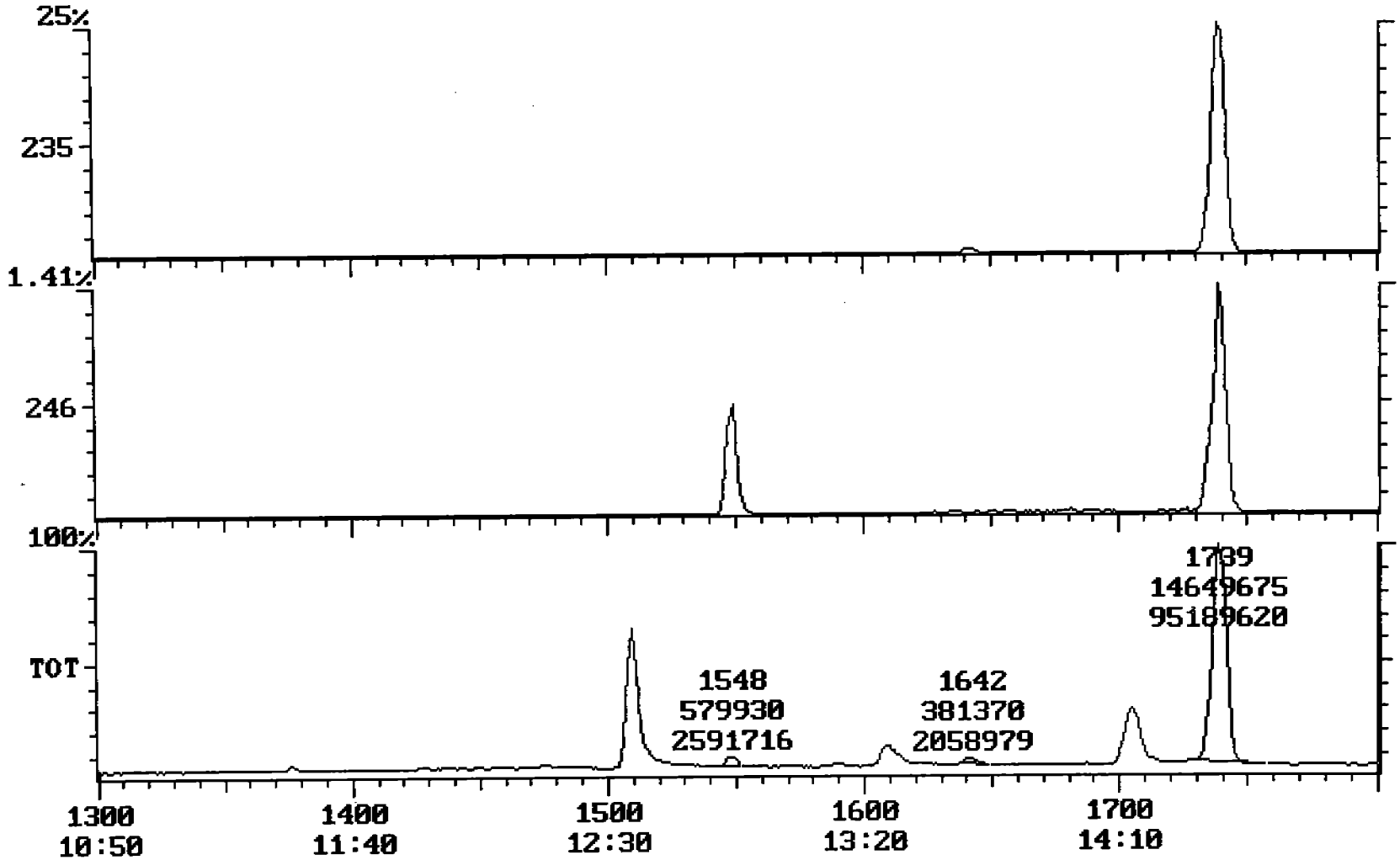
Comment: INSTRUMENT 133
Base Pk: 198 Int: 246554 Pks: 158 Range: 41-443 Thrsh: 0.00% RIC: 1783170

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
41	-2,427	-----	125	-2,294	-----	225	4,254	1.73
43	-1,478	-----	127	75,102	30.46	227	9,510	3.86
44	-1,697	-----	128	2,110	0.86	230	-1,590	-----
45	783	0.32	129	38,623	15.67	232	-283	-----
47	-263	-----	130	-315	-----	244	18,060	7.32
50	52,315	21.22	131	-1,741	-----	249	-2,205	-----
51	93,176	37.79	132	-698	-----	251	-2,190	-----
55	1,155	0.47	133	-296	-----	253	-2,513	-----
56	1,058	0.43	134	-280	-----	255	129,536	52.54
57	5,466	2.22	135	1,129	0.46	256	20,493	8.31
59	-345	-----	136	-771	-----	258	3,667	1.49
60	-558	-----	137	-1,280	-----	264	-3,105	-----
67	-3,091	-----	141	5,614	2.28	265	2,292	0.93
69	79,465	32.23	145	-1,201	-----	266	-2,295	-----
70	-300	-----	147	11,439	4.64	267	-3,571	-----
71	-3,109	-----	148	11,928	4.84	268	-397	-----
73	21,390	8.68	149	-2,824	-----	269	-1,966	-----
74	19,029	7.72	151	-298	-----	274	12,574	5.10
75	12,790	5.19	163	-2,523	-----	275	71,816	29.13
76	1,293	0.52	165	-461	-----	276	8,072	3.27
77	82,060	33.28	166	1,555	0.63	277	2,332	0.95
79	21,039	8.53	167	15,358	6.23	279	-263	-----
80	6,792	2.75	168	4,933	2.00	281	19,745	8.01
81	9,537	3.87	173	-296	-----	282	5,363	2.18
82	-1,952	-----	175	-878	-----	283	1,515	0.61
83	-3,806	-----	177	-2,084	-----	284	-960	-----
84	-1,241	-----	179	2,871	1.16	295	-1,833	-----
85	3,372	1.37	180	823	0.33	296	14,969	6.07
86	1,960	0.79	186	30,947	12.55	297	-300	-----
87	336	0.14	187	7,697	3.12	313	-473	-----
91	-2,138	-----	189	-1,027	-----	323	6,849	2.78
93	19,466	7.90	191	-3,286	-----	325	-1,967	-----
95	-3,772	-----	192	-2,019	-----	327	-2,121	-----
96	-2,841	-----	193	2,820	1.14	328	-1,267	-----
97	-2,566	-----	194	-2,673	-----	329	-366	-----
98	29,648	12.02	195	-1,708	-----	341	6,489	2.63
99	10,556	4.28	198	246,554	100.00	342	-4,633	-----
103	-1,265	-----	199	15,549	6.31	343	-1,477	-----
104	999	0.41	200	-350	-----	355	5,674	2.30
105	-2,557	-----	202	-246	-----	356	2,491	1.01
107	39,809	16.15	204	-563	-----	357	-2,847	-----
108	5,209	2.11	205	9,616	3.90	358	-295	-----
109	-2,877	-----	206	42,495	17.24	365	10,306	4.18
110	76,673	31.10	207	3,619	1.47	369	-1,644	-----
111	7,849	3.18	208	1,136	0.46	385	-263	-----
115	-713	-----	209	-1,479	-----	387	-2,305	-----
117	60,556	24.56	210	-280	-----	389	-263	-----
119	-2,232	-----	217	9,177	3.72	415	-230	-----
120	-347	-----	219	-295	-----	423	8,274	3.36
121	-2,274	-----	221	10,855	4.40	441	20,196	8.19

Mass List Average of: 1277 to 1281 Minus: 1294 to 1298 Datafile: DFT0521B
Comment: INSTRUMENT 133
Base Pk: 198 Int: 246554 Pks: 158 Range: 41-443 Thrsh: 0.00% RIC: 1783170

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
122	-245	-----	222	-46	-----	442	132,229	53.63
123	630	0.26	223	-1,603	-----	443	24,947	10.12
124	-612	-----	224	25,156	10.20			

Chromatogram Plot C:\SATURN\DATA\DFT0521B Date: 05/21/02 19:48:22
Comment: INSTRUMENT 133
Scan: 1800 Seg: 1 Group: 0 Retention: 15:00 RIC: 594089 Masses: 41-415
Plotted: 1300 to 1800 Range: 1 to 1904 100% = 15444422



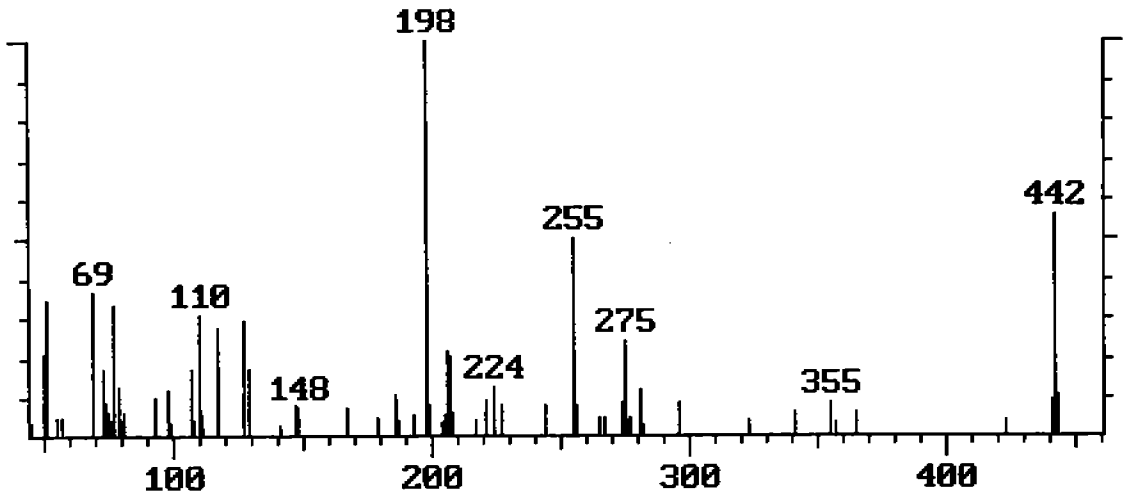
$\frac{9625691}{9184031} = 1046$

DFTPP CLP Report

Spectrum of Scan Number 1275

Data File: DFT0522F
Cali File: ICHERBQ

Acqu Date: 05/22/02
Acqu Time: 16:21



Mass	Acceptance Criterion	Value	Pass/Fail
51	30.0 - 80.0% of mass 198	34.59	Pass
68	Less than 2.0% of mass 69	0.00	Pass
69	Mass 69 relative abundance	36.48	Pass
70	Less than 2.0% of mass 69	0.00	Pass
127	25.0 - 75.0% of mass 198	28.77	Pass
197	Less than 1.0% of mass 198	0.00	Pass
198	Base Peak, 100% relative abundance	100.00	Pass
199	5.0 - 9.0% of mass 198	7.23	Pass
275	10.0 - 30.0% of mass 198	24.06	Pass
365	Greater than 0.75% of mass 198	5.82	Pass
441	Present, but less than mass 443	15.41	Pass
442	40.0% - 110.0% of mass 198	56.13	Pass
443	15.0 - 24.0% of mass 442	17.65	Pass

Press any key to continue.

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0522F DFTPP Injection Date: 05/22/02

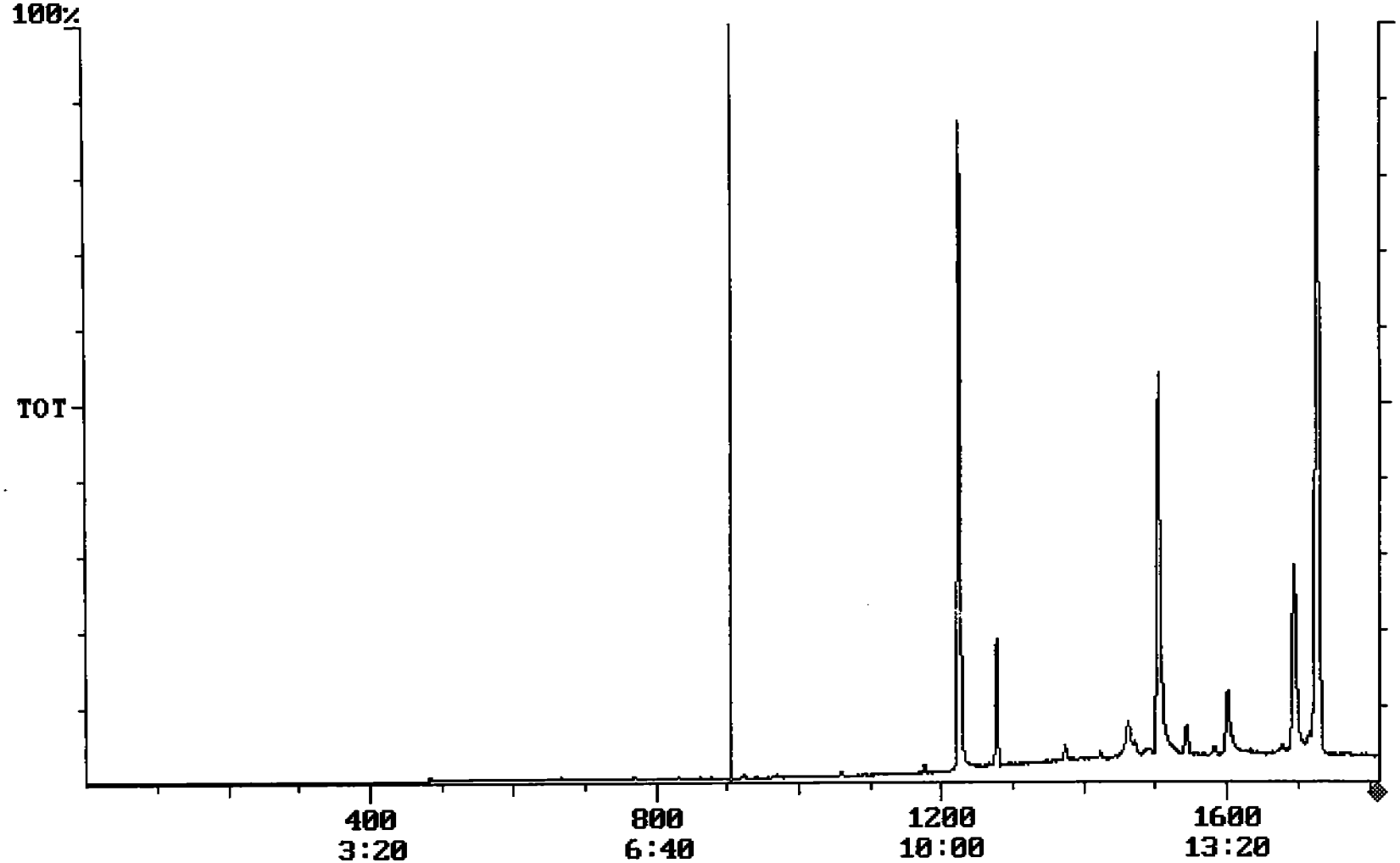
Instrument ID: 135 DFTPP Injection Time: 16:21

GC Column: ID: 0.000(mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	34.6
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	36.5
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	28.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	24.1
365	Greater than 0.75% of mass 198	5.8
441	Present, but less than mass 443	8.6
442	40.0% - 110.0% of mass 198	56.1
443	15.0 - 24.0% of mass 442	9.9 (17.6) 2

1-Value is % mass 69 2-Value is % mass 442

Chromatogram Plot C:\SATURN\DATA\DFT0522F Date: 05/22/02 16:21:20
Comment: INSTRUMENT 133
Scan: 905 Seg: 1 Group: 0 Retention: 7:32 RIC: 73909 Masses: 41-399
Plotted: 1 to 1809 Range: 1 to 1809 100% = 14799555

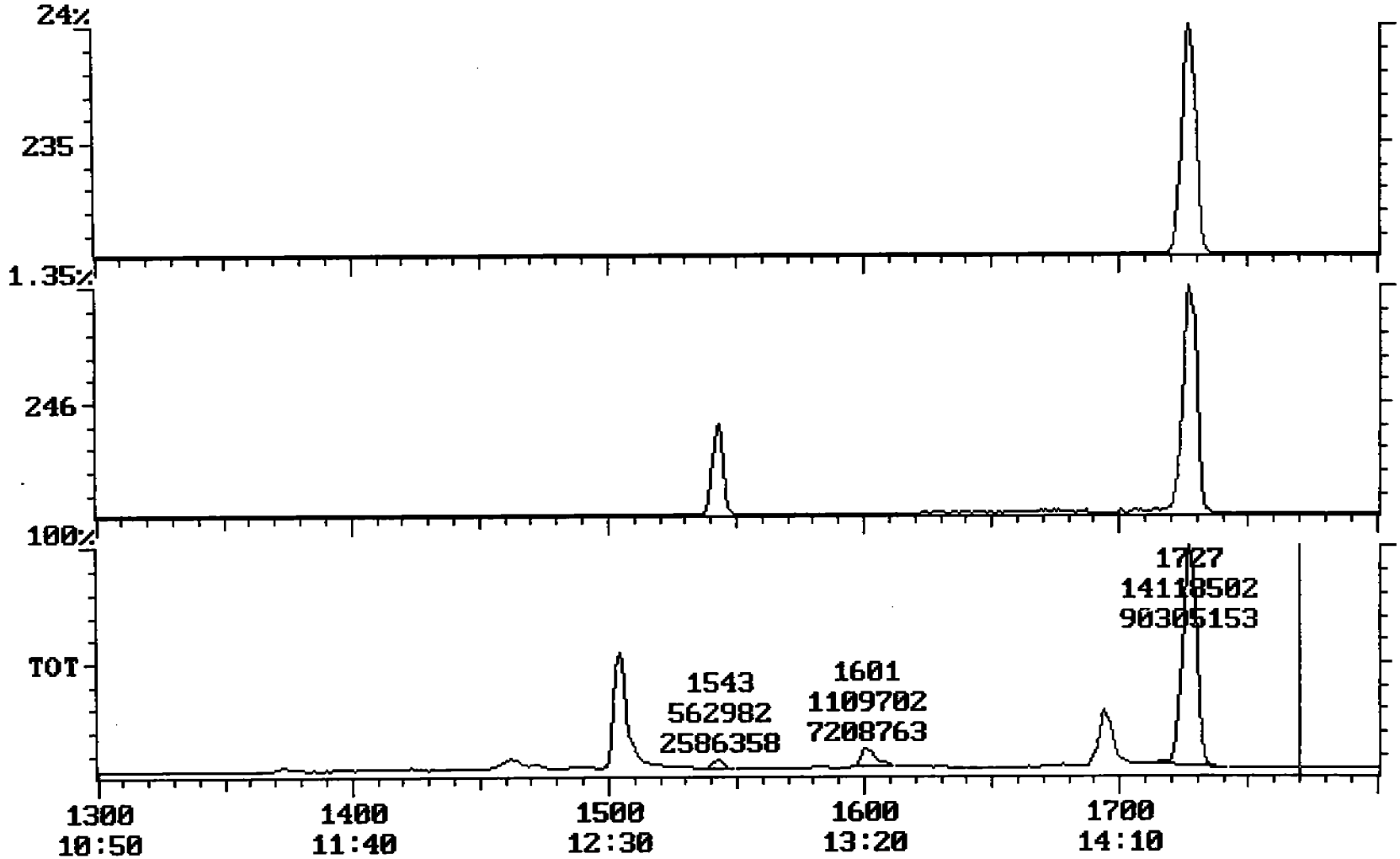


==========Mass List of Sca

Comment: INSTRUMENT 133
Base Pk: 198 Int: 187021 Pks: 65 Range: 43-443 Thrsh: 0.00% RIC: 1540864

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
43	5,587	2.99	117	50,578	27.04	244	13,527	7.23
45	5,587	2.99	127	53,813	28.77	255	93,511	50.00
50	38,522	20.60	129	31,170	16.67	256	14,409	7.70
51	64,693	34.59	141	4,411	2.36	265	7,646	4.09
55	7,646	4.09	147	14,115	7.55	267	7,351	3.93
57	7,351	3.93	148	12,939	6.92	274	15,291	8.18
69	68,222	36.48	167	12,350	6.60	275	44,991	24.06
73	31,758	16.98	179	7,351	3.93	276	6,469	3.46
74	15,585	8.33	186	19,114	10.22	277	8,234	4.40
75	9,998	5.35	187	7,057	3.77	281	21,760	11.64
76	6,175	3.30	193	9,116	4.87	282	4,705	2.52
77	62,340	33.33	198	187,021	100.00	296	14,997	8.02
79	22,054	11.79	199	13,527	7.23	323	6,763	3.62
80	6,469	3.46	204	5,293	2.83	341	10,586	5.66
81	10,586	5.66	205	9,116	4.87	355	14,997	8.02
93	17,644	9.43	206	39,992	21.38	357	4,999	2.67
98	21,466	11.48	207	37,345	19.97	365	10,880	5.82
99	5,293	2.83	208	9,998	5.35	423	6,175	3.30
107	31,758	16.98	217	7,057	3.77	441	16,173	8.65
108	6,175	3.30	221	16,173	8.65	442	104,979	56.13
110	56,459	30.19	224	22,348	11.95	443	18,526	9.91
111	9,116	4.87	227	13,527	7.23			

Chromatogram Plot C:\SATURN\DATA\DFT0522F Date: 05/22/02 16:21:20
Comment: INSTRUMENT 133
Scan: 1770 Seg: 1 Group: 0 Retention: 14:45 RIC: 550494 Masses: 41-387
Plotted: 1300 to 1800 Range: 1 to 1809 100% = 14799555



$\frac{9795121}{100100274} = .0976$

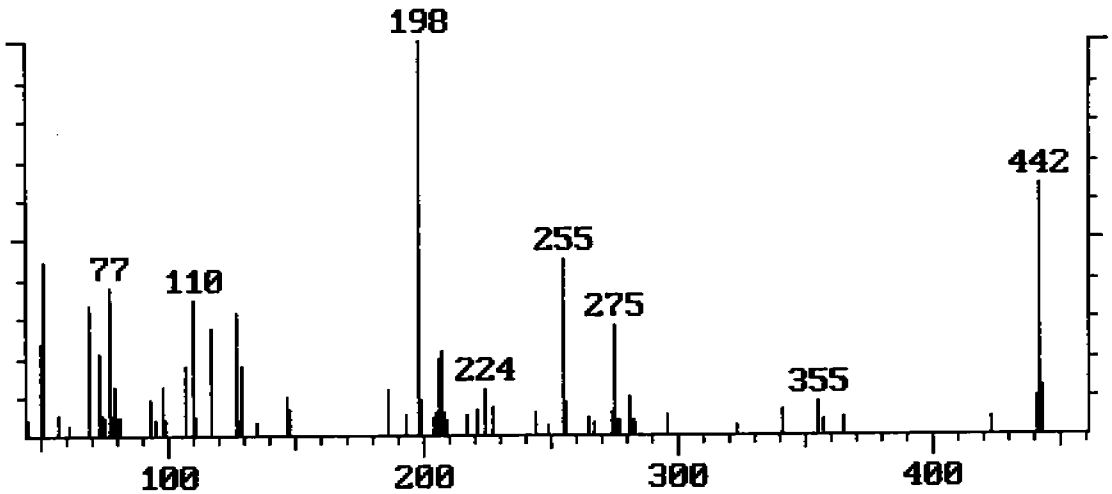
001084

DFTPP CLP Report

Spectrum of Scan Number 1292

Data File: DFT0515A
Cali File: ICC0213Q

Acqu Date: 05/15/02
Acqu Time: 08:23



Mass	Acceptance Criterion	Value	Pass/Fail
51	30.0 - 80.0% of mass 198	44.00	Pass
68	Less than 2.0% of mass 69	0.00	Pass
69	Mass 69 relative abundance	33.04	Pass
70	Less than 2.0% of mass 69	0.00	Pass
127	25.0 - 75.0% of mass 198	30.96	Pass
197	Less than 1.0% of mass 198	0.00	Pass
198	Base Peak, 100% relative abundance	100.00	Pass
199	5.0 - 9.0% of mass 198	8.52	Pass
275	10.0 - 30.0% of mass 198	27.83	Pass
365	Greater than 0.75% of mass 198	1.00	Pass
441	Present, but less than mass 443	15.22	Pass
442	40.0% - 110.0% of mass 198	64.00	Pass
443	15.0 - 24.0% of mass 442	18.48	Pass

Press any key to continue.

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0515A DFTPP Injection Date: 05/15/02

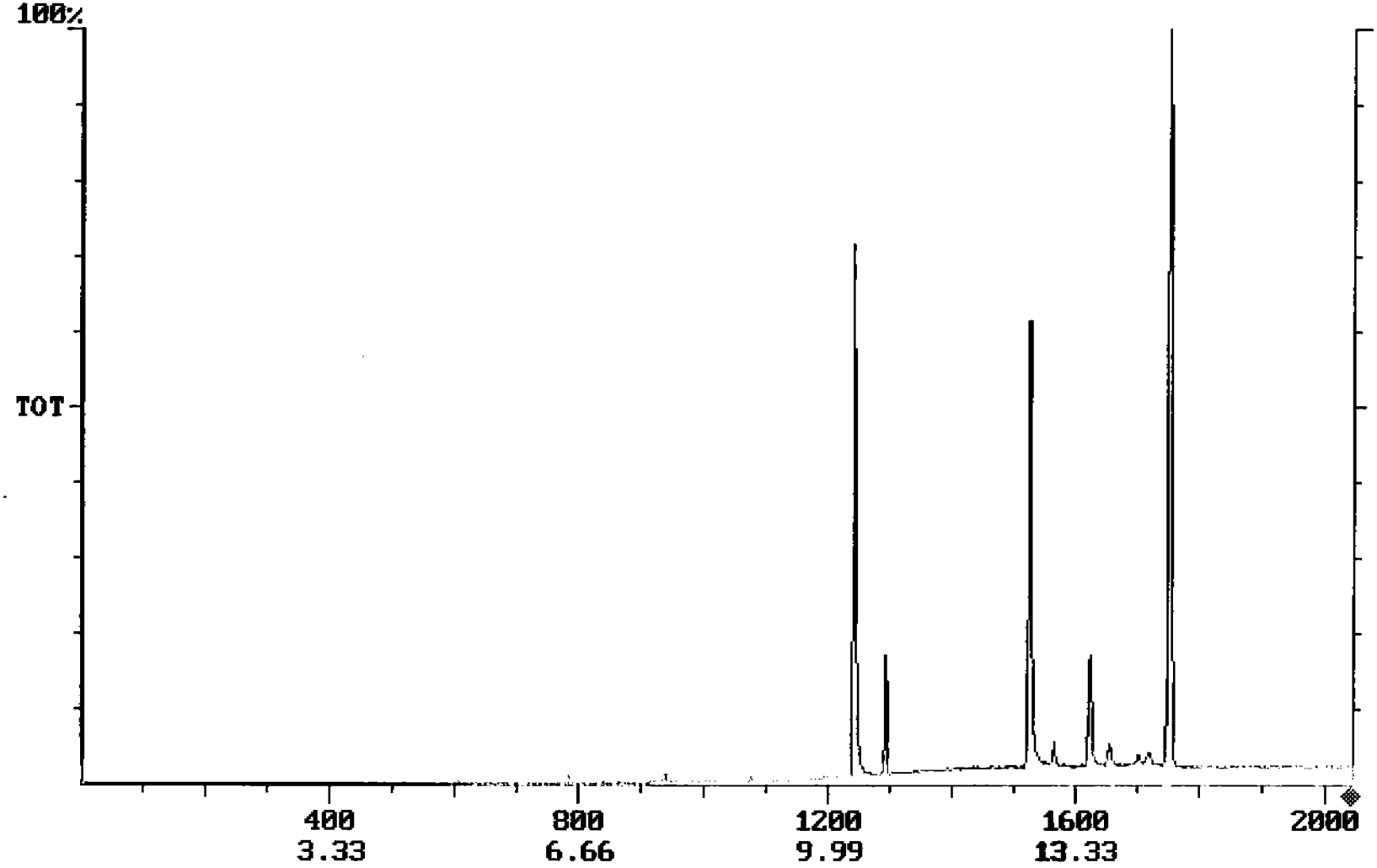
Instrument ID: 13K DFTPP Injection Time: 08:23

GC Column: ID: 0.000(mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	44.0
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	33.0
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	31.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	8.5
275	10.0 - 30.0% of mass 198	27.8
365	Greater than 0.75% of mass 198	4.0
441	Present, but less than mass 443	9.7
442	40.0% - 110.0% of mass 198	64.0
443	15.0 - 24.0% of mass 442	11.8 (18.5) 2

1-Value is % mass 69 2-Value is % mass 442

Chromatogram Plot C:\SATURN\DATA\DFT0515A Date: 05/15/02 08:23:27
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 2040 Range: 1 to 2040 100% = 6707358



001087

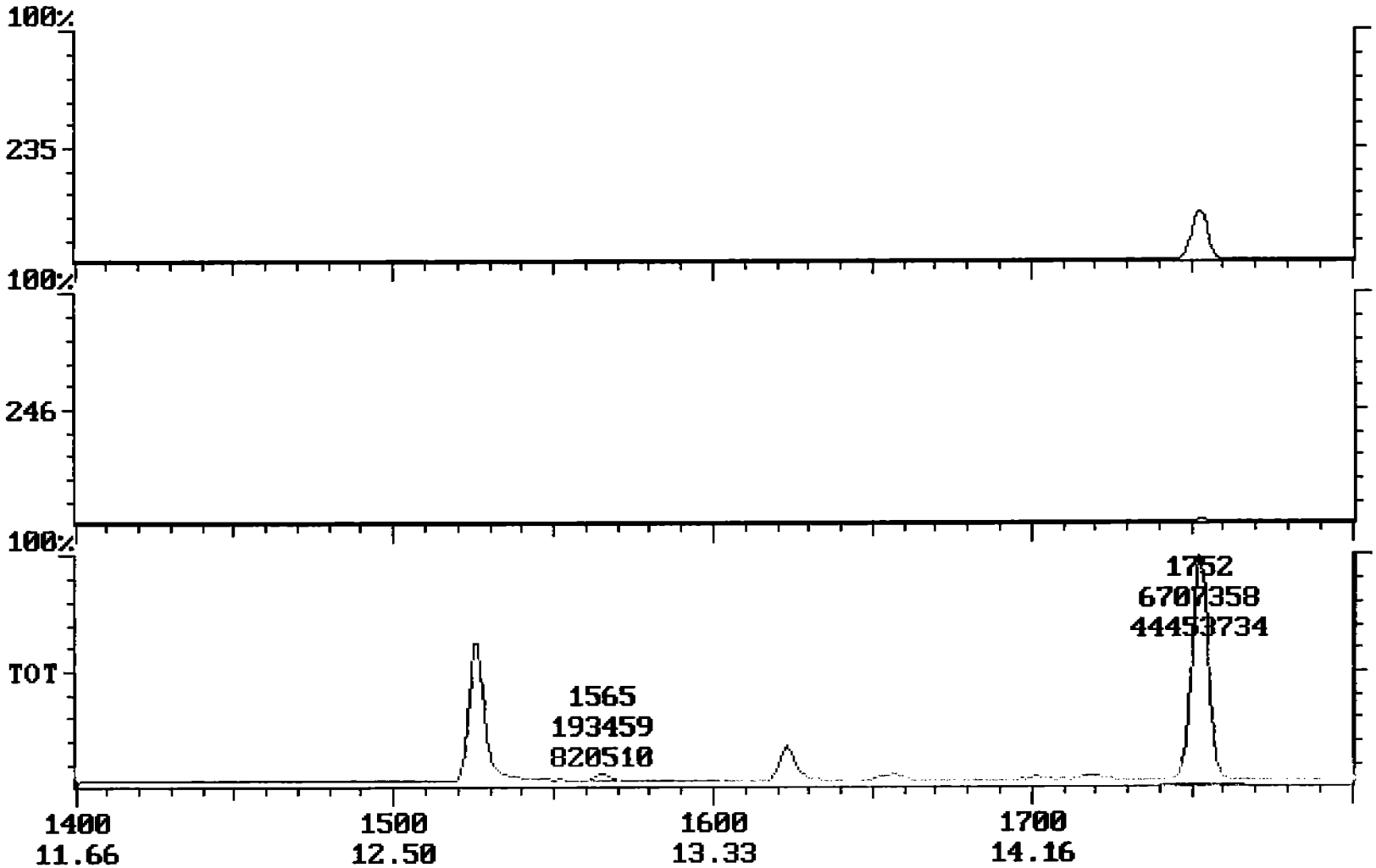
==========Mass List of Sca

Comment: INSTRUMENT 138

Base Pk: 198 Int: 50429 Pks: 68 Range: 40-443 Thrsh: 0.00% RIC: 431577

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
40	2,193	4.35	111	2,105	4.17	249	1,228	2.44
43	1,929	3.83	117	13,769	27.30	255	22,627	44.87
44	1,140	2.26	127	15,611	30.96	256	4,210	8.35
45	1,666	3.30	128	1,842	3.65	265	2,017	4.00
50	11,752	23.30	129	8,682	17.22	267	1,579	3.13
51	22,189	44.00	135	1,491	2.96	274	2,894	5.74
57	2,368	4.70	147	4,648	9.22	275	14,032	27.83
61	1,228	2.44	148	3,157	6.26	276	1,842	3.65
69	16,663	33.04	186	5,876	11.65	277	1,842	3.65
73	10,524	20.87	193	2,543	5.04	281	4,911	9.74
74	2,543	5.04	198	50,429	100.00	282	1,842	3.65
75	2,280	4.52	199	4,297	8.52	283	1,754	3.48
77	18,856	37.39	204	2,017	4.00	296	2,631	5.22
78	2,631	5.22	205	2,806	5.56	323	1,140	2.26
79	6,051	12.00	206	9,647	19.13	341	3,157	6.26
80	2,193	4.35	207	10,787	21.39	355	4,210	8.35
81	2,017	4.00	208	2,806	5.56	357	1,666	3.30
93	4,297	8.52	209	1,842	3.65	365	2,017	4.00
95	1,666	3.30	217	2,543	5.04	423	2,105	4.17
98	6,227	12.35	221	3,070	6.09	441	4,911	9.74
99	1,842	3.65	224	5,876	11.65	442	32,274	64.00
107	8,858	17.57	227	3,508	6.96	443	5,964	11.83
110	17,453	34.61	244	2,806	5.56			

Chromatogram Plot C:\SATURN\DATA\DFT0515A Date: 05/15/02 08:23:27
Comment: INSTRUMENT 138
Scan: 1800 Seg: 1 Group: 0 Retention: 14.99 RIC: 153646 Masses: 40-387
Plotted: 1400 to 1800 Range: 1 to 2040 100% = 6707358

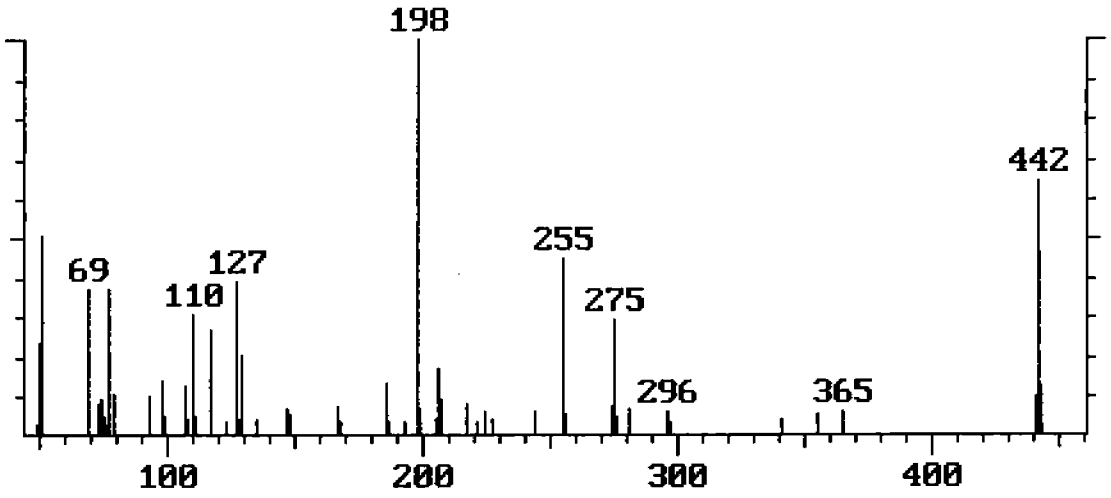


DFTPP CLP Report

Spectrum of Scan Number 1276

Data File: DFT0521B
Cali File: ICC0515Q

Acqu Date: 05/21/02
Acqu Time: 20:16



Mass	Acceptance Criterion	Value	Pass/Fail
51	30.0 - 80.0% of mass 198	50.96	Pass
68	Less than 2.0% of mass 69	0.00	Pass
69	Mass 69 relative abundance	37.04	Pass
70	Less than 2.0% of mass 69	0.00	Pass
127	25.0 - 75.0% of mass 198	38.96	Pass
197	Less than 1.0% of mass 198	0.00	Pass
198	Base Peak, 100% relative abundance	100.00	Pass
199	5.0 - 9.0% of mass 198	6.26	Pass
275	10.0 - 30.0% of mass 198	28.87	Pass
365	Greater than 0.75% of mass 198	5.39	Pass
441	Present, but less than mass 443	14.78	Pass
442	40.0% - 110.0% of mass 198	64.70	Pass
443	15.0 - 24.0% of mass 442	19.09	Pass

Press any key to continue.

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0521B DFTPP Injection Date: 05/21/02

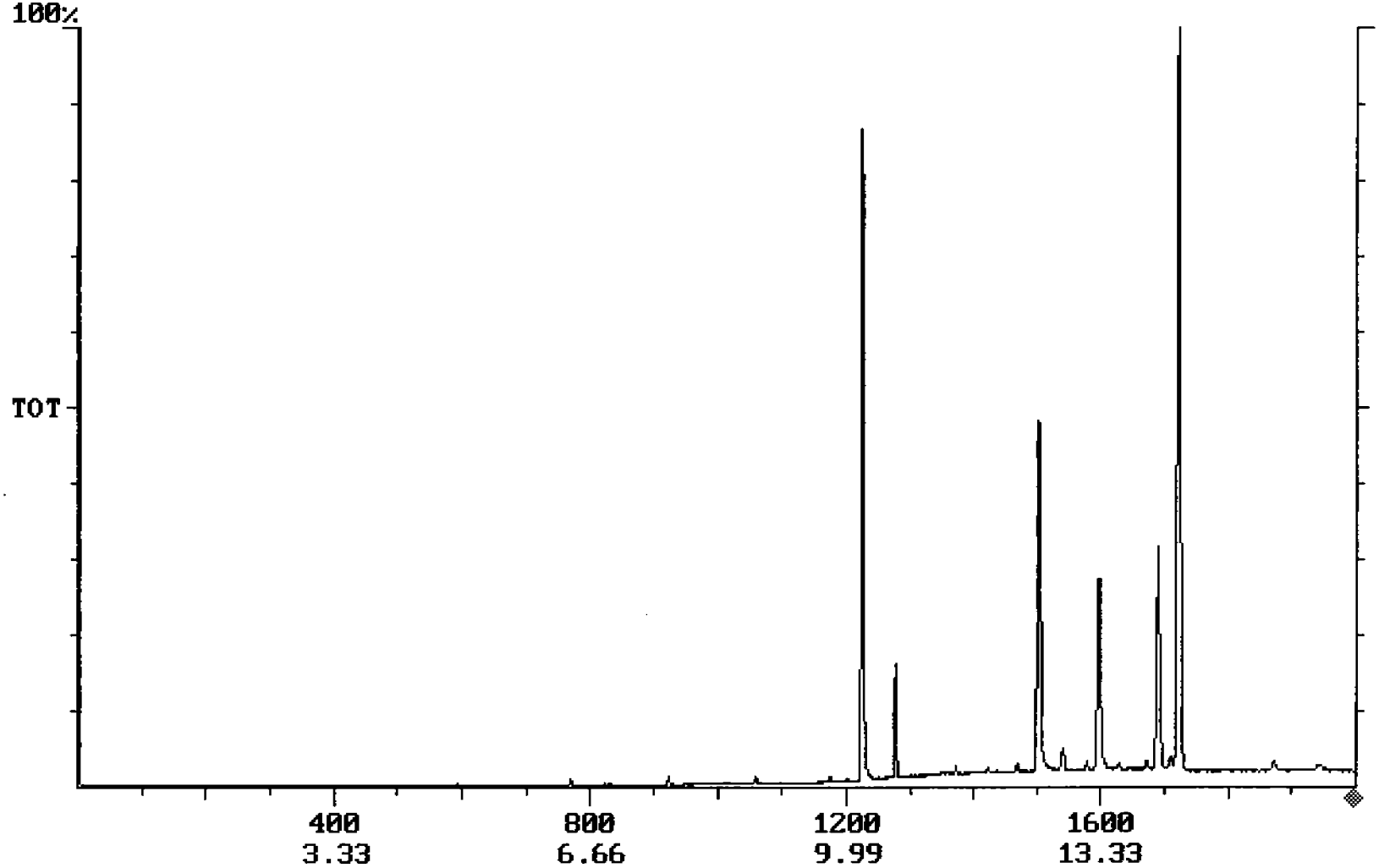
Instrument ID: 138 DFTPP Injection Time: 20:16

GC Column: ID: 0.000(mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	51.0
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	37.0
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	39.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.3
275	10.0 - 30.0% of mass 198	28.9
365	Greater than 0.75% of mass 198	5.4
441	Present, but less than mass 443	9.6
442	40.0% - 110.0% of mass 198	64.7
443	15.0 - 24.0% of mass 442	12.3 (19.1) 2

1-Value is % mass 69 2-Value is % mass 442

Chromatogram Plot C:\SATURN\DATA\DFT0521B Date: 05/21/02 20:16:26
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 1995 Range: 1 to 1995 100% = 9383124



001092

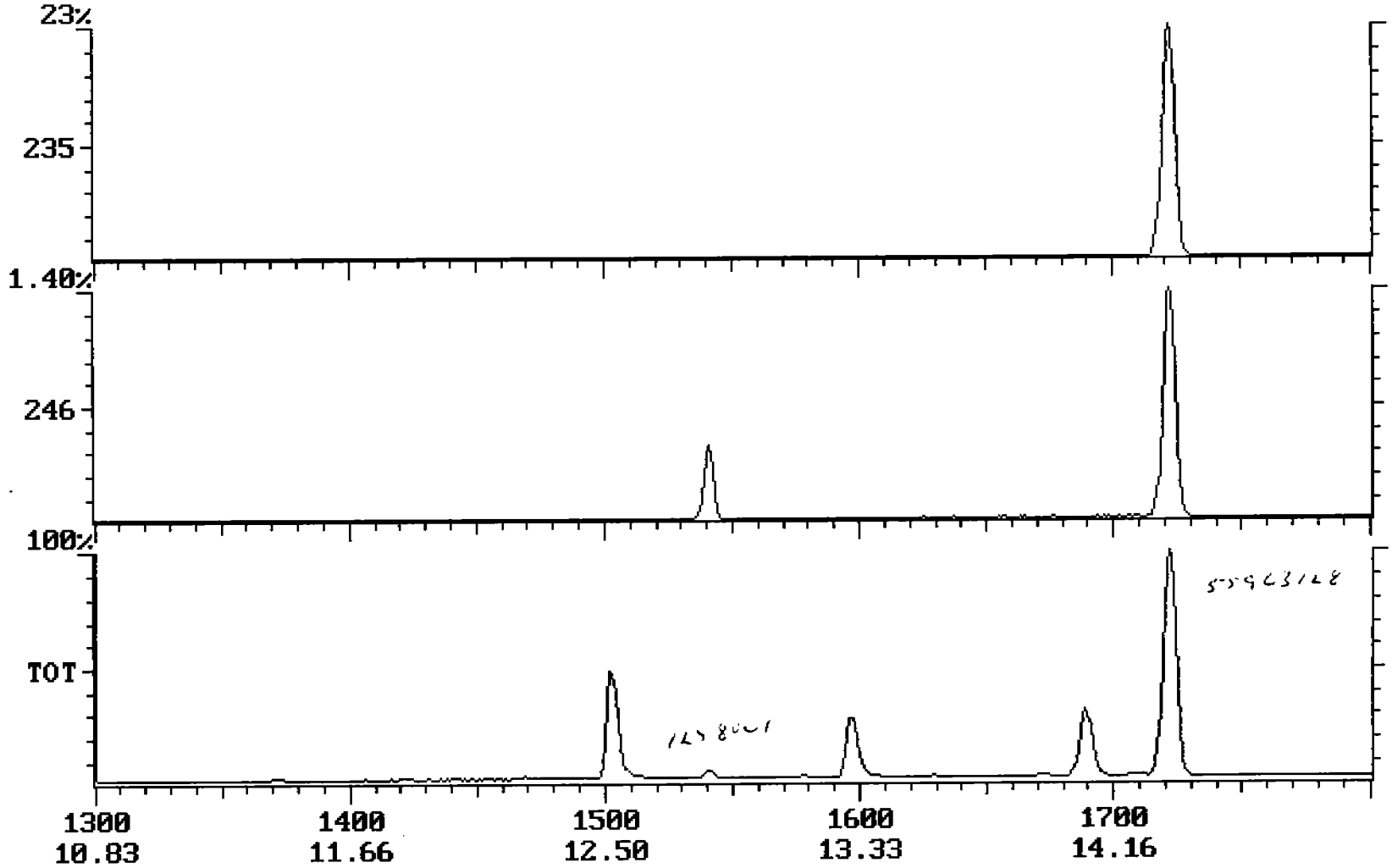
==========Mass List of Sca

Comment: INSTRUMENT 138

Base Pk: 198 Int: 149710 Pks: 54 Range: 49-443 Thrsh: 0.00% RIC: 1139876

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
49	3,645	2.43	123	4,426	2.96	221	4,426	2.96
50	35,149	23.48	127	58,322	38.96	224	8,071	5.39
51	76,287	50.96	128	4,947	3.30	227	5,728	3.83
69	55,458	37.04	129	29,682	19.83	244	8,332	5.57
73	11,196	7.48	135	5,728	3.83	255	66,653	44.52
74	13,539	9.04	147	9,113	6.09	256	7,030	4.70
75	6,769	4.52	148	7,030	4.70	274	9,894	6.61
76	3,124	2.09	167	10,154	6.78	275	43,221	28.87
77	54,937	36.70	168	4,166	2.78	276	6,769	4.52
79	15,101	10.09	186	19,007	12.70	281	9,633	6.43
93	14,580	9.74	187	4,426	2.96	296	8,332	5.57
98	20,308	13.56	193	4,166	2.78	297	4,166	2.78
99	6,249	4.17	198	149,710	100.00	341	5,207	3.48
107	18,486	12.35	199	9,373	6.26	355	7,030	4.70
108	5,207	3.48	205	5,468	3.65	365	8,071	5.39
110	45,564	30.43	206	24,995	16.70	441	14,320	9.57
111	6,509	4.35	207	13,539	9.04	442	96,856	64.70
117	39,575	26.43	217	11,716	7.83	443	18,486	12.35

Chromatogram Plot C:\SATURN\DATA\DFT0521B Date: 05/21/02 20:16:26
Comment: INSTRUMENT 138
Scan: 1300 Seg: 1 Group: 0 Retention: 10.83 RIC: 127513 Masses: 40-429
Plotted: 1300 to 1800 Range: 1 to 1995 100% = 9383124



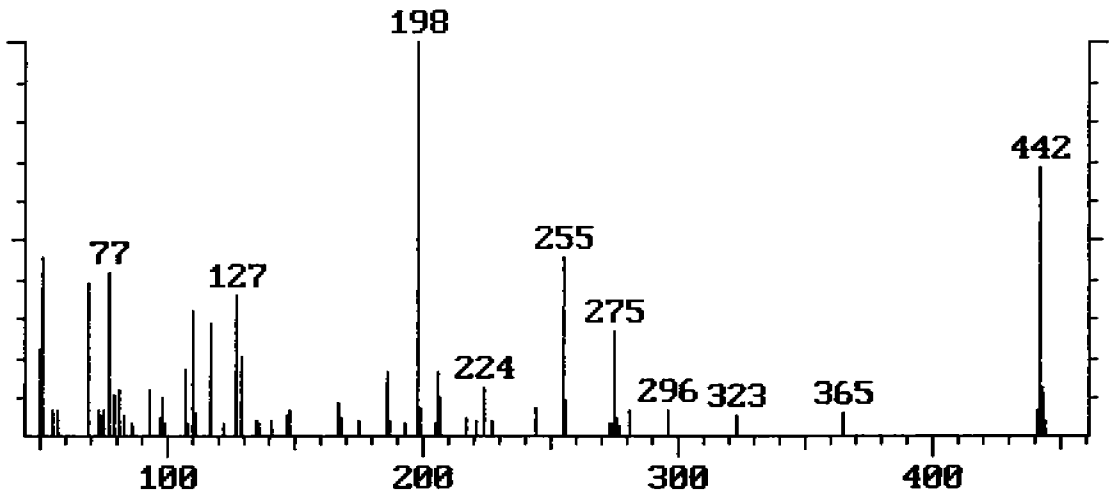
001094

DFTPP CLP Report

Spectrum of Scan Number 1262

Data File: DFT0522A
Cali File: ICC0515Q

Acqu Date: 05/22/02
Acqu Time: 09:05



Mass	Acceptance Criterion	Value	Pass/Fail
51	30.0 - 80.0% of mass 198	45.49	Pass
68	Less than 2.0% of mass 69	0.00	Pass
69	Mass 69 relative abundance	38.58	Pass
70	Less than 2.0% of mass 69	0.00	Pass
127	25.0 - 75.0% of mass 198	35.70	Pass
197	Less than 1.0% of mass 198	0.00	Pass
198	Base Peak, 100% relative abundance	100.00	Pass
199	5.0 - 9.0% of mass 198	7.10	Pass
275	10.0 - 30.0% of mass 198	26.49	Pass
365	Greater than 0.75% of mass 198	5.57	Pass
441	Present, but less than mass 443	9.01	Pass
442	40.0% - 110.0% of mass 198	68.14	Pass
443	15.0 - 24.0% of mass 442	17.47	Pass

Press any key to continue.

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0522A DFTPP Injection Date: 05/22/02

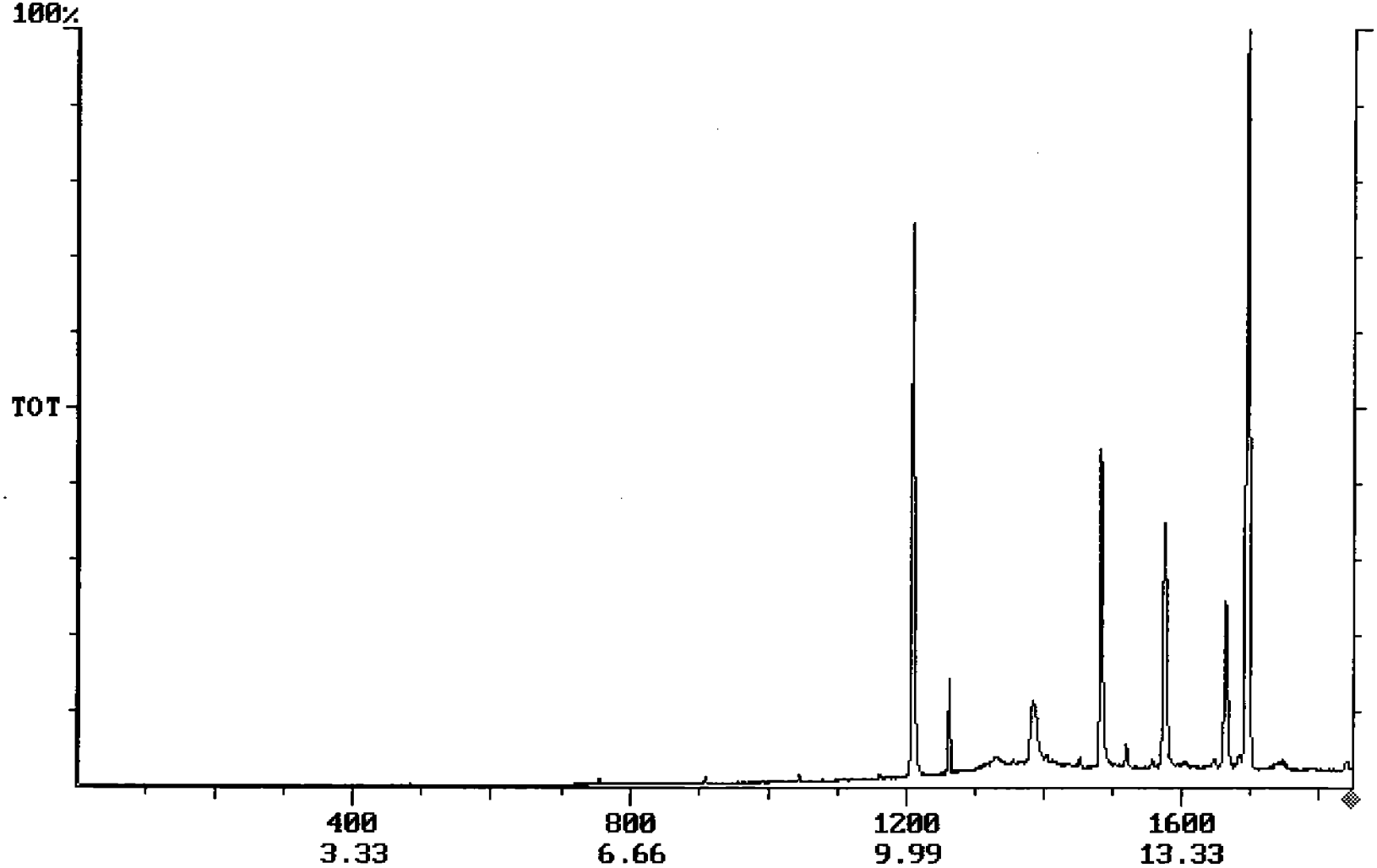
Instrument ID: 13E DFTPP Injection Time: 09:05

GC Column: ID: 0.000(mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	45.5
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	38.6
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	25.0 - 75.0% of mass 198	35.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	26.5
365	Greater than 0.75% of mass 198	5.6
441	Present, but less than mass 443	6.1
442	40.0% - 110.0% of mass 198	68.1
443	15.0 - 24.0% of mass 442	11.9 (17.5) 2

1-Value is % mass 69 2-Value is % mass 442

Chromatogram Plot C:\SATURN\DATA\DFT0522A Date: 05/22/02 09:05:06
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 1845 Range: 1 to 1845 100% = 8541345



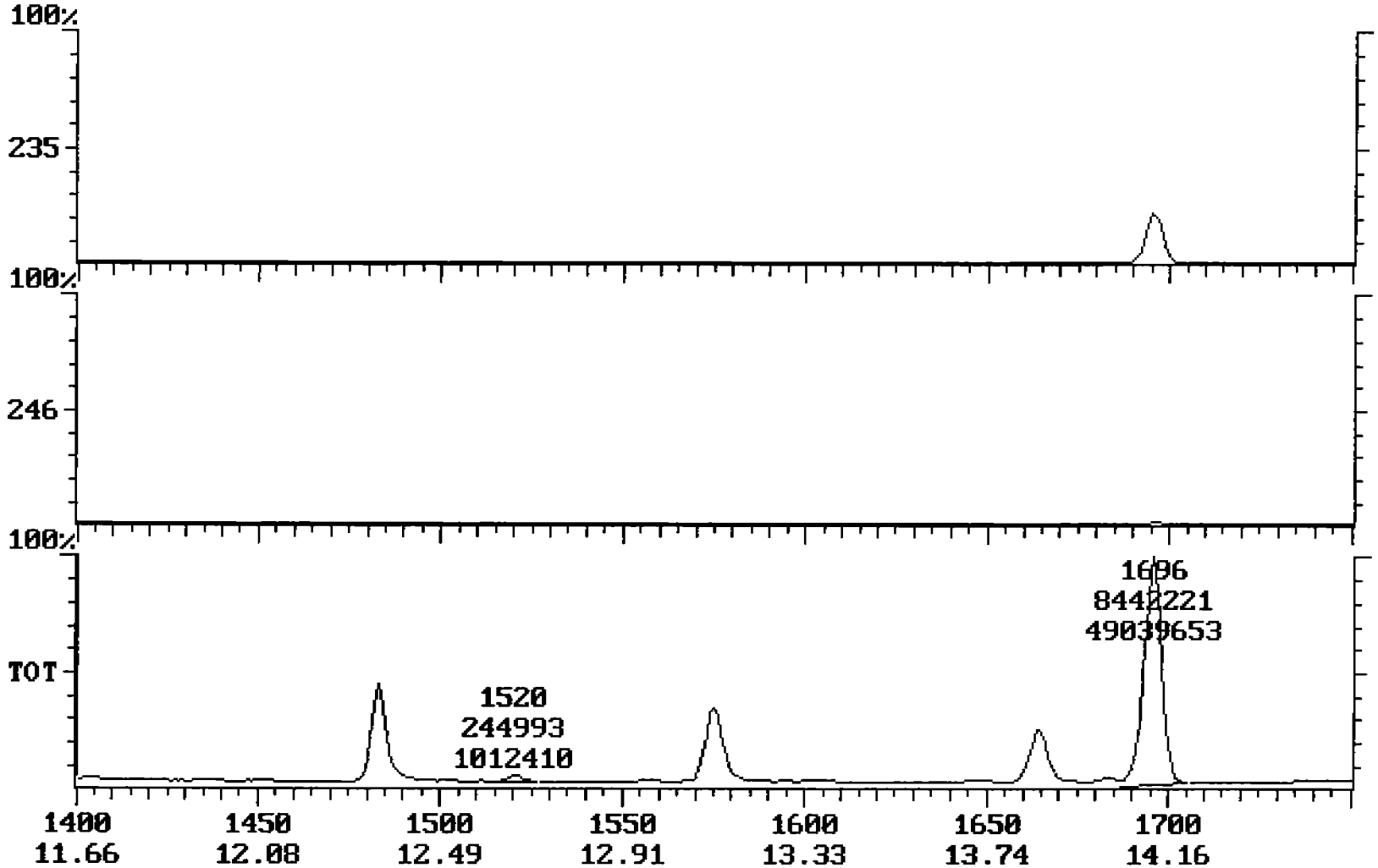
==========Mass List of Sca

Comment: INSTRUMENT 138

Base Pk: 198 Int: 135650 Pks: 62 Range: 43-444 Thrsh: 0.00% RIC: 1106288

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
43	4,687	3.46	111	7,811	5.76	217	5,728	4.22
50	29,682	21.88	117	38,274	28.22	221	5,207	3.84
51	61,706	45.49	122	4,426	3.26	224	16,663	12.28
55	8,592	6.33	127	48,428	35.70	227	4,947	3.65
57	8,332	6.14	129	26,818	19.77	244	9,113	6.72
69	52,333	38.58	135	5,207	3.84	255	61,446	45.30
73	8,332	6.14	136	3,905	2.88	256	11,716	8.64
74	7,030	5.18	141	5,207	3.84	273	3,905	2.88
75	8,852	6.53	147	6,249	4.61	274	4,166	3.07
77	56,499	41.65	148	8,332	6.14	275	35,930	26.49
79	13,799	10.17	167	10,935	8.06	276	5,468	4.03
81	15,362	11.32	168	5,468	4.03	277	3,124	2.30
83	6,249	4.61	175	5,207	3.84	281	8,852	6.53
86	4,426	3.26	186	21,871	16.12	296	8,852	6.53
93	15,362	11.32	187	4,947	3.65	323	6,249	4.61
97	5,988	4.41	193	3,905	2.88	365	7,551	5.57
98	12,758	9.41	198	135,650	100.00	441	8,332	6.14
99	4,426	3.26	199	9,633	7.10	442	92,429	68.14
107	22,912	16.89	205	3,905	2.88	443	16,143	11.90
108	4,166	3.07	206	21,610	15.93	444	5,207	3.84
110	42,700	31.48	207	13,279	9.79			

Chromatogram Plot C:\SATURN\DATA\DFT0522A Date: 05/22/02 09:05:06
Comment: INSTRUMENT 138
Scan: 1400 Seg: 1 Group: 0 Retention: 11.66 RIC: 324192 Masses: 40-356
Plotted: 1400 to 1750 Range: 1 to 1845 100% = 8541345



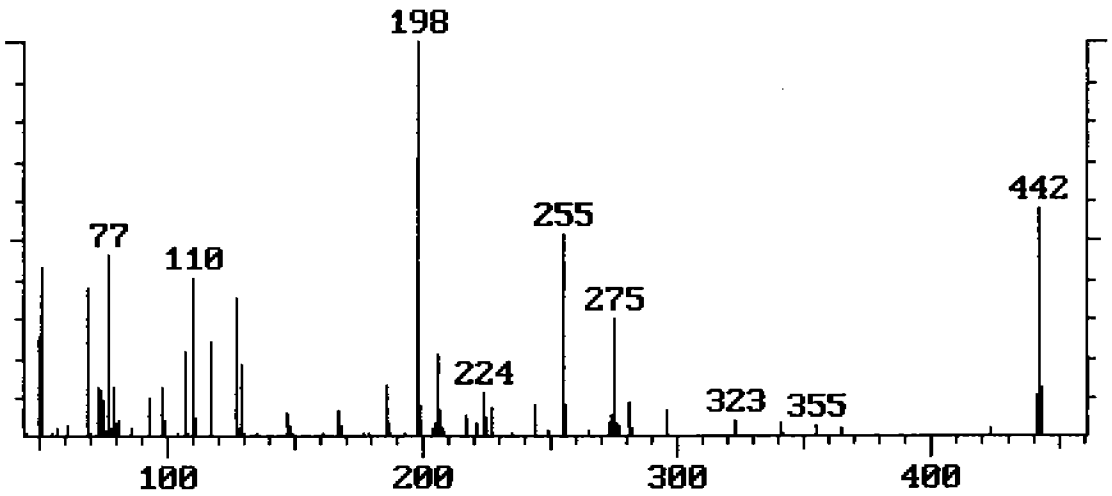
$\frac{1012410}{1012410 + 49039653} \times 100 = 2.0\%$

DFTPP CLP Report

Spectrum of Current Spectrum Buffer

Data File: DFT0522C
Cali File: ICC0515Q

Acqu Date: 05/22/02
Acqu Time: 23:23



Mass	Acceptance Criterion	Value	Pass/Fail
51	30.0 - 80.0% of mass 198	42.82	Pass
68	Less than 2.0% of mass 69	0.00	Pass
69	Mass 69 relative abundance	37.86	Pass
70	Less than 2.0% of mass 69	1.32	Pass
127	25.0 - 75.0% of mass 198	34.71	Pass
197	Less than 1.0% of mass 198	0.00	Pass
198	Base Peak, 100% relative abundance	100.00	Pass
199	5.0 - 9.0% of mass 198	7.79	Pass
275	10.0 - 30.0% of mass 198	29.65	Pass
365	Greater than 0.75% of mass 198	1.48	Pass
441	Present, but less than mass 443	17.00	Pass
442	40.0% - 110.0% of mass 198	57.87	Pass
443	15.0 - 24.0% of mass 442	21.28	Pass

Press any key to continue.

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

EPA Method CLP

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab File ID: DFT0522C DFTPP Injection Date: 05/22/02

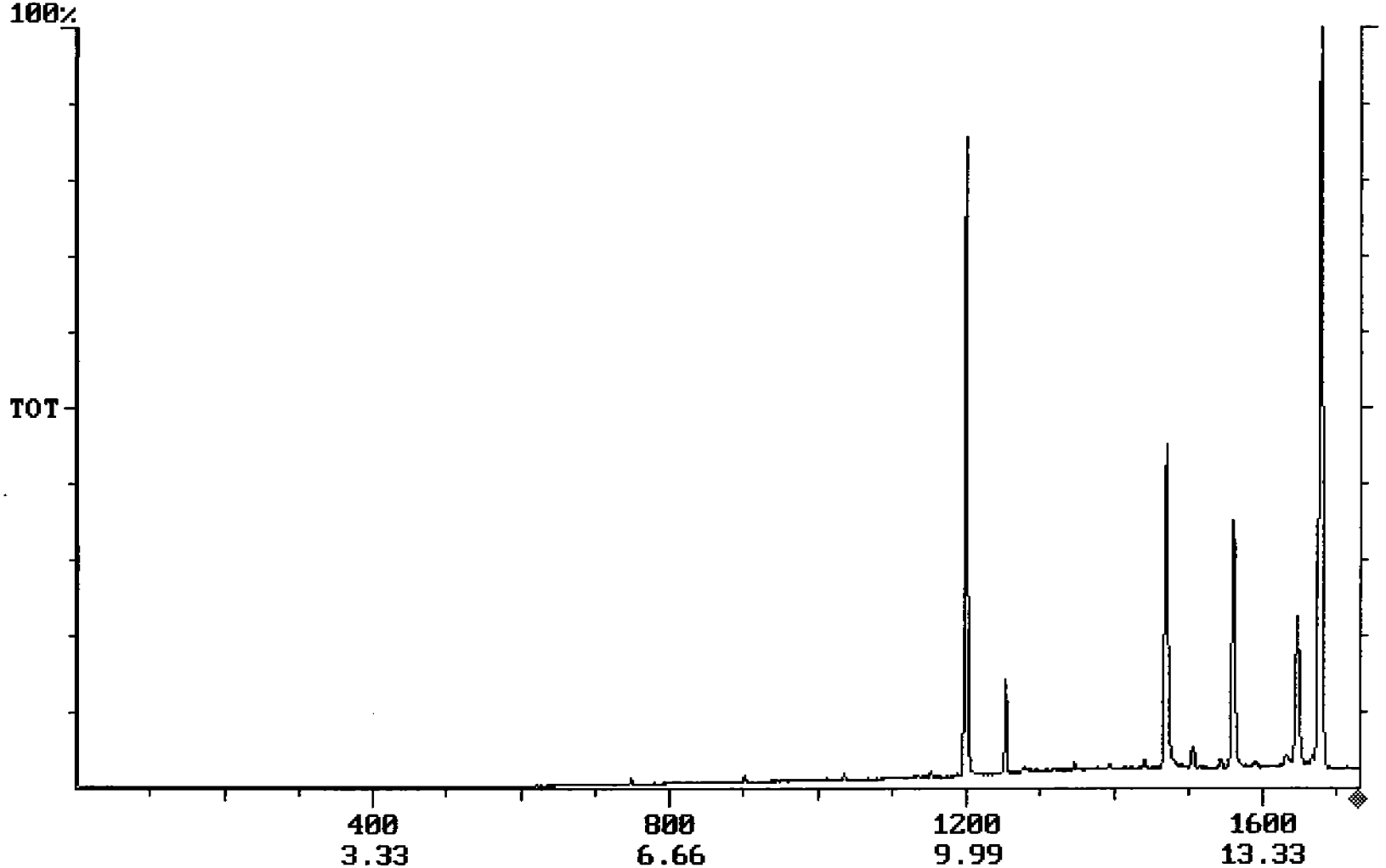
Instrument ID: 13K DFTPP Injection Time: 23:23

GC Column: ID: 0.000(mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	42.8
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	37.9
70	Less than 2.0% of mass 69	0.5 (1.3) 1
127	25.0 - 75.0% of mass 198	34.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.8
275	10.0 - 30.0% of mass 198	29.7
365	Greater than 0.75% of mass 198	1.5
441	Present, but less than mass 443	9.8
442	40.0% - 110.0% of mass 198	57.9
443	15.0 - 24.0% of mass 442	12.3 (21.3) 2

1-Value is % mass 69 2-Value is % mass 442

Chromatogram Plot C:\SATURN\DATA\DFT0522C Date: 05/22/02 23:23:48
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 1727 Range: 1 to 1727 100% = 7343769



==========Mass List Averag

Comment: INSTRUMENT 138

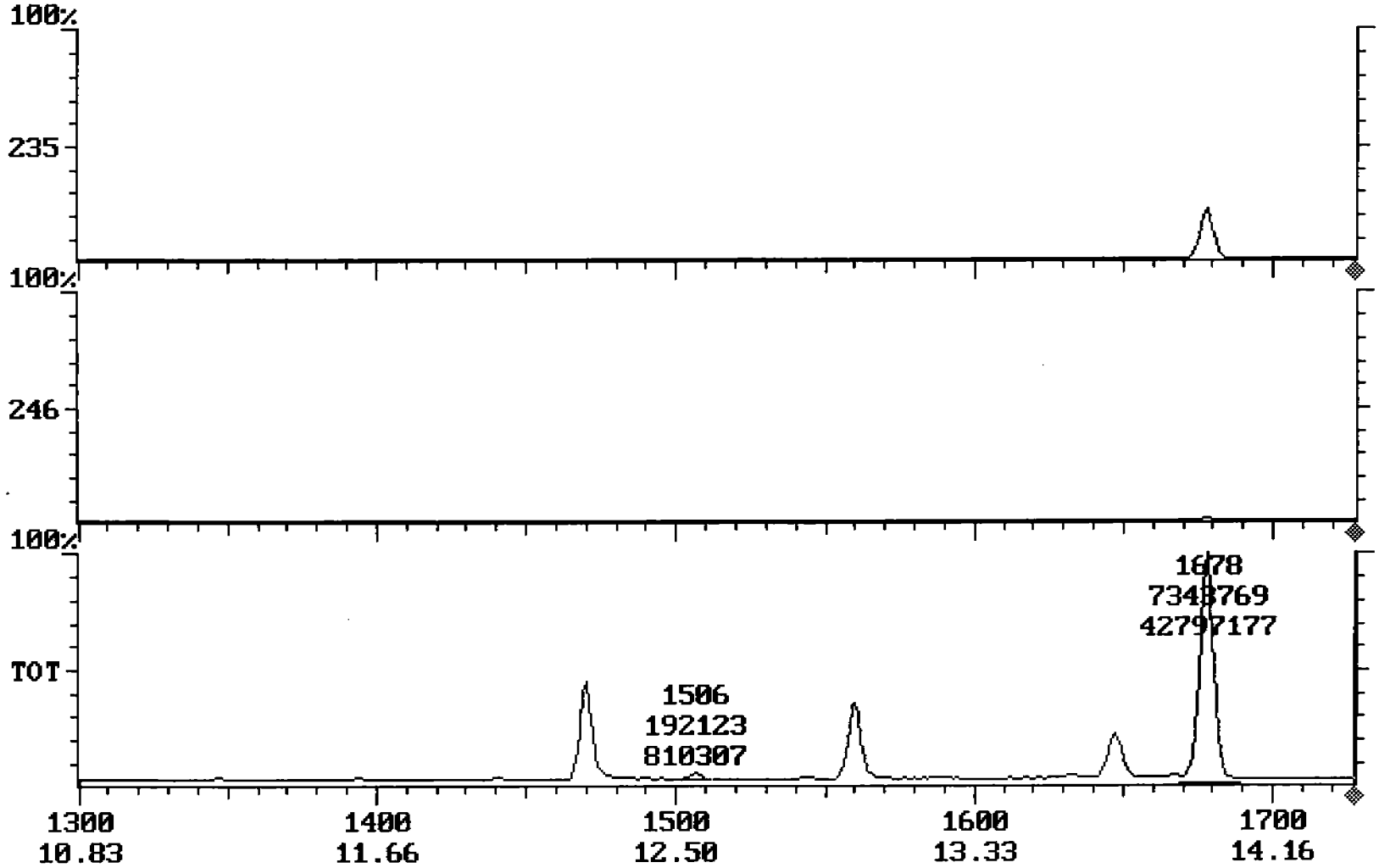
Base Pk: 198 Int: 71657 Pks: 175 Range: 40-443 Thrsh: 0.00% RIC: 579048

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
40	-1,238	-----	110	28,780	40.16	199	5,585	7.79
41	524	0.73	111	2,872	4.01	202	-525	-----
42	-1,537	-----	115	-546	-----	203	-169	-----
43	643	0.90	117	17,192	23.99	204	1,110	1.55
44	180	0.25	119	-794	-----	205	2,027	2.83
45	98	0.14	120	-299	-----	206	14,647	20.44
47	-292	-----	121	-716	-----	207	4,372	6.10
50	17,993	25.11	122	-96	-----	208	1,331	1.86
51	30,687	42.82	123	-73	-----	209	-517	-----
53	-621	-----	124	-85	-----	210	-96	-----
54	-133	-----	125	-658	-----	211	-216	-----
55	393	0.55	126	-105	-----	213	-86	-----
56	-316	-----	127	24,875	34.71	217	3,593	5.01
57	1,132	1.58	128	1,140	1.59	219	-84	-----
58	-304	-----	129	12,739	17.78	221	1,960	2.74
59	-1,084	-----	130	314	0.44	222	-224	-----
60	-1,503	-----	131	-1,094	-----	223	-4	0.00
61	1,844	2.57	132	-113	-----	224	7,643	10.67
63	-84	-----	133	-707	-----	225	3,134	4.37
65	-588	-----	135	358	0.50	227	4,741	6.62
67	-1,377	-----	137	-444	-----	228	-121	-----
68	-275	-----	139	-115	-----	235	238	0.33
69	27,127	37.86	141	-392	-----	244	5,566	7.77
70	359	0.50	142	-102	-----	249	499	0.70
71	-1,546	-----	143	-229	-----	251	-142	-----
73	8,502	11.86	144	-96	-----	255	36,981	51.61
74	8,013	11.18	145	-401	-----	256	5,396	7.53
75	6,231	8.70	147	3,894	5.43	264	-598	-----
76	476	0.66	148	1,636	2.28	265	932	1.30
77	32,827	45.81	149	135	0.19	266	-1,283	-----
78	1,269	1.77	151	-90	-----	267	-702	-----
79	8,782	12.26	152	-93	-----	268	-809	-----
80	2,263	3.16	153	-160	-----	270	-111	-----
81	2,782	3.88	157	-135	-----	273	2,013	2.81
82	-891	-----	159	-135	-----	274	3,612	5.04
83	-1,128	-----	161	136	0.19	275	21,249	29.65
84	-845	-----	163	-767	-----	276	2,088	2.91
85	-312	-----	165	-1,069	-----	277	1,784	2.49
86	976	1.36	167	4,654	6.49	281	6,006	8.38
87	-277	-----	168	1,791	2.50	282	1,377	1.92
89	-737	-----	169	-142	-----	283	-270	-----
91	-882	-----	170	-118	-----	284	-115	-----
92	-171	-----	173	-107	-----	295	-266	-----
93	6,733	9.40	177	296	0.41	296	4,666	6.51
94	-275	-----	179	180	0.25	323	2,512	3.51
95	-1,019	-----	180	-117	-----	327	-432	-----
96	-938	-----	181	-115	-----	341	1,901	2.65
97	-772	-----	182	-78	-----	342	211	0.29
98	8,548	11.93	183	-93	-----	343	-96	-----
99	2,504	3.49	185	-101	-----	355	1,750	2.44

Mass List Average of: 1251 to 1255 Minus: 1223 to 1227 Datafile: DFT0522C
Comment: INSTRUMENT 138
Base Pk: 198 Int: 71657 Pks: 175 Range: 40-443 Thrsh: 0.00% RIC: 579048

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
101	-622	-----	186	9,367	13.07	356	-585	-----
102	-627	-----	187	2,082	2.91	357	-14	-----
103	-1,173	-----	189	-146	-----	365	1,063	1.48
104	327	0.46	191	-797	-----	423	1,063	1.48
105	-979	-----	192	-101	-----	441	7,049	9.84
106	-129	-----	193	167	0.23	442	41,466	57.87
107	15,026	20.97	194	-237	-----	443	8,822	12.31
108	157	0.22	195	-249	-----			
109	-640	-----	198	71,657	100.00			

Chromatogram Plot C:\SATURN\DATA\DFT0522C Date: 05/22/02 23:23:48
Comment: INSTRUMENT 138
Scan: 1727 Seg: 1 Group: 0 Retention: 14.39 RIC: 176679 Masses: 40-415
Plotted: 1300 to 1727 Range: 1 to 1727 100% = 7343769



$\frac{810307}{810307 + 42797177} \times 100 = 1.82$

QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka Test Date: 05/21/02
Analytical Batch No: 185980
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
Phenol	ND	5.0
Bis (2-Chloroethyl) Ether	ND	5.0
2-Chlorophenol	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
2-Methylphenol	ND	5.0
Bis (2-Chloroisopropyl)-Ether	ND	5.0
4-Methylphenol	ND	5.0
N-Nitrosodi-n-Propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
2-Nitrophenol	ND	5.0
2,4-Dimethylphenol	ND	5.0
Bis (2-Chloroethoxy)-Methane	ND	5.0
2,4-Dichlorophenol	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	ND	5.0
4-Chloroaniline	ND	20
Hexachlorobutadiene	ND	5.0
4-Chloro-3-Methylphenol	ND	5.0
2-Methylnaphthalene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4,5-Trichlorophenol	ND	50
2-Chloronaphthalene	ND	5.0
2-Nitroaniline	ND	20
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
3-Nitroaniline	ND	20
Acenaphthene	ND	5.0
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	5.0

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35988- 1

QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka Test Date: 05/21/02
Analytical Batch No: 185980
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenylphenyl-Ether	ND	5.0
Fluorene	ND	5.0
4-Nitroaniline	ND	20
4,6-Dinitro-2-Methylphenol	ND	20
N-Nitroso-di-Phenylamine	ND	5.0
4-Bromophenyl Phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Pentachlorophenol	ND	20
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Carbazole	ND	10
Di-n-Butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Butyl Benzyl Phthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	20
Benzo (a) Anthracene	ND	5.0
Chrysene	ND	5.0
Bis (2-ethylhexyl)-Phthalate	ND	5.0
Di-n-Octylphthalate	ND	5.0
Benzo (b) Fluoranthene	ND	5.0
Benzo (k) Fluoranthene	ND	5.0
Benzo (a) Pyrene	ND	5.0
Indeno (1,2,3-cd) Pyrene	ND	5.0
Dibenzo (a,h) Anthracene	ND	5.0
Benzo (g,h,i,) Perylene	ND	5.0

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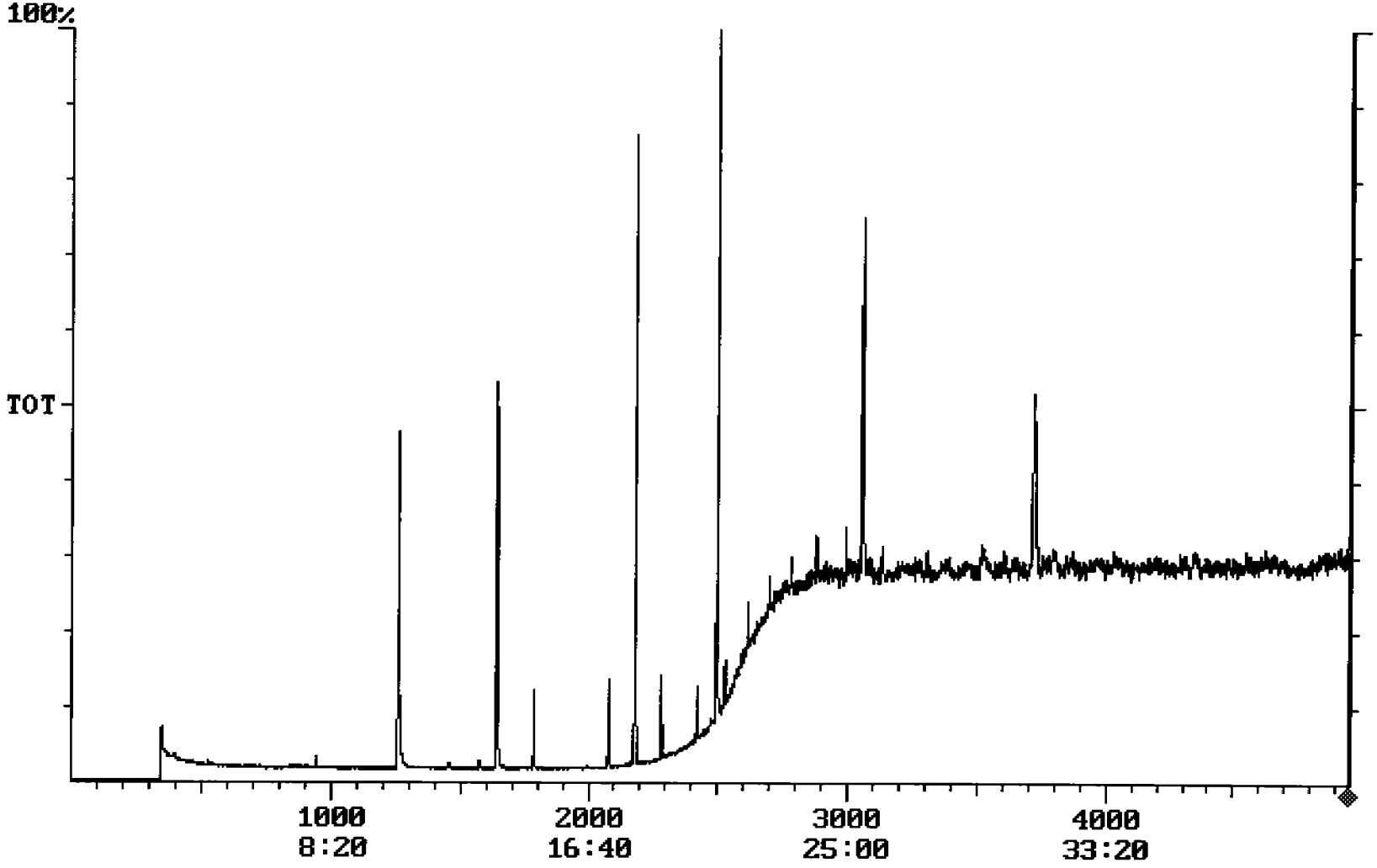
Chromatogram Plot C:\SATURN\DATA\BLK0521A Date: 05/21/02 08:50:59
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1171593 Masses: 43-429
Plotted: 1 to 4944 Range: 1 to 4944 100% = 3761409



Operator ID: JMK
Output File: BLK0521A.1B2
Data File: BLK0521A.MS
Name: BLK0521A
Sample:

Quant Time: 05/21/02 11:51
Injected at: 05/21/02 08:50
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.49	1259	152	1560682	5.00	ng/ul	996	1.000
2)	*IS:D8-Naphthalene	13.67	1640	136	5195967	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	3341900	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	5111869	5.00	ng/ul	991	1.000
5)	*IS:D12-Chrysene	25.46	3055	240	4722476	5.00	ng/ul	736	1.000
6)	*IS:D12-Perylene	31.00	3720	264	4845517	5.00	ng/ul	693	1.000
7)	ACSUR:2-Fluorophenol	0.00	912	112	0	Not Found	ng/ul	67	0.000
8)	ACSUR:D6-Phenol	0.00	1159	99	0	Not Found	ng/ul	465	0.000
9)	ACSUR:2,4,6-Tribromophenol	0.00	2362	330	0	Not Found	ng/ul	215	0.000
10)	BNSUR:D5-Nitrobenzene	11.83	1420	127	131	0.00	NG/UL	460	0.144
11)	BNSUR:Decafluorobiphenyl	0.00	1410	334	0	Not Found	ng/ul	323	0.000
12)	BNSUR:2-Fluorobiphenyl	16.64	1997	172	3198	0.00	ng/ul	851	1.170
13)	BNSUR:O-Terphenyl	0.00	2555	230	0	Not Found	ng/ul	0	0.000
14)	Pyridine	5.25	630	79	1067	0.00	ng/ul	373	1.146
15)	Phenol	9.53	1144	94	180	0.00	ng/ul	360	1.572
16)	Aniline	9.72	1166	93	280	0.00	ng/ul	469	1.821
17)	Bis(2-Chloroethyl)Ether	9.72	1166	92	411	0.00	ng/ul	479	0.833
18)	2-Chlorophenol	9.92	1190	128	132	0.00	ng/ul	687	1.661
19)	1,3-Dichlorobenzene	10.41	1249	146	140	0.00	ng/ul	506	1.660
20)	1,4-Dichlorobenzene	10.41	1249	146	140	0.00	ng/ul	379	1.616
21)	Benzyl Alcohol	10.92	1310	108	0	0.00	ng/ul	545	0.554
22)	1,2-Dichlorobenzene	11.07	1329	146	259	0.00	ng/ul	328	1.498
23)	2-Methylphenol	11.11	1333	108	0	0.00	ng/ul	434	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.23	1348	45	1993	0.01	ng/ul	466	1.122
25)	4-Methylphenol	11.27	1352	108	184	0.00	ng/ul	588	1.246
26)	N-Nitrosodi-N-Propylamine	11.55	1386	70	201	0.00	ng/ul	584	0.678
27)	Hexachloroethane	0.00	1412	119	0	Not Found	ng/ul	293	0.000
28)	Nitrobenzene	11.75	1410	77	997	0.00	ng/ul	494	0.505
29)	Isophorone	12.29	1475	82	277	0.00	ng/ul	576	0.714
30)	2-Nitrophenol	12.72	1527	109	167	0.00	ng/ul	524	0.286

* Compound is ISTD

Operator ID: JMK
Output File: BLK0521A.1B2
Data File: BLK0521A.MS
Name: BLK0521A
Sample:

Quant Time: 05/21/02 11:51
Injected at: 05/21/02 08:50
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.70	1524	107	1396	0.00	ng/ul	522	0.530
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	129	0.000
33)	Bis(2-Chloroethoxy)Methane	13.01	1561	92	199	0.00	ng/ul	591	0.440
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	155	0.000
35)	1,2,4-Trichlorobenzene	13.38	1606	180	106	0.00	ng/ul	364	0.398
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	0	0.000
37)	4-Chloroaniline	13.96	1675	127	104	0.00	ng/ul	414	0.568
38)	2,6-Dichlorophenol	13.98	1678	162	0	0.00	ng/ul	414	0.344
39)	Hexachlorobutadiene	13.90	1668	225	0	0.00	ng/ul	347	0.312
40)	4-Chloro-3-Methylphenol	14.98	1798	107	1035	0.00	ng/ul	663	0.534
41)	2-Methylnaphthalene	0.00	1866	142	0	Not Found	ng/ul	590	0.000
42)	Hexachlorocyclopentadiene	16.01	1921	237	178	0.00	ng/ul	678	0.414
43)	2,4,6-Trichlorophenol	16.12	1935	196	120	0.00	ng/ul	607	0.450
44)	2,4,5-Trichlorophenol	16.32	1959	196	184	0.00	ng/ul	507	0.486
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	359	0.000
46)	2-Nitroaniline	0.00	2046	138	0	Not Found	ng/ul	292	0.000
47)	Dimethyl Phthalate	0.00	2098	163	0	Not Found	ng/ul	633	0.000
48)	2,6-Dinitrotoluene	17.52	2102	165	842	0.00	ng/ul	670	0.351
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	554	0.000
50)	3-Nitroaniline	0.00	2163	138	0	Not Found	ng/ul	51	0.000
51)	Acenaphthene	0.00	2190	152	0	Not Found	ng/ul	0	0.000
52)	2,4-Dinitrophenol	0.00	2189	184	0	Not Found	ng/ul	0	0.000
53)	4-Nitrophenol	18.26	2191	65	401	0.01	ng/ul	685	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	417	0.000
55)	2,4-Dinitrotoluene	18.49	2219	165	1616	0.00	ng/ul	810	0.547
56)	Benzo(b)Fluoranthene	29.30	3516	252	6883	0.01	ng/ul	455	1.096
57)	Diethyl Phthalate	0.00	2270	149	0	Not Found	ng/ul	788	0.000
58)	Fluorene	19.13	2296	166	0	0.00	ng/ul	570	1.161
59)	4-Chlorophenyl Phenyl Ether	0.00	2307	204	0	Not Found	ng/ul	118	0.000
60)	4-Nitroaniline	19.13	2296	108	0	0.00	ng/ul	583	0.736

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 11:51
Output File: BLK0521A.1B2 Injected at: 05/21/02 08:50
Data File: BLK0521A.MS Dilution Factor: 1.00
Name: BLK0521A Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	119	0.000
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	101	0.000
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	10	0.000
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	407	0.000
65)	Hexachlorobenzene	0.00	2443	284	0	Not Found	ng/ul	318	0.000
66)	Pentachlorophenol	0.00	2461	266	0	Not Found	ng/ul	100	0.000
67)	Phenanthrene	0.00	2503	178	0	Not Found	ng/ul	223	0.000
68)	Anthracene	20.93	2511	178	1055	0.00	ng/ul	331	1.183
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	0	0.000
70)	Di-n-Butyl Phthalate	0.00	2577	149	0	Not Found	ng/ul	283	0.000
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	0	0.000
72)	Benzidine	22.82	2739	184	1993	0.01	ng/ul	515	0.403
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	26	0.000
74)	Butyl Benzyl Phthalate	23.68	2842	149	6651	0.01	ng/ul	369	1.013
75)	3,3'-Dichlorobenzidine	25.37	3045	252	3275	0.01	ng/ul	631	0.519
76)	Bis(2-Ethylhexyl)Phthalate	0.00	3001	149	0	Not Found	ng/ul	271	0.000
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	69	0.000
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	87	0.000
79)	Di-n-Octylphthalate	26.94	3233	149	10615	0.01	ng/ul	643	1.615
80)	Benzo(k)Fluoranthene	0.00	3538	252	0	Not Found	ng/ul	122	0.000
81)	Benzo(a)Pyrene	31.15	3738	252	2586	0.00	ng/ul	659	1.069
82)	Indeno(1,2,3-cd)Pyrene	37.82	4539	276	5004	0.00	ng/ul	389	1.571
83)	Dibenzo(a,h)Anthracene	37.85	4542	278	6877	0.01	ng/ul	611	0.990
84)	Benzo(g,h,i)Perylene	0.00	4820	276	0	Not Found	ng/ul	169	0.000
85)	N-Nitrosodimethylamine	5.06	607	73	4266	0.04	ng/ul	705	0.325
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	39	0.000
87)	2,3-Dinitrotoluene	0.00	2219	165	0	Not Found	ng/ul	690	0.000
88)	2,4-Diaminotoluene	16.68	2002	121	633	0.00	ng/ul	514	0.184
89)	2-Chloroaniline	12.67	1520	127	142	0.00	ng/ul	502	0.613
90)	5-Nitro-o-toluidine	0.00	2308	152	0	Not Found	ng/ul	259	0.000

* Compound is ISTD

Operator ID: JMK
Output File: BLK0521A.1B2
Data File: BLK0521A.MS
Name: BLK0521A
Sample:

Quant Time: 05/21/02 11:51
Injected at: 05/21/02 08:50
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.86	2263	143	1294	0.00	ng/ul	425	0.867
92)	Benzaldehyde	9.45	1134	105	1370	0.00	ng/ul	561	2.400
93)	Acetophenone	11.52	1382	105	3735	0.00	ng/ul	781	0.909
94)	Caprolactam	0.00	1759	85	0	Not Found	ng/ul	251	0.000
95)	Biphenyl	0.00	2012	154	0	Not Found	ng/ul	210	0.000
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka
Test Date: 05/21/02
Analytical Batch No: 186085
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
Phenol	ND	5.0
Bis (2-Chloroethyl) Ether	ND	5.0
2-Chlorophenol	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
2-Methylphenol	ND	5.0
Bis (2-Chloroisopropyl)-Ether	ND	5.0
4-Methylphenol	ND	5.0
N-Nitrosodi-n-Propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
2-Nitrophenol	ND	5.0
2,4-Dimethylphenol	ND	5.0
Bis (2-Chloroethoxy)-Methane	ND	5.0
2,4-Dichlorophenol	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	ND	5.0
4-Chloroaniline	ND	20
Hexachlorobutadiene	ND	5.0
4-Chloro-3-Methylphenol	ND	5.0
2-Methylnaphthalene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4,5-Trichlorophenol	ND	50
2-Chloronaphthalene	ND	5.0
2-Nitroaniline	ND	20
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
3-Nitroaniline	ND	20
Acenaphthene	ND	5.0
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	5.0

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QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka
Test Date: 05/21/02
Analytical Batch No: 186085
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenylphenyl-Ether	ND	5.0
Fluorene	ND	5.0
4-Nitroaniline	ND	20
4,6-Dinitro-2-Methylphenol	ND	20
N-Nitroso-di-Phenylamine	ND	5.0
4-Bromophenyl Phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Pentachlorophenol	ND	20
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Carbazole	ND	10
Di-n-Butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Butyl Benzyl Phthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	20
Benzo (a) Anthracene	ND	5.0
Chrysene	ND	5.0
Bis (2-ethylhexyl)-Phthalate	ND	5.0
Di-n-Octylphthalate	ND	5.0
Benzo (b) Fluoranthene	ND	5.0
Benzo (k) Fluoranthene	ND	5.0
Benzo (a) Pyrene	ND	5.0
Indeno (1,2,3-cd) Pyrene	ND	5.0
Dibenzo (a,h) Anthracene	ND	5.0
Benzo (g,h,i,) Perylene	ND	5.0

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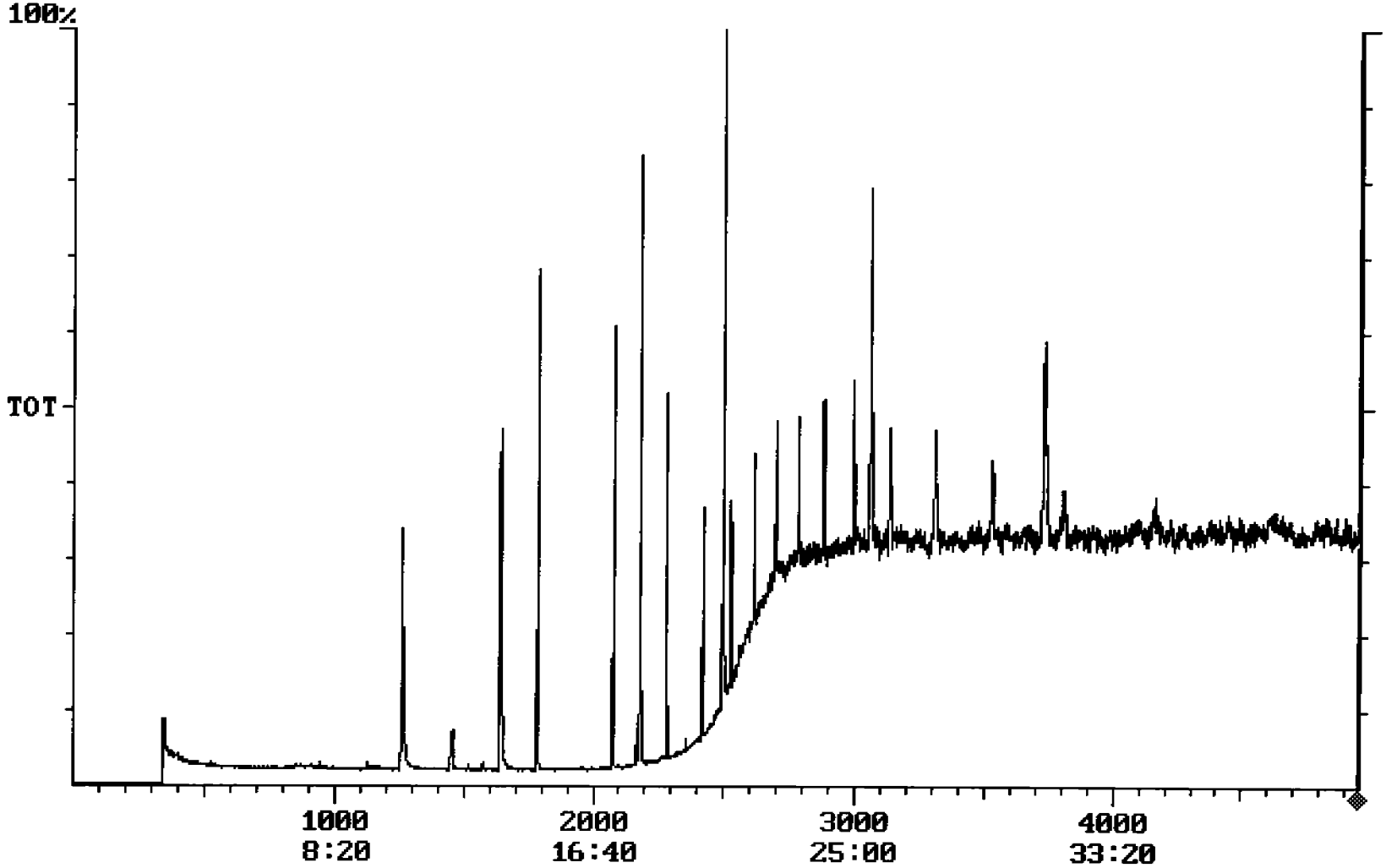
Chromatogram Plot C:\SATURN\DATA\BLK0521B Date: 05/21/02 21:04:23
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1041282 Masses: 41-415
Plotted: 1 to 4944 Range: 1 to 4944 100% = 3248767



Operator ID: JMK
Output File: BLK0521B.1B2
Data File: BLK0521B.MS
Name: BLK0521B
Sample:

Quant Time: 05/22/02 08:21
Injected at: 05/21/02 21:04
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.50	1260	152	1374923	5.00	ng/ul	989	1.000
2)	*IS:D8-Naphthalene	13.67	1641	136	4672245	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	3080891	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	4798063	5.00	ng/ul	994	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	4333718	5.00	ng/ul	592	1.000
6)	*IS:D12-Perylene	31.12	3734	264	4585630	5.00	ng/ul	808	1.000
7)	ACSUR:2-Fluorophenol	0.00	912	112	0	Not Found	ng/ul	0	0.000
8)	ACSUR:D6-Phenol	0.00	1123	99	0	Not Found	ng/ul	479	0.000
9)	ACSUR:2,4,6-Tribromophenol	0.00	2362	330	0	Not Found	ng/ul	153	0.000
10)	BNSUR:D5-Nitrobenzene	11.97	1437	127	0	0.00	NG/UL	0	0.144
11)	BNSUR:Decafluorobiphenyl	0.00	1410	334	0	Not Found	ng/ul	323	0.000
12)	BNSUR:2-Fluorobiphenyl	16.41	1970	172	0	0.00	ng/ul	0	1.170
13)	BNSUR:O-Terphenyl	0.00	2555	230	0	Not Found	ng/ul	0	0.000
14)	Pyridine	5.36	643	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.60	1152	94	0	0.00	ng/ul	478	1.572
16)	Aniline	9.78	1174	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	9.86	1183	92	0	0.00	ng/ul	0	0.833
18)	2-Chlorophenol	10.05	1206	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	10.31	1237	146	0	0.00	ng/ul	0	1.660
20)	1,4-Dichlorobenzene	0.00	1268	146	0	Not Found	ng/ul	182	0.000
21)	Benzyl Alcohol	10.92	1310	108	0	0.00	ng/ul	367	0.554
22)	1,2-Dichlorobenzene	10.91	1309	146	184	0.00	ng/ul	330	1.498
23)	2-Methylphenol	10.86	1303	108	274	0.00	ng/ul	211	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.14	1337	45	0	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.24	1349	108	0	0.00	ng/ul	585	1.246
26)	N-Nitrosodi-N-Propylamine	0.00	1366	70	0	Not Found	ng/ul	246	0.000
27)	Hexachloroethane	11.75	1410	119	18	0.00	ng/ul	51	0.605
28)	Nitrobenzene	11.88	1426	77	0	0.00	ng/ul	321	0.505
29)	Isophorone	12.61	1513	82	0	0.00	ng/ul	0	0.714
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	255	0.000

* Compound is ISTD

Operator ID: JMK
Output File: BLK0521B.1B2
Data File: BLK0521B.MS
Name: BLK0521B
Sample:

Quant Time: 05/22/02 08:21
Injected at: 05/21/02 21:04
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	290	0.000
32)	Benzoic Acid	12.77	1532	105	0	0.00	ng/ul	0	0.068
33)	Bis(2-Chloroethoxy)Methane	12.99	1559	92	0	0.00	ng/ul	0	0.440
34)	2,4-Dichlorophenol	13.35	1602	162	0	0.00	ng/ul	528	0.360
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	53	0.000
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	0	0.000
37)	4-Chloroaniline	14.10	1692	127	0	0.00	ng/ul	0	0.568
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	119	0.000
39)	Hexachlorobutadiene	13.92	1670	225	0	0.00	ng/ul	347	0.312
40)	4-Chloro-3-Methylphenol	14.93	1792	107	0	0.00	ng/ul	58	0.534
41)	2-Methylnaphthalene	0.00	1865	142	0	Not Found	ng/ul	317	0.000
42)	Hexachlorocyclopentadiene	16.01	1921	237	0	0.00	ng/ul	2	0.414
43)	2,4,6-Trichlorophenol	0.00	1950	196	0	Not Found	ng/ul	194	0.000
44)	2,4,5-Trichlorophenol	0.00	1961	196	0	Not Found	ng/ul	135	0.000
45)	2-Chloronapthalene	0.00	2019	162	0	Not Found	ng/ul	580	0.000
46)	2-Nitroaniline	0.00	2046	138	0	Not Found	ng/ul	255	0.000
47)	Dimethyl Phthalate	0.00	2112	163	0	Not Found	ng/ul	775	0.000
48)	2,6-Dinitrotoluene	17.59	2111	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	17.88	2146	152	120	0.00	ng/ul	766	1.715
50)	3-Nitroaniline	0.00	2163	138	0	Not Found	ng/ul	20	0.000
51)	Acenaphthene	0.00	2190	152	0	Not Found	ng/ul	0	0.000
52)	2,4-Dinitrophenol	0.00	2189	184	0	Not Found	ng/ul	7	0.000
53)	4-Nitrophenol	18.27	2192	65	295	0.00	ng/ul	696	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	2	0.000
55)	2,4-Dinitrotoluene	18.42	2210	165	0	0.00	ng/ul	0	0.547
56)	Benzo(b)Fluoranthene	29.27	3512	252	0	0.00	ng/ul	146	1.096
57)	Diethyl Phthalate	0.00	2274	149	0	Not Found	ng/ul	469	0.000
58)	Fluorene	19.17	2300	166	0	0.00	ng/ul	604	1.161
59)	4-Chlorophenyl Phenyl Ether	19.21	2305	204	0	0.00	ng/ul	474	0.783
60)	4-Nitroaniline	19.29	2315	108	0	0.00	ng/ul	583	0.736

* Compound is ISTD

Operator ID: JMK
Output File: BLK0521B.1B2
Data File: BLK0521B.MS
Name: BLK0521B
Sample:

Quant Time: 05/22/02 08:21
Injected at: 05/21/02 21:04
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.17	2301	198	0	0.00	ng/ul	319	0.116
62)	N-Nitrosodiphenylamine	0.00	2330	169	0	Not Found	ng/ul	0	0.000
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	99	0.000
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	463	0.000
65)	Hexachlorobenzene	0.00	2418	284	0	Not Found	ng/ul	353	0.000
66)	Pentachlorophenol	0.00	2460	266	0	Not Found	ng/ul	63	0.000
67)	Phenanthrene	20.83	2500	178	0	0.00	ng/ul	0	1.076
68)	Anthracene	0.00	2511	178	0	Not Found	ng/ul	110	0.000
69)	Carbazole	0.00	2535	167	0	Not Found	ng/ul	132	0.000
70)	Di-n-Butyl Phthalate	0.00	2576	149	0	Not Found	ng/ul	150	0.000
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	0	0.000
72)	Benzidine	22.89	2747	184	0	0.00	ng/ul	319	0.403
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	82	0.000
74)	Butyl Benzyl Phthalate	23.93	2872	149	94	0.00	ng/ul	83	1.013
75)	3,3'-Dichlorobenzidine	25.25	3030	252	0	0.00	ng/ul	140	0.519
76)	Bis(2-Ethylhexyl)Phthalate	25.00	3000	149	12690	0.01	ng/ul	337	1.633
77)	Benzo(a)Anthracene	25.36	3043	228	0	0.00	ng/ul	304	1.289
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	140	0.000
79)	Di-n-Octylphthalate	26.94	3233	149	141481	0.10	ng/ul	729	1.621
80)	Benzo(k)Fluoranthene	29.60	3552	252	0	0.00	ng/ul	0	1.249
81)	Benzo(a)Pyrene	30.92	3711	252	0	0.00	ng/ul	14	1.069
82)	Indeno(1,2,3-cd)Pyrene	38.11	4573	276	0	0.00	ng/ul	128	1.571
83)	Dibenzo(a,h)Anthracene	38.01	4562	278	0	0.00	ng/ul	0	0.990
84)	Benzo(g,h,i)Perylene	40.25	4830	276	0	0.00	ng/ul	62	1.284
85)	N-Nitrosodimethylamine	5.00	600	73	0	0.00	ng/ul	461	0.325
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	41	0.000
87)	2,3-Dinitrotoluene	0.00	2229	165	0	Not Found	ng/ul	872	0.000
88)	2,4-Diaminotoluene	16.65	1998	121	0	0.00	ng/ul	169	0.184
89)	2-Chloroaniline	0.00	1508	127	0	Not Found	ng/ul	214	0.000
90)	5-Nitro-o-toluidine	19.33	2320	152	0	0.00	ng/ul	66	0.435

* Compound is ISTD

Operator ID: JMK
Output File: BLK0521B.1B2
Data File: BLK0521B.MS
Name: BLK0521B
Sample:

Quant Time: 05/22/02 08:21
Injected at: 05/21/02 21:04
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.79	2255	143	0	0.00	ng/ul	28	0.867
92)	Benzaldehyde	9.48	1138	105	0	0.00	ng/ul	0	2.400
93)	Acetophenone	0.00	1373	105	0	Not Found	ng/ul	493	0.000
94)	Caprolactam	0.00	1758	85	0	Not Found	ng/ul	545	0.000
95)	Biphenyl	0.00	2011	154	0	Not Found	ng/ul	105	0.000
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka
Analytical Batch No: 186142
Units: ug/L

Test Date: 05/22/02

Parameter	Blank Concentration	Quantitation Limit
Acenaphthene	ND	5.0
Acenaphthylene	ND	5.0
Anthracene	ND	5.0
Benzo (a) Anthracene	ND	5.0
Benzo (a) Pyrene	ND	5.0
Benzo (g,h,i,) Perylene	ND	5.0
Bis (2-Chloroethoxy)-Methane	ND	5.0
Bis (2-Chloroethyl) Ether	ND	5.0
Bis (2-Chloroisopropyl)-Ether	ND	5.0
Bis (2-ethylhexyl)-Phthalate	ND	5.0
4-Bromophenyl Phenylether	ND	5.0
Butyl Benzyl Phthalate	ND	5.0
4-Chloro-3-Methylphenol	ND	5.0
4-Chloroaniline	ND	20
2-Chloronaphthalene	ND	5.0
2-Chlorophenol	ND	5.0
4-Chlorophenylphenyl-Ether	ND	5.0
Chrysene	ND	5.0
Di-n-Butylphthalate	ND	5.0
Di-n-Octylphthalate	ND	5.0
Dibenzo (a,h) Anthracene	ND	5.0
Dibenzofuran	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
3,3'-Dichlorobenzidine	ND	20
2,4-Dichlorophenol	ND	5.0
Diethylphthalate	ND	5.0
Dimethylphthalate	ND	5.0
2,4-Dimethylphenol	ND	5.0
4,6-Dinitro-2-Methylphenol	ND	20
2,4-Dinitrophenol	ND	20
2,4-Dinitrotoluene	ND	5.0

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QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka
Analytical Batch No: 186142
Units: ug/L

Test Date: 05/22/02

Parameter	Blank Concentration	Quantitation Limit
2,6-Dinitrotoluene	ND	5.0
Fluoranthene	ND	5.0
Fluorene	ND	5.0
Hexachlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
Hexachloroethane	ND	5.0
Indeno (1,2,3-cd) Pyrene	ND	5.0
Isophorone	ND	5.0
2-Methylnaphthalene	ND	5.0
2-Methylphenol	ND	5.0
4-Methylphenol	ND	5.0
N-Nitrosodi-n-Propylamine	ND	5.0
N-Nitroso-di-Phenylamine	ND	5.0
Naphthalene	ND	5.0
2-Nitroaniline	ND	20
3-Nitroaniline	ND	20
4-Nitroaniline	ND	20
Nitrobenzene	ND	5.0
2-Nitrophenol	ND	5.0
4-Nitrophenol	ND	20
Pentachlorophenol	ND	5.0
Phenanthrene	ND	5.0
Phenol	ND	5.0
Pyrene	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
2,4,5-Trichlorophenol	ND	50
2,4,6-Trichlorophenol	ND	5.0
Benzo (b) Fluoranthene	ND	5.0
Benzo (k) Fluoranthene	ND	5.0

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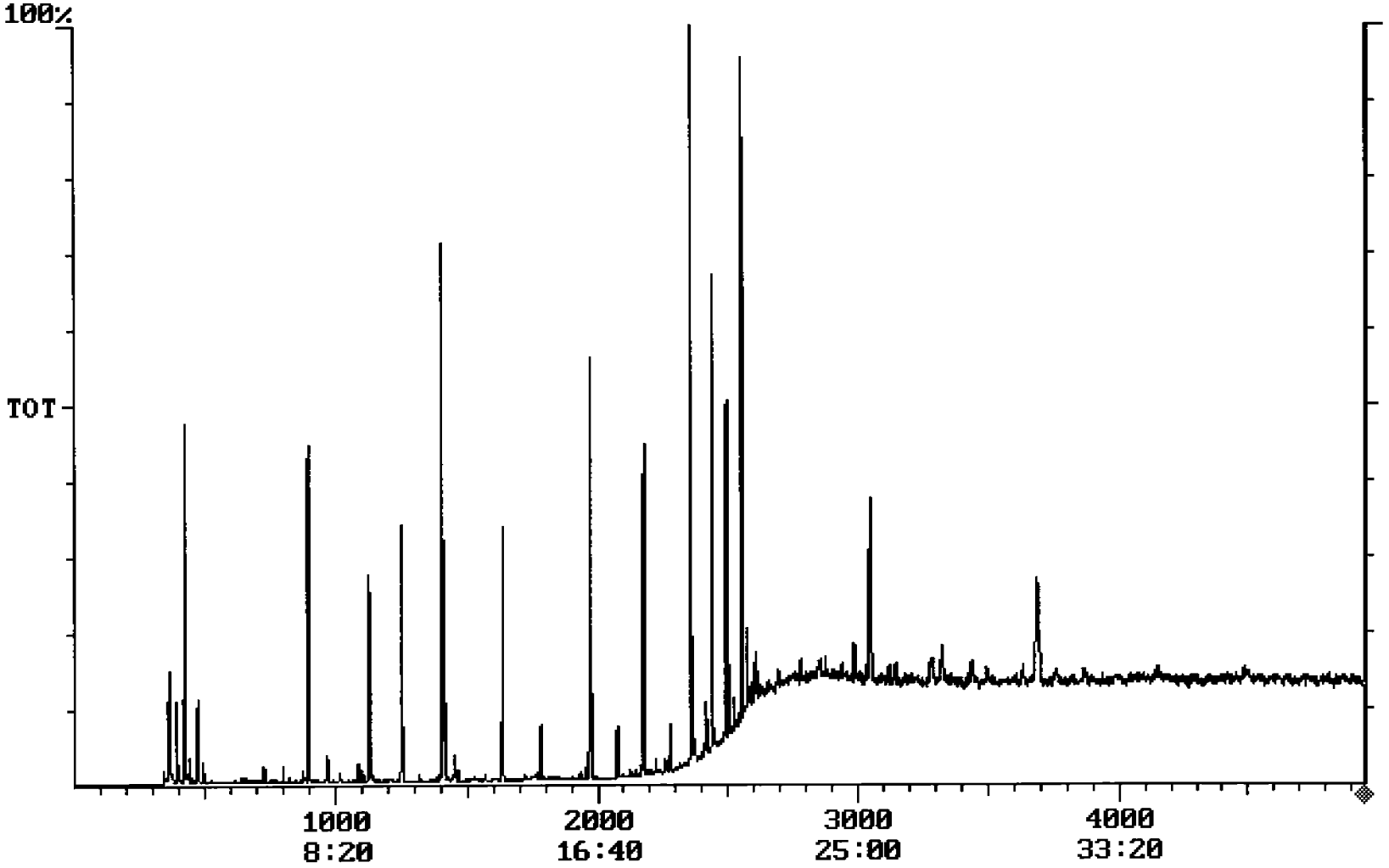
Chromatogram Plot C:\SATURN\DATA\MPB122B Date: 05/22/02 17:35:08
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 890615 Masses: 41-429
Plotted: 1 to 4944 Range: 1 to 4944 100% = 6766356



Operator ID: JMK
Output File: MPB122B.1B2
Data File: MPB122B.MS
Name: MPB122B
Sample:

Quant Time: 05/23/02 03:40
Injected at: 05/22/02 17:35
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.43	1252	152	1531732	5.00	ng/ul	999	1.000
2)	*IS:D8-Naphthalene	13.62	1635	136	4921945	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.13	2176	162	3184610	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.78	2493	188	4653223	5.00	ng/ul	909	1.000
5)	*IS:D12-Chrysene	25.40	3048	240	4506025	5.00	ng/ul	492	1.000
6)	*IS:D12-Perylene	30.73	3688	264	4907457	5.00	ng/ul	925	1.000
7)	ACSUR:2-Fluorophenol	7.47	896	112	4138430	9.19	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.42	1130	99	3190398	6.18	ng/ul	844	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.63	2356	330	4582952	15.35	ng/ul	999	0.469
10)	BNSUR:D5-Nitrobenzene	11.76	1411	127	1112202	7.90	NG/UL	818	0.144
11)	BNSUR:Decafluorobiphenyl	11.69	1403	334	6657152	7.71	ng/ul	948	0.877
12)	BNSUR:2-Fluorobiphenyl	16.42	1971	172	5753757	7.72	ng/ul	997	1.170
13)	BNSUR:O-Terphenyl	21.26	2551	230	5211177	7.41	ng/ul	996	0.781
14)	Pyridine	5.39	647	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.43	1132	94	0	0.00	ng/ul	101	1.572
16)	Aniline	9.58	1150	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	9.87	1184	92	0	0.00	ng/ul	28	0.833
18)	2-Chlorophenol	10.00	1200	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	0.00	1235	146	0	Not Found	ng/ul	160	0.000
20)	1,4-Dichlorobenzene	10.53	1264	146	0	0.00	ng/ul	0	1.616
21)	Benzyl Alcohol	10.69	1283	108	2987	0.02	ng/ul	920	0.554
22)	1,2-Dichlorobenzene	0.00	1298	146	0	Not Found	ng/ul	88	0.000
23)	2-Methylphenol	10.88	1306	108	0	0.00	ng/ul	0	1.299
24)	Bis(2-Chloroisopropyl)Ether	10.88	1306	45	36	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.26	1351	108	0	0.00	ng/ul	91	1.246
26)	N-Nitrosodi-N-Propylamine	11.25	1350	70	298	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.73	1407	119	0	0.00	ng/ul	944	0.605
28)	Nitrobenzene	11.68	1402	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	0.00	1481	82	0	Not Found	ng/ul	892	0.000
30)	2-Nitrophenol	0.00	1513	109	0	Not Found	ng/ul	492	0.000

* Compound is ISTD

Operator ID: JMK
Output File: MPB122B.1B2
Data File: MPB122B.MS
Name: MPB122B
Sample:

Quant Time: 05/23/02 03:40
Injected at: 05/22/02 17:35
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1514	107	0	Not Found	ng/ul	235	0.000
32)	Benzoic Acid	0.00	1526	105	0	Not Found	ng/ul	949	0.000
33)	Bis(2-Chloroethoxy)Methane	0.00	1546	92	0	Not Found	ng/ul	415	0.000
34)	2,4-Dichlorophenol	0.00	1581	162	0	Not Found	ng/ul	25	0.000
35)	1,2,4-Trichlorobenzene	0.00	1613	180	0	Not Found	ng/ul	28	0.000
36)	Naphthalene	0.00	1638	128	0	Not Found	ng/ul	655	0.000
37)	4-Chloroaniline	0.00	1652	127	0	Not Found	ng/ul	424	0.000
38)	2,6-Dichlorophenol	0.00	1652	162	0	Not Found	ng/ul	331	0.000
39)	Hexachlorobutadiene	0.00	1675	225	0	Not Found	ng/ul	689	0.000
40)	4-Chloro-3-Methylphenol	0.00	1793	107	0	Not Found	ng/ul	991	0.000
41)	2-Methylnaphthalene	15.52	1863	142	0	0.00	ng/ul	0	0.639
42)	Hexachlorocyclopentadiene	15.90	1908	237	0	0.00	ng/ul	0	0.414
43)	2,4,6-Trichlorophenol	0.00	1940	196	0	Not Found	ng/ul	8	0.000
44)	2,4,5-Trichlorophenol	0.00	1955	196	0	Not Found	ng/ul	63	0.000
45)	2-Chloronapthalene	0.00	2010	162	0	Not Found	ng/ul	204	0.000
46)	2-Nitroaniline	16.97	2036	138	0	0.00	ng/ul	0	0.409
47)	Dimethyl Phthalate	17.47	2097	163	0	0.00	ng/ul	0	1.919
48)	2,6-Dinitrotoluene	17.56	2107	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	0.00	2138	152	0	Not Found	ng/ul	388	0.000
50)	3-Nitroaniline	17.94	2153	138	0	0.00	ng/ul	0	0.338
51)	Acenaphthene	0.00	2183	152	0	Not Found	ng/ul	195	0.000
52)	2,4-Dinitrophenol	0.00	2183	184	0	Not Found	ng/ul	195	0.000
53)	4-Nitrophenol	18.16	2180	65	0	0.00	ng/ul	0	0.119
54)	Dibenzofuran	0.00	2225	168	0	Not Found	ng/ul	254	0.000
55)	2,4-Dinitrotoluene	0.00	2215	165	0	Not Found	ng/ul	900	0.000
56)	Benzo(b)Fluoranthene	0.00	3472	252	0	Not Found	ng/ul	524	0.000
57)	Diethyl Phthalate	18.90	2268	149	55577	0.04	ng/ul	868	2.186
58)	Fluorene	19.24	2309	166	0	0.00	ng/ul	0	1.161
59)	4-Chlorophenyl Phenyl Ether	19.09	2291	204	0	0.00	ng/ul	369	0.783
60)	4-Nitroaniline	19.26	2311	108	0	0.00	ng/ul	0	0.736

* Compound is ISTD

Operator ID: JMK
Output File: MPB122B.1B2
Data File: MPB122B.MS
Name: MPB122B
Sample:

Quant Time: 05/23/02 03:40
Injected at: 05/22/02 17:35
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	0.00	2309	198	0	Not Found	ng/ul	247	0.000
62)	N-Nitrosodiphenylamine	19.34	2321	169	386	0.00	ng/ul	398	0.509
63)	1,2-Diphenylhydrazine	0.00	2343	77	0	Not Found	ng/ul	777	0.000
64)	4-Bromophenyl Phenyl Ether	0.00	2400	248	0	Not Found	ng/ul	356	0.000
65)	Hexachlorobenzene	20.11	2413	284	0	0.00	ng/ul	0	0.305
66)	Pentachlorophenol	20.43	2452	266	0	0.00	ng/ul	0	0.232
67)	Phenanthrene	20.77	2492	178	0	0.00	ng/ul	0	1.076
68)	Anthracene	20.87	2505	178	0	0.00	ng/ul	0	1.183
69)	Carbazole	21.02	2522	167	0	0.00	ng/ul	0	1.075
70)	Di-n-Butyl Phthalate	21.43	2572	149	1221935	0.64	ng/ul	914	2.037
71)	Fluoranthene	22.41	2689	202	1762	0.00	ng/ul	346	1.113
72)	Benzidine	22.68	2722	184	2083	0.01	ng/ul	434	0.403
73)	Pyrene	0.00	2751	202	0	Not Found	ng/ul	71	0.000
74)	Butyl Benzyl Phthalate	23.78	2853	149	77312	0.08	ng/ul	712	1.013
75)	3,3'-Dichlorobenzidine	25.16	3019	252	4258	0.01	ng/ul	947	0.519
76)	Bis(2-Ethylhexyl)Phthalate	24.89	2987	149	468268	0.32	ng/ul	783	1.633
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	2	0.000
78)	Chrysene	0.00	3055	228	0	Not Found	ng/ul	0	0.000
79)	Di-n-Octylphthalate	26.83	3220	149	444	0.00	ng/ul	0	1.615
80)	Benzo(k)Fluoranthene	29.02	3483	252	0	0.00	ng/ul	0	1.249
81)	Benzo(a)Pyrene	30.44	3653	252	0	0.00	ng/ul	0	1.069
82)	Indeno(1,2,3-cd)Pyrene	0.00	4453	276	0	Not Found	ng/ul	0	0.000
83)	Dibenzo(a,h)Anthracene	0.00	4464	278	0	Not Found	ng/ul	24	0.000
84)	Benzo(g,h,i)Perylene	0.00	4696	276	0	Not Found	ng/ul	63	0.000
85)	N-Nitrosodimethylamine	4.73	567	73	0	0.00	ng/ul	629	0.325
86)	2,3,4,6-tetrachlorophenol	0.00	2251	232	0	Not Found	ng/ul	69	0.000
87)	2,3-Dinitrotoluene	18.23	2188	165	1587	0.00	ng/ul	532	0.540
88)	2,4-Diaminotoluene	16.59	1991	121	1020	0.01	ng/ul	565	0.184
89)	2-Chloroaniline	12.48	1498	127	1111	0.00	ng/ul	673	0.613
90)	5-Nitro-o-toluidine	19.28	2314	152	1545	0.01	ng/ul	551	0.435

* Compound is ISTD

Operator ID: JMK
Output File: MPB122B.1B2
Data File: MPB122B.MS
Name: MPB122B
Sample:

Quant Time: 05/23/02 03:40
Injected at: 05/22/02 17:35
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.71	2245	143	1350	0.00	ng/ul	892	0.867
92)	Benzaldehyde	9.50	1140	105	7020	0.01	ng/ul	844	2.400
93)	Acetophenone	11.37	1364	105	22419	0.03	ng/ul	975	0.909
94)	Caprolactam	14.60	1752	85	47649	0.61	ng/ul	657	0.080
95)	Biphenyl	16.71	2005	154	13585	0.01	ng/ul	961	1.531
96)	Atrazine	0.00	2425	200	0	Not Found	ng/ul	2	0.000

* Compound is ISTD

QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom
Test Date: 05/21/02
Analytical Batch No: 186156
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
Phenol	ND	5.0
Bis (2-Chloroethyl) Ether	ND	5.0
2-Chlorophenol	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
2-Methylphenol	ND	5.0
Bis (2-Chloroisopropyl)-Ether	ND	5.0
4-Methylphenol	ND	5.0
N-Nitrosodi-n-Propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
2-Nitrophenol	ND	5.0
2,4-Dimethylphenol	ND	5.0
Bis (2-Chloroethoxy)-Methane	ND	5.0
2,4-Dichlorophenol	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	ND	5.0
4-Chloroaniline	ND	20
Hexachlorobutadiene	ND	5.0
4-Chloro-3-Methylphenol	ND	5.0
2-Methylnaphthalene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4,5-Trichlorophenol	ND	50
2-Chloronaphthalene	ND	5.0
2-Nitroaniline	ND	20
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
3-Nitroaniline	ND	20
Acenaphthene	ND	5.0
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	5.0

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Individual sample results relate only to the sample tested.
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QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom
Test Date: 05/21/02
Analytical Batch No: 186156
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenylphenyl-Ether	ND	5.0
Fluorene	ND	5.0
4-Nitroaniline	ND	20
4,6-Dinitro-2-Methylphenol	ND	20
N-Nitroso-di-Phenylamine	ND	5.0
4-Bromophenyl Phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Pentachlorophenol	ND	20
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Carbazole	ND	10
Di-n-Butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Butyl Benzyl Phthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	20
Benzo (a) Anthracene	ND	5.0
Chrysene	ND	5.0
Bis (2-ethylhexyl)-Phthalate	ND	5.0
Di-n-Octylphthalate	ND	5.0
Benzo (b) Fluoranthene	ND	5.0
Benzo (k) Fluoranthene	ND	5.0
Benzo (a) Pyrene	ND	5.0
Indeno (1,2,3-cd) Pyrene	ND	5.0
Dibenzo (a,h) Anthracene	ND	5.0
Benzo (g,h,i,) Perylene	ND	5.0

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Individual sample results relate only to the sample tested.
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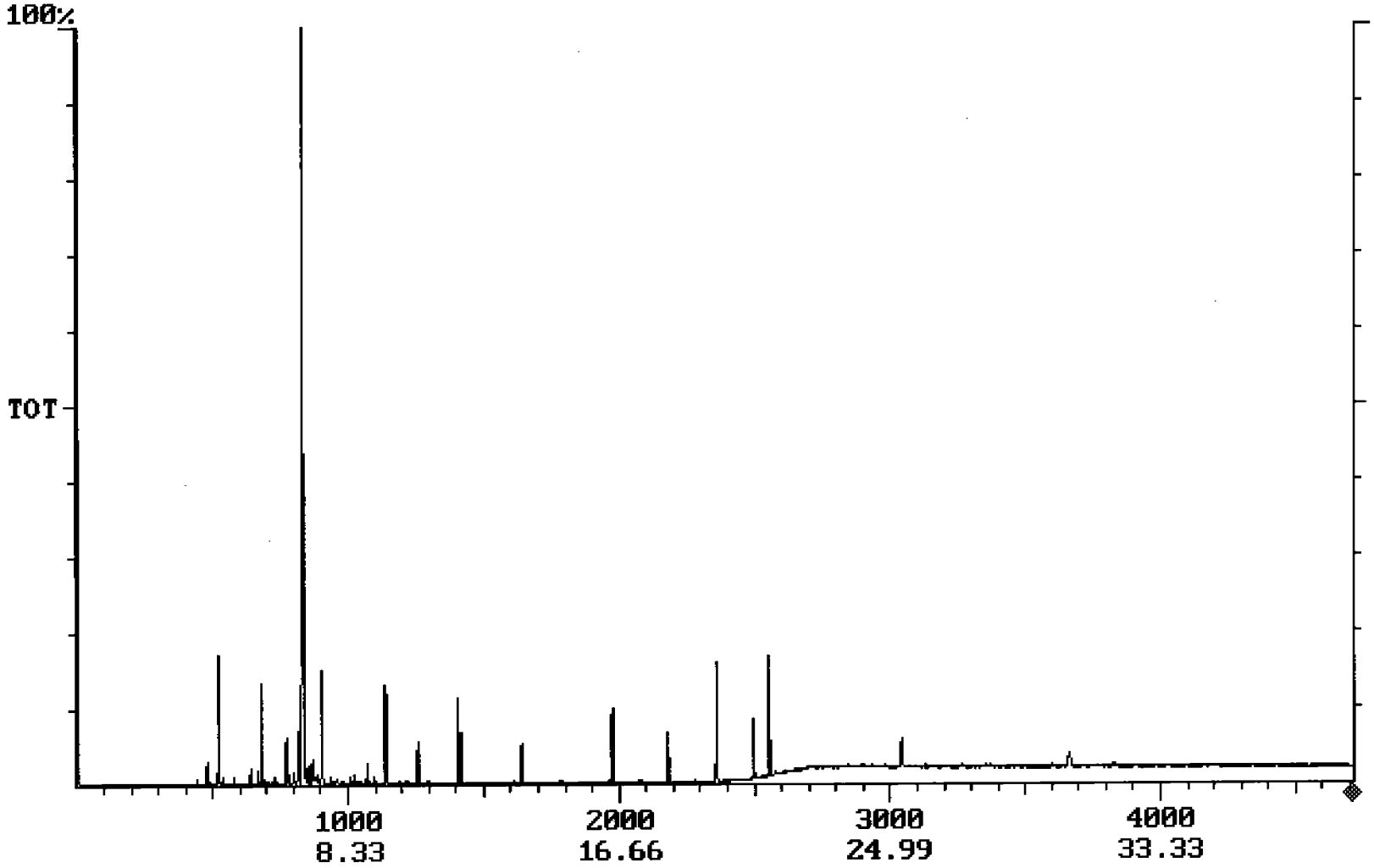
Chromatogram Plot C:\SATURN\DATA\MPB121S2 Date: 05/21/02 21:25:56
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 17943914



001129

Operator ID: DMC
Output File: MPB121S2.1B2
Data File: MPB121S2.MS
Name: MPB121S2
Sample:

Quant Time: 05/22/02 08:27
Injected at: 05/21/02 21:25
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.50	1260	152	634508	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.68	1641	136	2081099	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.17	2180	162	1315160	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	1984897	5.00	ng/ul	993	1.000
5)	*IS:D12-Chrysene	25.34	3041	240	1708533	5.00	ng/ul	936	1.000
6)	*IS:D12-Perylene	30.53	3664	264	1787281	5.00	ng/ul	927	1.000
7)	ACSUR:2-Fluorophenol	7.53	904	112	3445860	17.25	ng/ul	996	1.574
8)	ACSUR:D6-Phenol	9.48	1138	99	4047861	16.76	ng/ul	996	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	1700471	19.17	ng/ul	995	0.338
10)	BNSUR:D5-Nitrobenzene	11.82	1419	127	663876	9.59	ng/ul	941	0.167
11)	BNSUR:Decafluorobiphenyl	11.73	1408	334	2637262	8.68	ng/ul	944	0.731
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	2806252	9.06	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.27	2553	230	2379089	9.60	ng/ul	984	0.725
14)	Pyridine	5.11	613	79	0	0.00	ng/ul	0	1.031
15)	Phenol	9.44	1133	94	0	0.00	ng/ul	53	1.701
16)	Aniline	9.73	1168	93	0	0.00	ng/ul	0	1.852
17)	Bis(2-Chloroethyl)Ether	9.72	1167	92	0	0.00	ng/ul	0	0.862
18)	2-Chlorophenol	0.00	1199	128	0	Not Found	ng/ul	601	0.000
19)	1,3-Dichlorobenzene	10.37	1245	146	688	0.00	ng/ul	821	1.538
20)	1,4-Dichlorobenzene	10.54	1265	146	544	0.00	ng/ul	451	1.533
21)	Benzyl Alcohol	10.79	1295	108	0	0.00	ng/ul	97	0.647
22)	1,2-Dichlorobenzene	10.90	1308	146	748	0.00	ng/ul	664	1.426
23)	2-Methylphenol	11.05	1326	108	0	0.00	ng/ul	465	1.185
24)	Bis(2-Chloroisopropyl)Ether	11.13	1336	45	0	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.32	1359	108	586	0.00	ng/ul	672	1.306
26)	N-Nitrosodi-N-Propylamine	11.32	1359	70	0	0.00	ng/ul	0	0.786
27)	Hexachloroethane	11.73	1408	119	0	0.00	ng/ul	852	0.645
28)	Nitrobenzene	11.83	1420	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	412	0.000
30)	2-Nitrophenol	12.78	1534	109	0	0.00	ng/ul	425	0.374

* Compound is ISTD

Operator ID: DMC
Output File: MPB121S2.1B2
Data File: MPB121S2.MS
Name: MPB121S2
Sample:

Quant Time: 05/22/02 08:27
Injected at: 05/21/02 21:25
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	550	0.000
32)	Benzoic Acid	12.79	1535	105	2436	0.02	ng/ul	944	0.318
33)	Bis(2-Chloroethoxy)Methane	13.01	1561	92	0	0.00	ng/ul	0	0.473
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	227	0.000
35)	1,2,4-Trichlorobenzene	0.00	1619	180	0	Not Found	ng/ul	121	0.000
36)	Naphthalene	0.00	1648	128	0	Not Found	ng/ul	551	0.000
37)	4-Chloroaniline	13.79	1655	127	0	0.00	ng/ul	2	0.570
38)	2,6-Dichlorophenol	0.00	1664	162	0	Not Found	ng/ul	815	0.000
39)	Hexachlorobutadiene	14.07	1688	225	0	0.00	ng/ul	2	0.282
40)	4-Chloro-3-Methylphenol	0.00	1800	107	0	Not Found	ng/ul	433	0.000
41)	2-Methylnaphthalene	15.54	1865	142	0	0.00	ng/ul	579	0.647
42)	Hexachlorocyclopentadiene	16.08	1930	237	0	0.00	ng/ul	0	0.379
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	86	0.000
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	139	0.000
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	571	0.000
46)	2-Nitroaniline	17.18	2062	138	0	0.00	ng/ul	458	0.447
47)	Dimethyl Phthalate	17.46	2095	163	5378	0.01	ng/ul	894	1.884
48)	2,6-Dinitrotoluene	17.64	2117	165	0	0.00	ng/ul	8	0.371
49)	Acenaphthylene	17.85	2142	152	0	0.00	ng/ul	0	1.644
50)	3-Nitroaniline	17.97	2156	138	0	0.00	ng/ul	0	0.367
51)	Acenaphthene	0.00	2191	152	0	Not Found	ng/ul	308	0.000
52)	2,4-Dinitrophenol	18.24	2189	184	0	0.00	ng/ul	374	0.236
53)	4-Nitrophenol	18.45	2214	65	0	0.00	ng/ul	494	0.222
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	403	0.000
55)	2,4-Dinitrotoluene	18.48	2218	165	0	0.00	ng/ul	689	0.578
56)	Benzo(b)Fluoranthene	28.82	3458	252	0	0.00	ng/ul	0	1.127
57)	Diethyl Phthalate	0.00	2273	149	0	Not Found	ng/ul	687	0.000
58)	Fluorene	19.32	2319	166	0	0.00	ng/ul	701	1.020
59)	4-Chlorophenyl Phenyl Ether	19.06	2287	204	0	0.00	ng/ul	0	0.773
60)	4-Nitroaniline	19.32	2319	108	0	0.00	ng/ul	608	0.862

* Compound is ISTD

Operator ID: DMC
Output File: MPB121S2.1B2
Data File: MPB121S2.MS
Name: MPB121S2
Sample:

Quant Time: 05/22/02 08:27
Injected at: 05/21/02 21:25
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	0.00	2314	198	0	Not Found	ng/ul	199	0.000
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	0	0.000
63)	1,2-Diphenylhydrazine	0.00	2340	77	0	Not Found	ng/ul	730	0.000
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	472	0.000
65)	Hexachlorobenzene	20.12	2415	284	0	0.00	ng/ul	0	0.276
66)	Pentachlorophenol	20.35	2442	266	0	0.00	ng/ul	0	0.224
67)	Phenanthrene	20.67	2481	178	0	0.00	ng/ul	32	1.126
68)	Anthracene	21.00	2520	178	0	0.00	ng/ul	0	1.171
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	0	0.000
70)	Di-n-Butyl Phthalate	21.45	2574	149	184477	0.22	ng/ul	785	2.070
71)	Fluoranthene	0.00	2710	202	0	Not Found	ng/ul	0	0.000
72)	Benzidine	22.68	2722	184	0	0.00	ng/ul	0	0.875
73)	Pyrene	0.00	2756	202	0	Not Found	ng/ul	149	0.000
74)	Butyl Benzyl Phthalate	0.00	2852	149	0	Not Found	ng/ul	332	0.000
75)	3,3'-Dichlorobenzidine	25.28	3034	252	0	0.00	ng/ul	0	0.588
76)	Bis(2-Ethylhexyl)Phthalate	24.86	2983	149	9073	0.02	ng/ul	459	1.694
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	51	0.000
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	12	0.000
79)	Di-n-Octylphthalate	26.60	3192	149	0	0.00	ng/ul	0	2.650
80)	Benzo(k)Fluoranthene	29.07	3489	252	0	0.00	ng/ul	0	1.252
81)	Benzo(a)Pyrene	30.37	3644	252	0	0.00	ng/ul	0	1.075
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	69	0.000
83)	Dibenzo(a,h)Anthracene	0.00	4422	278	0	Not Found	ng/ul	24	0.000
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	33	0.000
85)	N-Nitrosodimethylamine	4.97	597	73	3	0.00	ng/ul	0	0.367
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	86	0.000
87)	2-Chloroaniline	12.77	1532	127	0	0.00	ng/ul	151	0.535
88)	2,4-Diaminotoluene	0.00	1981	121	0	Not Found	ng/ul	722	0.000
89)	2,3-Dinitrotoluene	0.00	2228	165	0	Not Found	ng/ul	899	0.000
90)	1-Naphthylamine	0.00	2230	143	0	Not Found	ng/ul	910	0.000

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 08:27
Output File: MPB121S2.1B2 Injected at: 05/21/02 21:25
Data File: MPB121S2.MS Dilution Factor: 1.00
Name: MPB121S2 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2308	152	0	Not Found	ng/ul	270	0.000

* Compound is ISTD

QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186124
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
Phenol	ND	5.0
Bis (2-Chloroethyl) Ether	ND	5.0
2-Chlorophenol	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
2-Methylphenol	ND	5.0
Bis (2-Chloroisopropyl)-Ether	ND	5.0
4-Methylphenol	ND	5.0
N-Nitrosodi-n-Propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
2-Nitrophenol	ND	5.0
2,4-Dimethylphenol	ND	5.0
Bis (2-Chloroethoxy)-Methane	ND	5.0
2,4-Dichlorophenol	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	ND	5.0
4-Chloroaniline	ND	20
Hexachlorobutadiene	ND	5.0
4-Chloro-3-Methylphenol	ND	5.0
2-Methylnaphthalene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4,5-Trichlorophenol	ND	50
2-Chloronaphthalene	ND	5.0
2-Nitroaniline	ND	20
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
3-Nitroaniline	ND	20
Acenaphthene	ND	5.0
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	5.0

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QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom
Test Date: 05/22/02
Analytical Batch No: 186124
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenylphenyl-Ether	ND	5.0
Fluorene	ND	5.0
4-Nitroaniline	ND	20
4,6-Dinitro-2-Methylphenol	ND	20
N-Nitroso-di-Phenylamine	ND	5.0
4-Bromophenyl Phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Pentachlorophenol	ND	20
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Carbazole	ND	10
Di-n-Butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Butyl Benzyl Phthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	20
Benzo (a) Anthracene	ND	5.0
Chrysene	ND	5.0
Bis (2-ethylhexyl)-Phthalate	ND	5.0
Di-n-Octylphthalate	ND	5.0
Benzo (b) Fluoranthene	ND	5.0
Benzo (k) Fluoranthene	ND	5.0
Benzo (a) Pyrene	ND	5.0
Indeno (1,2,3-cd) Pyrene	ND	5.0
Dibenzo (a,h) Anthracene	ND	5.0
Benzo (g,h,i,) Perylene	ND	5.0

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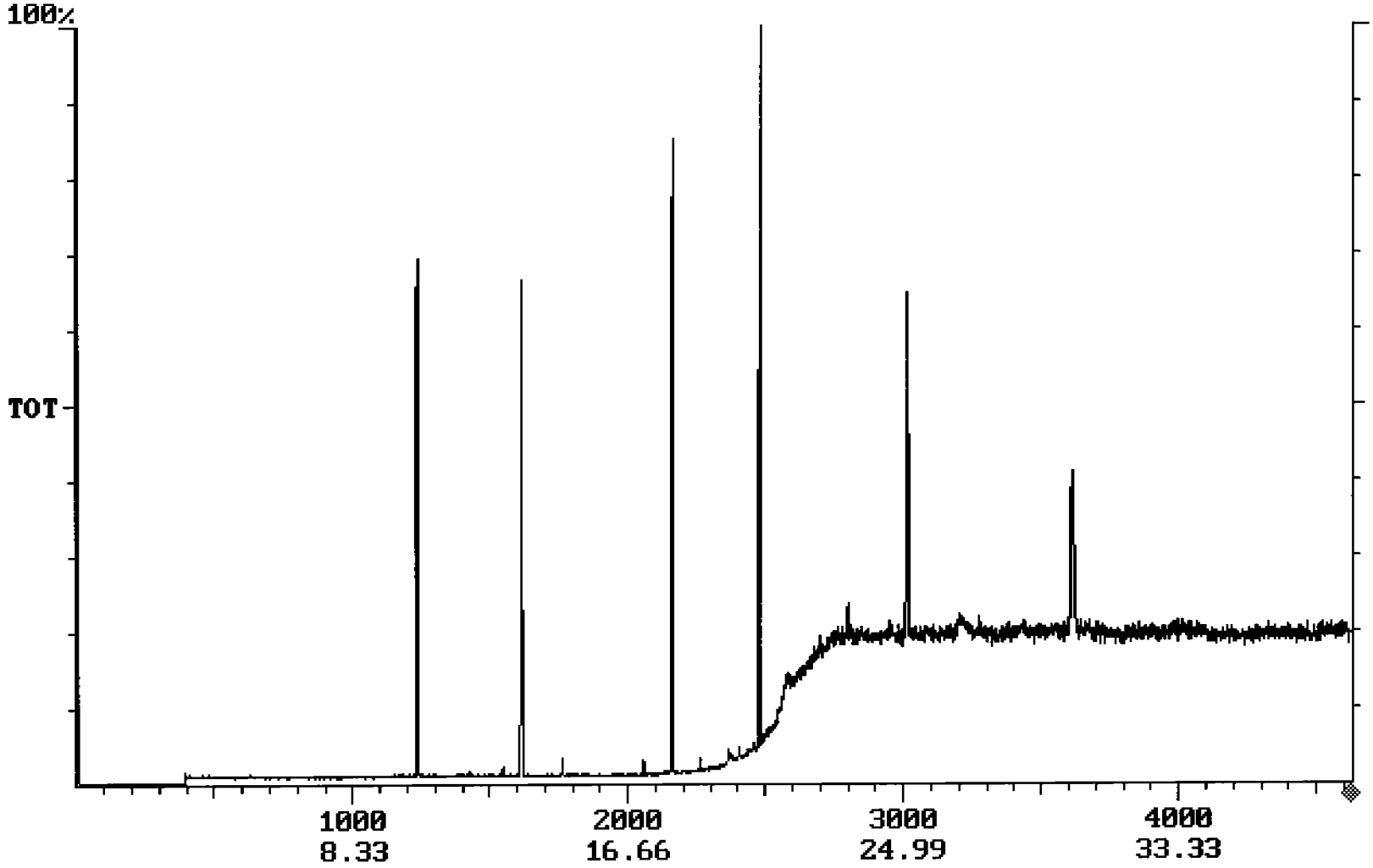
Chromatogram Plot C:\SATURN\DATA\BLK0522A Date: 05/22/02 10:20:00
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4620 Range: 1 to 4620 100% = 1586640



Operator ID: DMC
Output File: BLK0522A.1B2
Data File: BLK0522A.MS
Name: BLK0522A
Sample:

Quant Time: 05/22/02 13:41
Injected at: 05/22/02 10:20
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.30	1236	152	694586	5.00	ng/ul	981	1.000
2)	*IS:D8-Naphthalene	13.46	1615	136	2232519	5.00	ng/ul	963	1.000
3)	*IS:D10-Acenaphthene	17.99	2159	162	1380908	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.67	2480	188	2014651	5.00	ng/ul	927	1.000
5)	*IS:D12-Chrysene	25.12	3015	240	1777058	5.00	ng/ul	679	1.000
6)	*IS:D12-Perylene	30.11	3613	264	1807010	5.00	ng/ul	892	1.000
7)	ACSUR:2-Fluorophenol	0.00	881	112	0	Not Found	ng/ul	38	0.000
8)	ACSUR:D6-Phenol	9.21	1105	99	124	0.00	ng/ul	848	1.904
9)	ACSUR:2,4,6-Tribromophenol	0.00	2341	330	0	Not Found	ng/ul	64	0.000
10)	BNSUR:D5-Nitrobenzene	11.60	1392	127	0	0.00	ng/ul	377	0.167
11)	BNSUR:Decafluorobiphenyl	0.00	1383	334	0	Not Found	ng/ul	259	0.000
12)	BNSUR:2-Fluorobiphenyl	0.00	1948	172	0	Not Found	ng/ul	2	0.000
13)	BNSUR:O-Terphenyl	0.00	2536	230	0	Not Found	ng/ul	2	0.000
14)	Pyridine	4.92	591	79	859	0.01	ng/ul	498	1.031
15)	Phenol	9.38	1126	94	62	0.00	ng/ul	342	1.701
16)	Aniline	9.43	1132	93	285	0.00	ng/ul	448	1.852
17)	Bis(2-Chloroethyl)Ether	0.00	1153	92	0	Not Found	ng/ul	243	0.000
18)	2-Chlorophenol	0.00	1173	128	0	Not Found	ng/ul	134	0.000
19)	1,3-Dichlorobenzene	0.00	1215	146	0	Not Found	ng/ul	425	0.000
20)	1,4-Dichlorobenzene	0.00	1240	146	0	Not Found	ng/ul	248	0.000
21)	Benzyl Alcohol	10.60	1272	108	114	0.00	ng/ul	416	0.647
22)	1,2-Dichlorobenzene	10.70	1284	146	0	0.00	ng/ul	319	1.426
23)	2-Methylphenol	10.60	1272	108	114	0.00	ng/ul	429	1.185
24)	Bis(2-Chloroisopropyl)Ether	10.91	1309	45	1	0.00	ng/ul	109	1.041
25)	4-Methylphenol	11.29	1355	108	0	0.00	ng/ul	484	1.306
26)	N-Nitrosodi-N-Propylamine	11.19	1343	70	111	0.00	ng/ul	499	0.786
27)	Hexachloroethane	0.00	1382	119	0	Not Found	ng/ul	244	0.000
28)	Nitrobenzene	11.71	1405	77	400	0.00	ng/ul	317	0.547
29)	Isophorone	0.00	1465	82	0	Not Found	ng/ul	446	0.000
30)	2-Nitrophenol	12.52	1502	109	113	0.00	ng/ul	563	0.374

* Compound is ISTD

Operator ID: DMC
Output File: BLK0522A.1B2
Data File: BLK0522A.MS
Name: BLK0522A
Sample:

Quant Time: 05/22/02 13:41
Injected at: 05/22/02 10:20
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1494	107	0	Not Found	ng/ul	478	0.000
32)	Benzoic Acid	12.52	1503	105	12724	0.09	ng/ul	941	0.319
33)	Bis(2-Chloroethoxy)Methane	12.75	1530	92	244	0.00	ng/ul	498	0.473
34)	2,4-Dichlorophenol	0.00	1565	162	0	Not Found	ng/ul	44	0.000
35)	1,2,4-Trichlorobenzene	0.00	1593	180	0	Not Found	ng/ul	123	0.000
36)	Naphthalene	0.00	1618	128	0	Not Found	ng/ul	680	0.000
37)	4-Chloroaniline	0.00	1630	127	0	Not Found	ng/ul	370	0.000
38)	2,6-Dichlorophenol	0.00	1632	162	0	Not Found	ng/ul	189	0.000
39)	Hexachlorobutadiene	13.67	1640	225	0	0.00	ng/ul	335	0.282
40)	4-Chloro-3-Methylphenol	0.00	1776	107	0	Not Found	ng/ul	547	0.000
41)	2-Methylnaphthalene	0.00	1834	142	0	Not Found	ng/ul	117	0.000
42)	Hexachlorocyclopentadiene	0.00	1881	237	0	Not Found	ng/ul	230	0.000
43)	2,4,6-Trichlorophenol	0.00	1917	196	0	Not Found	ng/ul	103	0.000
44)	2,4,5-Trichlorophenol	0.00	1932	196	0	Not Found	ng/ul	191	0.000
45)	2-Chloronapthalene	0.00	1987	162	0	Not Found	ng/ul	2	0.000
46)	2-Nitroaniline	16.92	2031	138	0	0.00	ng/ul	354	0.447
47)	Dimethyl Phthalate	0.00	2066	163	0	Not Found	ng/ul	700	0.000
48)	2,6-Dinitrotoluene	17.38	2086	165	121	0.00	ng/ul	805	0.371
49)	Acenaphthylene	17.81	2137	152	155	0.00	ng/ul	795	1.644
50)	3-Nitroaniline	17.83	2140	138	103	0.00	ng/ul	575	0.367
51)	Acenaphthene	0.00	2164	152	0	Not Found	ng/ul	287	0.000
52)	2,4-Dinitrophenol	0.00	2165	184	0	Not Found	ng/ul	230	0.000
53)	4-Nitrophenol	18.13	2176	65	1699	0.03	ng/ul	577	0.222
54)	Dibenzofuran	0.00	2209	168	0	Not Found	ng/ul	150	0.000
55)	2,4-Dinitrotoluene	18.32	2199	165	138	0.00	ng/ul	566	0.578
56)	Benzo(b)Fluoranthene	28.48	3418	252	944	0.00	ng/ul	452	1.127
57)	Diethyl Phthalate	0.00	2263	149	0	Not Found	ng/ul	825	0.000
58)	Fluorene	18.95	2274	166	0	0.00	ng/ul	339	1.020
59)	4-Chlorophenyl Phenyl Ether	0.00	2284	204	0	Not Found	ng/ul	8	0.000
60)	4-Nitroaniline	19.13	2296	108	1815	0.01	ng/ul	356	0.862

* Compound is ISTD

Operator ID: DMC
Output File: BLK0522A.1B2
Data File: BLK0522A.MS
Name: BLK0522A
Sample:

Quant Time: 05/22/02 13:41
Injected at: 05/22/02 10:20
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	0.00	2291	198	0	Not Found	ng/ul	243	0.000
62)	N-Nitrosodiphenylamine	0.00	2309	169	0	Not Found	ng/ul	2	0.000
63)	1,2-Diphenylhydrazine	0.00	2317	77	0	Not Found	ng/ul	698	0.000
64)	4-Bromophenyl Phenyl Ether	0.00	2385	248	0	Not Found	ng/ul	271	0.000
65)	Hexachlorobenzene	20.00	2400	284	227	0.00	ng/ul	641	0.276
66)	Pentachlorophenol	0.00	2435	266	0	Not Found	ng/ul	210	0.000
67)	Phenanthrene	20.79	2495	178	269	0.00	ng/ul	709	1.126
68)	Anthracene	20.82	2499	178	883	0.00	ng/ul	632	1.171
69)	Carbazole	0.00	2516	167	0	Not Found	ng/ul	414	0.000
70)	Di-n-Butyl Phthalate	21.37	2565	149	10292	0.01	ng/ul	857	2.098
71)	Fluoranthene	0.00	2687	202	0	Not Found	ng/ul	0	0.000
72)	Benzidine	22.52	2703	184	3239	0.01	ng/ul	938	0.875
73)	Pyrene	0.00	2732	202	0	Not Found	ng/ul	2	0.000
74)	Butyl Benzyl Phthalate	23.67	2840	149	3666	0.01	ng/ul	952	1.194
75)	3,3'-Dichlorobenzidine	24.79	2975	252	0	0.00	ng/ul	396	0.588
76)	Bis(2-Ethylhexyl)Phthalate	24.54	2945	149	0	0.00	ng/ul	0	1.694
77)	Benzo(a)Anthracene	0.00	3006	228	0	Not Found	ng/ul	2	0.000
78)	Chrysene	0.00	3019	228	0	Not Found	ng/ul	2	0.000
79)	Di-n-Octylphthalate	0.00	3158	149	0	Not Found	ng/ul	163	0.000
80)	Benzo(k)Fluoranthene	28.70	3444	252	992	0.00	ng/ul	661	1.252
81)	Benzo(a)Pyrene	29.65	3558	252	1107	0.00	ng/ul	612	1.075
82)	Indeno(1,2,3-cd)Pyrene	0.00	4319	276	0	Not Found	ng/ul	2	0.000
83)	Dibenzo(a,h)Anthracene	0.00	4327	278	0	Not Found	ng/ul	109	0.000
84)	Benzo(g,h,i)Perylene	0.00	4545	276	0	Not Found	ng/ul	0	0.000
85)	N-Nitrosodimethylamine	4.69	563	73	2301	0.05	ng/ul	905	0.366
86)	2,3,4,6-tetrachlorophenol	0.00	2231	232	0	Not Found	ng/ul	219	0.000
87)	2-Chloroaniline	0.00	1479	127	0	Not Found	ng/ul	117	0.000
88)	2,4-Diaminotoluene	0.00	1978	121	0	Not Found	ng/ul	562	0.000
89)	2,3-Dinitrotoluene	18.32	2199	165	138	0.00	ng/ul	820	0.576
90)	1-Naphthylamine	18.45	2214	143	125	0.00	ng/ul	439	0.724

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 13:41
Output File: BLK0522A.1B2 Injected at: 05/22/02 10:20
Data File: BLK0522A.MS Dilution Factor: 1.00
Name: BLK0522A Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2286	152	0	Not Found	ng/ul	285	0.000

* Compound is ISTD

QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom
Test Date: 05/23/02
Analytical Batch No: 186138
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
1,2,4-Trichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
2,4,5-Trichlorophenol	ND	10
2,4,6-Trichlorophenol	ND	5.0
2,4-Dichlorophenol	ND	5.0
2,4-Dimethylphenol	ND	5.0
2,4-Dinitrophenol	ND	20
2,4-Dinitrotoluene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
2-Chloronaphthalene	ND	2.0
2-Chlorophenol	ND	5.0
4,6-Dinitro-2-Methylphenol	ND	20
2-Methylnaphthalene	ND	5.0
2-Methylphenol	ND	5.0
2-Nitroaniline	ND	20
2-Nitrophenol	ND	5.0
4-Methylphenol	ND	5.0
3-Nitroaniline	ND	2.0
4-Bromophenyl Phenylether	ND	5.0
4-Chloro-3-Methylphenol	ND	1.0
4-Chlorophenylphenyl-Ether	ND	5.0
4-Nitroaniline	ND	20
4-Nitrophenol	ND	20
Acenaphthene	ND	1.0
Acenaphthylene	ND	1.0
Anthracene	ND	1.0
Benzo (a) Anthracene	ND	2.0
Benzo (a) Pyrene	ND	2.0
Benzo (b) Fluoranthene	ND	2.0
Benzo (g,h,i,) Perylene	ND	2.0
Benzo (k) Fluoranthene	ND	2.0
Bis (2-Chloroethoxy)-Methane	ND	2.0
Bis (2-Chloroethyl) Ether	ND	1.0

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QUALITY CONTROL REPORT
INSTRUMENT BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom
Test Date: 05/23/02
Analytical Batch No: 186138
Units: ug/L

Parameter	Blank Concentration	Quantitation Limit
Bis (2-Chloroisopropyl)-Ether	ND	1.0
Bis (2-ethylhexyl)-Phthalate	ND	2.0
Butyl Benzyl Phthalate	ND	1.0
Carbazole	ND	10
Chrysene	ND	1.0
Dibenzo (a,h) Anthracene	ND	2.0
Dibenzofuran	ND	5.0
Diethylphthalate	ND	1.0
Dimethylphthalate	ND	2.0
Di-n-Butylphthalate	ND	1.0
Di-n-Octylphthalate	ND	2.0
Fluoranthene	ND	1.0
Fluorene	ND	1.0
Hexachlorobenzene	ND	2.0
Hexachlorobutadiene	ND	2.0
Hexachlorocyclopentadiene	ND	5.0
Hexachloroethane	ND	1.0
Indeno (1,2,3-cd) Pyrene	ND	2.0
Isophorone	ND	1.0
Naphthalene	ND	1.0
Nitrobenzene	ND	2.0
N-Nitrosodi-n-Propylamine	ND	5.0
N-Nitroso-di-Phenylamine	ND	5.0
Pentachlorophenol	ND	20
Phenanthrene	ND	5.0
Phenol	ND	1.0
Pyrene	ND	1.0

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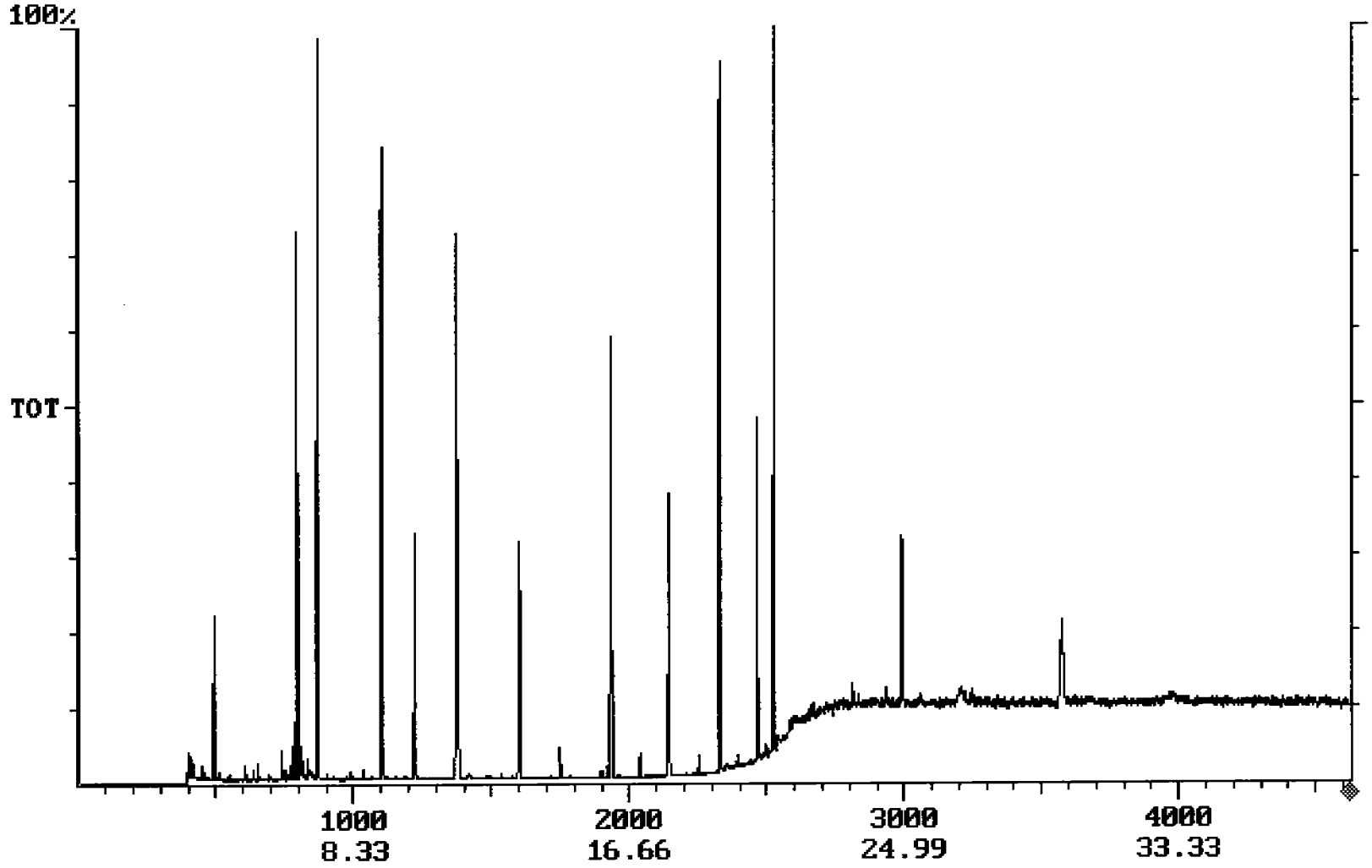
Chromatogram Plot C:\SATURN\DATA\MPB122MQ Date: 05/23/02 00:30:54
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4619 Range: 1 to 4619 100% = 2981639



Operator ID: DMC
Output File: MPB122MQ.1B2
Data File: MPB122MQ.MS
Name: MPB122MQ
Sample:

Quant Time: 05/23/02 08:51
Injected at: 05/23/02 00:30
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02
Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.18	1222	152	626203	5.00	ng/ul	964	1.000
2)	*IS:D8-Naphthalene	13.34	1601	136	1984358	5.00	ng/ul	974	1.000
3)	*IS:D10-Acenaphthene	17.87	2145	162	1252354	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.57	2468	188	1901010	5.00	ng/ul	913	1.000
5)	*IS:D12-Chrysene	24.94	2993	240	1640977	5.00	ng/ul	534	1.000
6)	*IS:D12-Perylene	29.79	3575	264	1704921	5.00	ng/ul	936	1.000
7)	ACSUR:2-Fluorophenol	7.25	870	112	3890808	19.74	ng/ul	998	1.574
8)	ACSUR:D6-Phenol	9.19	1103	99	4420532	18.54	ng/ul	795	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.42	2330	330	1774192	20.88	ng/ul	997	0.340
10)	BNSUR:D5-Nitrobenzene	11.50	1380	127	784662	11.89	ng/ul	950	0.167
11)	BNSUR:Decafluorobiphenyl	11.44	1373	334	2844071	9.81	ng/ul	932	0.731
12)	BNSUR:2-Fluorobiphenyl	16.13	1936	172	2832802	9.60	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.05	2526	230	2415769	10.10	ng/ul	990	0.729
14)	Pyridine	4.93	592	79	2544	0.02	ng/ul	479	1.031
15)	Phenol	0.00	1112	94	0	Not Found	ng/ul	138	0.000
16)	Aniline	9.46	1135	93	163	0.00	ng/ul	654	1.852
17)	Bis(2-Chloroethyl)Ether	9.46	1135	92	163	0.00	ng/ul	392	0.862
18)	2-Chlorophenol	0.00	1164	128	0	Not Found	ng/ul	369	0.000
19)	1,3-Dichlorobenzene	0.00	1212	146	0	Not Found	ng/ul	449	0.000
20)	1,4-Dichlorobenzene	10.41	1249	146	120	0.00	ng/ul	580	1.533
21)	Benzyl Alcohol	10.51	1261	108	0	0.00	ng/ul	456	0.647
22)	1,2-Dichlorobenzene	10.50	1260	146	102	0.00	ng/ul	614	1.426
23)	2-Methylphenol	10.62	1275	108	0	0.00	ng/ul	515	1.185
24)	Bis(2-Chloroisopropyl)Ether	10.76	1291	45	333	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.17	1341	108	209	0.00	ng/ul	607	1.306
26)	N-Nitrosodi-N-Propylamine	11.13	1335	70	194	0.00	ng/ul	522	0.786
27)	Hexachloroethane	11.44	1373	119	0	0.00	ng/ul	883	0.645
28)	Nitrobenzene	11.52	1383	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1460	82	0	Not Found	ng/ul	542	0.000
30)	2-Nitrophenol	12.55	1506	109	0	0.00	ng/ul	750	0.374

* Compound is ISTD

Operator ID: DMC
Output File: MPB122MQ.1B2
Data File: MPB122MQ.MS
Name: MPB122MQ
Sample:

Quant Time: 05/23/02 08:51
Injected at: 05/23/02 00:30
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1486	107	0	Not Found	ng/ul	633	0.000
32)	Benzoic Acid	12.40	1488	105	15170	0.12	ng/ul	905	0.319
33)	Bis(2-Chloroethoxy)Methane	12.65	1518	92	0	0.00	ng/ul	0	0.473
34)	2,4-Dichlorophenol	0.00	1554	162	0	Not Found	ng/ul	73	0.000
35)	1,2,4-Trichlorobenzene	0.00	1584	180	0	Not Found	ng/ul	51	0.000
36)	Naphthalene	0.00	1609	128	0	Not Found	ng/ul	404	0.000
37)	4-Chloroaniline	0.00	1621	127	0	Not Found	ng/ul	450	0.000
38)	2,6-Dichlorophenol	0.00	1623	162	0	Not Found	ng/ul	327	0.000
39)	Hexachlorobutadiene	13.57	1628	225	0	0.00	ng/ul	321	0.282
40)	4-Chloro-3-Methylphenol	0.00	1766	107	0	Not Found	ng/ul	293	0.000
41)	2-Methylnaphthalene	0.00	1826	142	0	Not Found	ng/ul	338	0.000
42)	Hexachlorocyclopentadiene	15.44	1853	237	0	0.00	ng/ul	2	0.379
43)	2,4,6-Trichlorophenol	0.00	1909	196	0	Not Found	ng/ul	0	0.000
44)	2,4,5-Trichlorophenol	0.00	1922	196	0	Not Found	ng/ul	162	0.000
45)	2-Chloronapthalene	0.00	1980	162	0	Not Found	ng/ul	49	0.000
46)	2-Nitroaniline	0.00	2007	138	0	Not Found	ng/ul	276	0.000
47)	Dimethyl Phthalate	0.00	2060	163	0	Not Found	ng/ul	614	0.000
48)	2,6-Dinitrotoluene	17.24	2069	165	188	0.00	ng/ul	814	0.371
49)	Acenaphthylene	17.44	2093	152	190	0.00	ng/ul	825	1.644
50)	3-Nitroaniline	17.66	2119	138	0	0.00	ng/ul	355	0.367
51)	Acenaphthene	0.00	2155	152	0	Not Found	ng/ul	335	0.000
52)	2,4-Dinitrophenol	18.11	2173	184	0	0.00	ng/ul	441	0.236
53)	4-Nitrophenol	18.06	2167	65	2932	0.05	ng/ul	422	0.222
54)	Dibenzofuran	0.00	2199	168	0	Not Found	ng/ul	44	0.000
55)	2,4-Dinitrotoluene	18.23	2187	165	159	0.00	ng/ul	832	0.578
56)	Benzo(b)Fluoranthene	0.00	3384	252	0	Not Found	ng/ul	114	0.000
57)	Diethyl Phthalate	0.00	2223	149	0	Not Found	ng/ul	843	0.000
58)	Fluorene	19.10	2292	166	0	0.00	ng/ul	454	1.020
59)	4-Chlorophenyl Phenyl Ether	0.00	2276	204	0	Not Found	ng/ul	298	0.000
60)	4-Nitroaniline	19.02	2282	108	0	0.00	ng/ul	0	0.862

* Compound is ISTD

Operator ID: DMC
Output File: MPB122MQ.1B2
Data File: MPB122MQ.MS
Name: MPB122MQ
Sample:

Quant Time: 05/23/02 08:51
Injected at: 05/23/02 00:30
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	0.00	2283	198	0	Not Found	ng/ul	182	0.000
62)	N-Nitrosodiphenylamine	0.00	2301	169	0	Not Found	ng/ul	100	0.000
63)	1,2-Diphenylhydrazine	0.00	2321	77	0	Not Found	ng/ul	731	0.000
64)	4-Bromophenyl Phenyl Ether	0.00	2378	248	0	Not Found	ng/ul	487	0.000
65)	Hexachlorobenzene	20.06	2407	284	443	0.00	ng/ul	454	0.276
66)	Pentachlorophenol	20.23	2428	266	2161	0.03	ng/ul	726	0.224
67)	Phenanthrene	20.73	2487	178	469	0.00	ng/ul	692	1.126
68)	Anthracene	20.73	2487	178	469	0.00	ng/ul	686	1.171
69)	Carbazole	0.00	2507	167	0	Not Found	ng/ul	249	0.000
70)	Di-n-Butyl Phthalate	21.24	2549	149	19238	0.02	ng/ul	765	2.097
71)	Fluoranthene	0.00	2677	202	0	Not Found	ng/ul	28	0.000
72)	Benzidine	22.41	2689	184	8255	0.03	ng/ul	945	0.875
73)	Pyrene	0.00	2721	202	0	Not Found	ng/ul	133	0.000
74)	Butyl Benzyl Phthalate	23.46	2815	149	17799	0.05	ng/ul	406	1.194
75)	3,3'-Dichlorobenzidine	24.69	2963	252	2420	0.01	ng/ul	787	0.588
76)	Bis(2-Ethylhexyl)Phthalate	24.47	2937	149	19894	0.04	ng/ul	101	1.694
77)	Benzo(a)Anthracene	0.00	2991	228	0	Not Found	ng/ul	49	0.000
78)	Chrysene	0.00	3002	228	0	Not Found	ng/ul	2	0.000
79)	Di-n-Octylphthalate	26.02	3123	149	4800	0.01	ng/ul	691	2.650
80)	Benzo(k)Fluoranthene	28.44	3413	252	1062	0.00	ng/ul	380	1.252
81)	Benzo(a)Pyrene	29.52	3542	252	1133	0.00	ng/ul	578	1.075
82)	Indeno(1,2,3-cd)Pyrene	0.00	4272	276	0	Not Found	ng/ul	226	0.000
83)	Dibenzo(a,h)Anthracene	35.65	4278	278	886	0.00	ng/ul	341	1.017
84)	Benzo(g,h,i)Perylene	0.00	4498	276	0	Not Found	ng/ul	138	0.000
85)	N-Nitrosodimethylamine	4.66	559	73	935	0.02	ng/ul	811	0.367
86)	2,3,4,6-tetrachlorophenol	0.00	2225	232	0	Not Found	ng/ul	241	0.000
87)	2-Chloroaniline	12.26	1472	127	84	0.00	ng/ul	416	0.535
88)	2,4-Diaminotoluene	0.00	1979	121	0	Not Found	ng/ul	473	0.000
89)	2,3-Dinitrotoluene	0.00	2191	165	0	Not Found	ng/ul	817	0.000
90)	1-Naphthylamine	18.59	2231	143	232	0.00	ng/ul	778	0.724

* Compound is ISTD

Operator ID: DMC Quant Time: 05/23/02 08:51
Output File: MPB122MQ.1B2 Injected at: 05/23/02 00:30
Data File: MPB122MQ.MS Dilution Factor: 1.00
Name: MPB122MQ Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2278	152	0	Not Found	ng/ul	250	0.000

* Compound is ISTD

QUALITY CONTROL REPORT
METHOD PREPARATION BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka Test Date: 05/21/02
Analytical Batch No: 185980
QC Batch No: 75188-121
Units: mg/kg dry

Parameter	Blank Concentration	Quantitation Limit
Phenol	ND	0.005
Bis (2-Chloroethyl) Ether	ND	0.005
2-Chlorophenol	ND	0.004
1,3-Dichlorobenzene	ND	0.003
1,4-Dichlorobenzene	ND	0.003
1,2-Dichlorobenzene	ND	0.003
2-Methylphenol	ND	0.005
Bis (2-Chloroisopropyl)-Ether	ND	0.005
4-Methylphenol	ND	0.005
N-Nitrosodi-n-Propylamine	ND	0.006
Hexachloroethane	ND	0.008
Nitrobenzene	ND	0.009
Isophorone	ND	0.003
2-Nitrophenol	ND	0.006
2,4-Dimethylphenol	ND	0.014
Bis (2-Chloroethoxy)-Methane	ND	0.002
2,4-Dichlorophenol	ND	0.002
1,2,4-Trichlorobenzene	ND	0.003
Naphthalene	ND	0.002
4-Chloroaniline	ND	0.008
Hexachlorobutadiene	ND	0.003
4-Chloro-3-Methylphenol	ND	0.002
2-Methylnaphthalene	ND	0.002
Hexachlorocyclopentadiene	ND	0.006
2,4,6-Trichlorophenol	ND	0.005
2,4,5-Trichlorophenol	ND	0.004
2-Chloronaphthalene	ND	0.002
2-Nitroaniline	ND	0.003
Dimethylphthalate	ND	0.003
Acenaphthylene	ND	0.003
2,6-Dinitrotoluene	ND	0.006
3-Nitroaniline	ND	0.003
Acenaphthene	ND	0.002
2,4-Dinitrophenol	ND	0.004
4-Nitrophenol	ND	0.009
Dibenzofuran	ND	0.003

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Individual sample results relate only to the sample tested.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

QUALITY CONTROL REPORT
METHOD PREPARATION BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka Test Date: 05/21/02
Analytical Batch No: 185980
QC Batch No: 75188-121
Units: mg/kg dry

Parameter	Blank Concentration	Quantitation Limit
2,4-Dinitrotoluene	ND	0.005
Diethylphthalate	ND	0.004
4-Chlorophenylphenyl-Ether	ND	0.004
Fluorene	ND	0.003
4-Nitroaniline	ND	0.004
4,6-Dinitro-2-Methylphenol	ND	0.004
N-Nitroso-di-Phenylamine	ND	0.003
4-Bromophenyl Phenylether	ND	0.002
Hexachlorobenzene	ND	0.003
Pentachlorophenol	ND	0.009
Phenanthrene	ND	0.004
Anthracene	ND	0.003
Carbazole	ND	0.008
Di-n-Butylphthalate	ND	0.006
Fluoranthene	ND	0.004
Pyrene	ND	0.003
Butyl Benzyl Phthalate	ND	0.004
3,3'-Dichlorobenzidine	ND	0.002
Benzo (a) Anthracene	ND	0.007
Chrysene	0.008	0.004
Bis (2-ethylhexyl)-Phthalate	ND	0.011
Di-n-Octylphthalate	ND	0.005
Benzo (b) Fluoranthene	ND	0.009
Benzo (k) Fluoranthene	ND	0.005
Benzo (a) Pyrene	ND	0.006
Indeno (1,2,3-cd) Pyrene	ND	0.003
Dibenzo (a,h) Anthracene	ND	0.010
Benzo (g,h,i,) Perylene	ND	0.008

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Individual sample results relate only to the sample tested.

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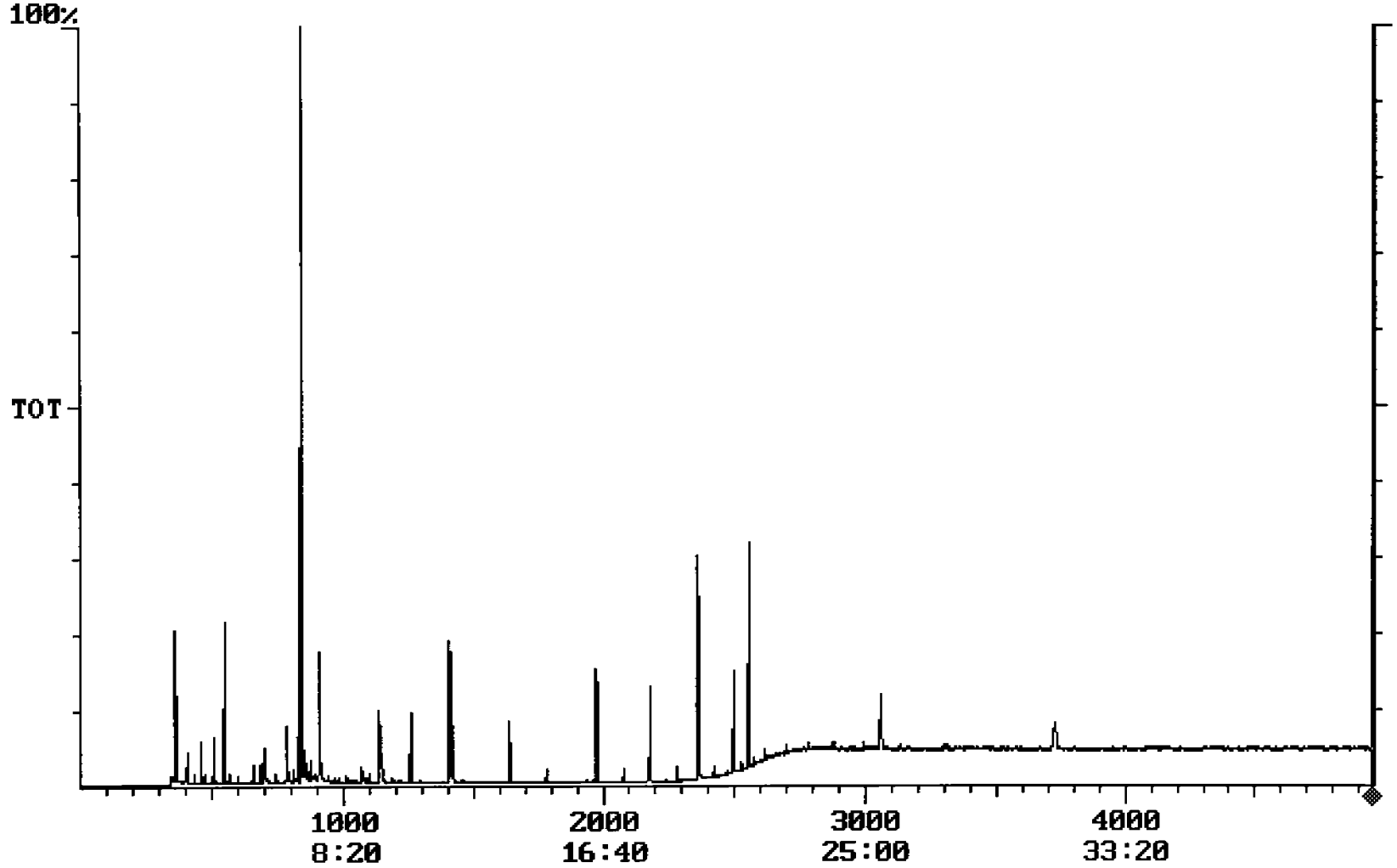
Chromatogram Plot C:\SATURN\DATA\MPB121S Date: 05/21/02 12:16:20
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1135619 Masses: 41-429
Plotted: 1 to 4944 Range: 1 to 4944 100% = 23855238



Operator ID: JMK
Output File: MPB121S.1B2
Data File: MPB121S.MS
Name: MPB121S
Sample:

Quant Time: 05/21/02 15:33
Injected at: 05/21/02 12:16
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1518171	5.00	ng/ul	990	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	4932173	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.15	2178	162	3277786	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4764596	5.00	ng/ul	992	1.000
5)	*IS:D12-Chrysene	25.47	3057	240	4700184	5.00	ng/ul	594	1.000
6)	*IS:D12-Perylene	31.06	3727	264	4860609	5.00	ng/ul	840	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	6513100	14.59	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1137	99	7989233	15.61	ng/ul	831	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.65	2358	330	5115705	16.64	ng/ul	999	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	1035148	7.34	NG/UL	988	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	6704442	7.75	ng/ul	974	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	6002736	7.83	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.27	2553	230	6046595	8.17	ng/ul	995	0.788
14)	Pyridine	5.21	625	79	0	0.00	ng/ul	107	1.146
15)	Phenol	9.51	1141	94	0	0.00	ng/ul	0	1.572
16)	Aniline	9.77	1172	93	0	0.00	ng/ul	0	1.821
17)	Bis(2-Chloroethyl)Ether	9.92	1191	92	0	0.00	ng/ul	0	0.833
18)	2-Chlorophenol	10.04	1205	128	0	0.00	ng/ul	0	1.661
19)	1,3-Dichlorobenzene	0.00	1246	146	0	Not Found	ng/ul	276	0.000
20)	1,4-Dichlorobenzene	10.71	1285	146	0	0.00	ng/ul	361	1.616
21)	Benzyl Alcohol	10.77	1293	108	0	0.00	ng/ul	664	0.554
22)	1,2-Dichlorobenzene	10.77	1292	146	220	0.00	ng/ul	588	1.498
23)	2-Methylphenol	0.00	1316	108	0	Not Found	ng/ul	88	0.000
24)	Bis(2-Chloroisopropyl)Ether	11.08	1330	45	245	0.00	ng/ul	0	1.122
25)	4-Methylphenol	11.27	1352	108	0	0.00	ng/ul	102	1.246
26)	N-Nitrosodi-N-Propylamine	11.37	1365	70	248	0.00	ng/ul	0	0.678
27)	Hexachloroethane	11.87	1424	119	0	0.00	ng/ul	956	0.605
28)	Nitrobenzene	11.83	1420	77	0	0.00	ng/ul	0	0.505
29)	Isophorone	0.00	1495	82	0	Not Found	ng/ul	459	0.000
30)	2-Nitrophenol	0.00	1521	109	0	Not Found	ng/ul	582	0.000

* Compound is ISTD

Operator ID: JMK
Output File: MPB121S.1B2
Data File: MPB121S.MS
Name: MPB121S
Sample:

Quant Time: 05/21/02 15:33
Injected at: 05/21/02 12:16
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1522	107	0	Not Found	ng/ul	531	0.000
32)	Benzoic Acid	0.00	1531	105	0	Not Found	ng/ul	296	0.000
33)	Bis(2-Chloroethoxy)Methane	0.00	1553	92	0	Not Found	ng/ul	327	0.000
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	220	0.000
35)	1,2,4-Trichlorobenzene	0.00	1621	180	0	Not Found	ng/ul	0	0.000
36)	Naphthalene	0.00	1647	128	0	Not Found	ng/ul	142	0.000
37)	4-Chloroaniline	0.00	1660	127	0	Not Found	ng/ul	561	0.000
38)	2,6-Dichlorophenol	0.00	1660	162	0	Not Found	ng/ul	561	0.000
39)	Hexachlorobutadiene	0.00	1684	225	0	Not Found	ng/ul	347	0.000
40)	4-Chloro-3-Methylphenol	0.00	1801	107	0	Not Found	ng/ul	570	0.000
41)	2-Methylnaphthalene	0.00	1865	142	0	Not Found	ng/ul	390	0.000
42)	Hexachlorocyclopentadiene	0.00	1912	237	0	Not Found	ng/ul	222	0.000
43)	2,4,6-Trichlorophenol	0.00	1950	196	0	Not Found	ng/ul	349	0.000
44)	2,4,5-Trichlorophenol	0.00	1961	196	0	Not Found	ng/ul	398	0.000
45)	2-Chloronapthalene	0.00	2019	162	0	Not Found	ng/ul	0	0.000
46)	2-Nitroaniline	0.00	2046	138	0	Not Found	ng/ul	463	0.000
47)	Dimethyl Phthalate	17.44	2093	163	9459	0.01	ng/ul	943	1.919
48)	2,6-Dinitrotoluene	17.49	2099	165	0	0.00	ng/ul	0	0.351
49)	Acenaphthylene	0.00	2144	152	0	Not Found	ng/ul	85	0.000
50)	3-Nitroaniline	18.02	2162	138	0	0.00	ng/ul	615	0.338
51)	Acenaphthene	0.00	2190	152	0	Not Found	ng/ul	150	0.000
52)	2,4-Dinitrophenol	0.00	2189	184	0	Not Found	ng/ul	142	0.000
53)	4-Nitrophenol	18.37	2204	65	0	0.00	ng/ul	75	0.119
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	2	0.000
55)	2,4-Dinitrotoluene	18.56	2227	165	0	0.00	ng/ul	0	0.547
56)	Benzo(b)Fluoranthene	29.31	3517	252	0	0.00	ng/ul	86	1.096
57)	Diethyl Phthalate	18.92	2270	149	10040	0.01	ng/ul	788	2.186
58)	Fluorene	19.38	2326	166	0	0.00	ng/ul	655	1.161
59)	4-Chlorophenyl Phenyl Ether	19.41	2329	204	0	0.00	ng/ul	322	0.783
60)	4-Nitroaniline	19.28	2314	108	0	0.00	ng/ul	215	0.736

* Compound is ISTD

Operator ID: JMK
Output File: MPB121S.1B2
Data File: MPB121S.MS
Name: MPB121S
Sample:

Quant Time: 05/21/02 15:33
Injected at: 05/21/02 12:16
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	0.00	2315	198	0	Not Found	ng/ul	124	0.000
62)	N-Nitrosodiphenylamine	19.37	2324	169	0	0.00	ng/ul	0	0.509
63)	1,2-Diphenylhydrazine	0.00	2339	77	0	Not Found	ng/ul	263	0.000
64)	4-Bromophenyl Phenyl Ether	0.00	2408	248	0	Not Found	ng/ul	170	0.000
65)	Hexachlorobenzene	0.00	2423	284	0	Not Found	ng/ul	252	0.000
66)	Pentachlorophenol	0.00	2460	266	0	Not Found	ng/ul	201	0.000
67)	Phenanthrene	0.00	2503	178	0	Not Found	ng/ul	288	0.000
68)	Anthracene	0.00	2511	178	0	Not Found	ng/ul	144	0.000
69)	Carbazole	0.00	2535	167	0	Not Found	ng/ul	0	0.000
70)	Di-n-Butyl Phthalate	21.46	2575	149	493882	0.25	ng/ul	924	2.077
71)	Fluoranthene	0.00	2711	202	0	Not Found	ng/ul	34	0.000
72)	Benzidine	22.69	2723	184	0	0.00	ng/ul	355	0.403
73)	Pyrene	0.00	2759	202	0	Not Found	ng/ul	32	0.000
74)	Butyl Benzyl Phthalate	23.81	2857	149	30230	0.03	ng/ul	643	1.013
75)	3,3'-Dichlorobenzidine	25.32	3039	252	6610	0.01	ng/ul	708	0.520
76)	Bis(2-Ethylhexyl)Phthalate	24.90	2988	149	12860	0.01	ng/ul	84	1.633
77)	Benzo(a)Anthracene	0.00	3055	228	0	Not Found	ng/ul	62	0.000
78)	Chrysene	0.00	3072	228	0	Not Found	ng/ul	78	0.000
79)	Di-n-Octylphthalate	27.19	3263	149	13817	0.01	ng/ul	442	1.615
80)	Benzo(k)Fluoranthene	29.53	3544	252	6384	0.01	ng/ul	515	1.249
81)	Benzo(a)Pyrene	30.82	3699	252	8926	0.01	ng/ul	445	1.069
82)	Indeno(1,2,3-cd)Pyrene	37.94	4553	276	0	0.00	ng/ul	0	1.571
83)	Dibenzo(a,h)Anthracene	38.07	4569	278	0	0.00	ng/ul	0	0.990
84)	Benzo(g,h,i)Perylene	40.19	4823	276	0	0.00	ng/ul	0	1.284
85)	N-Nitrosodimethylamine	5.12	614	73	1668	0.02	ng/ul	0	0.325
86)	2,3,4,6-tetrachlorophenol	0.00	2257	232	0	Not Found	ng/ul	53	0.000
87)	2,3-Dinitrotoluene	0.00	2224	165	0	Not Found	ng/ul	738	0.000
88)	2,4-Diaminotoluene	16.62	1994	121	1308	0.01	ng/ul	689	0.184
89)	2-Chloroaniline	12.44	1493	127	152	0.00	ng/ul	500	0.613
90)	5-Nitro-o-toluidine	19.12	2294	152	396	0.00	ng/ul	386	0.435

* Compound is ISTD

Operator ID: JMK Quant Time: 05/21/02 15:33
Output File: MPB121S.1B2 Injected at: 05/21/02 12:16
Data File: MPB121S.MS Dilution Factor: 1.00
Name: MPB121S Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.68	2242	143	360	0.00	ng/ul	766	0.867
92)	Benzaldehyde	9.47	1137	105	0	0.00	ng/ul	418	2.400
93)	Acetophenone	11.40	1368	105	17003	0.02	ng/ul	879	0.909
94)	Caprolactam	14.64	1757	85	14375	0.19	ng/ul	646	0.078
95)	Biphenyl	16.73	2008	154	15714	0.02	ng/ul	948	1.531
96)	Atrazine	0.00	2429	200	0	Not Found	ng/ul	99	0.000

* Compound is ISTD

QUALITY CONTROL REPORT
METHOD PREPARATION BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom Test Date: 05/21/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Units: mg/kg dry

Parameter	Blank Concentration	Quantitation Limit
Phenol	ND	0.005
Bis (2-Chloroethyl) Ether	ND	0.005
2-Chlorophenol	ND	0.004
1,3-Dichlorobenzene	ND	0.003
1,4-Dichlorobenzene	ND	0.003
1,2-Dichlorobenzene	ND	0.003
2-Methylphenol	ND	0.005
Bis (2-Chloroisopropyl)-Ether	ND	0.005
4-Methylphenol	ND	0.005
N-Nitrosodi-n-Propylamine	ND	0.006
Hexachloroethane	ND	0.008
Nitrobenzene	ND	0.009
Isophorone	ND	0.003
2-Nitrophenol	ND	0.006
2,4-Dimethylphenol	ND	0.014
Bis (2-Chloroethoxy)-Methane	ND	0.002
2,4-Dichlorophenol	ND	0.002
1,2,4-Trichlorobenzene	ND	0.003
Naphthalene	ND	0.002
4-Chloroaniline	ND	0.008
Hexachlorobutadiene	ND	0.003
4-Chloro-3-Methylphenol	ND	0.002
2-Methylnaphthalene	ND	0.002
Hexachlorocyclopentadiene	ND	0.006
2,4,6-Trichlorophenol	ND	0.005
2,4,5-Trichlorophenol	ND	0.004
2-Chloronaphthalene	ND	0.002
2-Nitroaniline	ND	0.003
Dimethylphthalate	ND	0.003
Acenaphthylene	ND	0.003
2,6-Dinitrotoluene	ND	0.006
3-Nitroaniline	ND	0.003
Acenaphthene	ND	0.002
2,4-Dinitrophenol	ND	0.004
4-Nitrophenol	ND	0.009
Dibenzofuran	ND	0.003

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QUALITY CONTROL REPORT
METHOD PREPARATION BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom Test Date: 05/21/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Units: mg/kg dry

Parameter	Blank Concentration	Quantitation Limit
2,4-Dinitrotoluene	ND	0.005
Diethylphthalate	ND	0.004
4-Chlorophenylphenyl-Ether	ND	0.004
Fluorene	ND	0.003
4-Nitroaniline	ND	0.004
4,6-Dinitro-2-Methylphenol	ND	0.004
N-Nitroso-di-Phenylamine	ND	0.003
4-Bromophenyl Phenylether	ND	0.002
Hexachlorobenzene	ND	0.002
Pentachlorophenol	ND	0.009
Phenanthrene	ND	0.004
Anthracene	ND	0.003
Carbazole	ND	0.008
Di-n-Butylphthalate	0.008	0.006
Fluoranthene	ND	0.004
Pyrene	ND	0.003
Butyl Benzyl Phthalate	ND	0.004
3,3'-Dichlorobenzidine	ND	0.002
Benzo (a) Anthracene	ND	0.007
Chrysene	ND	0.004
Bis (2-ethylhexyl)-Phthalate	ND	0.011
Di-n-Octylphthalate	ND	0.005
Benzo (b) Fluoranthene	ND	0.009
Benzo (k) Fluoranthene	ND	0.005
Benzo (a) Pyrene	ND	0.006
Indeno (1,2,3-cd) Pyrene	ND	0.003
Dibenzo (a,h) Anthracene	ND	0.010
Benzo (g,h,i,) Perylene	ND	0.008

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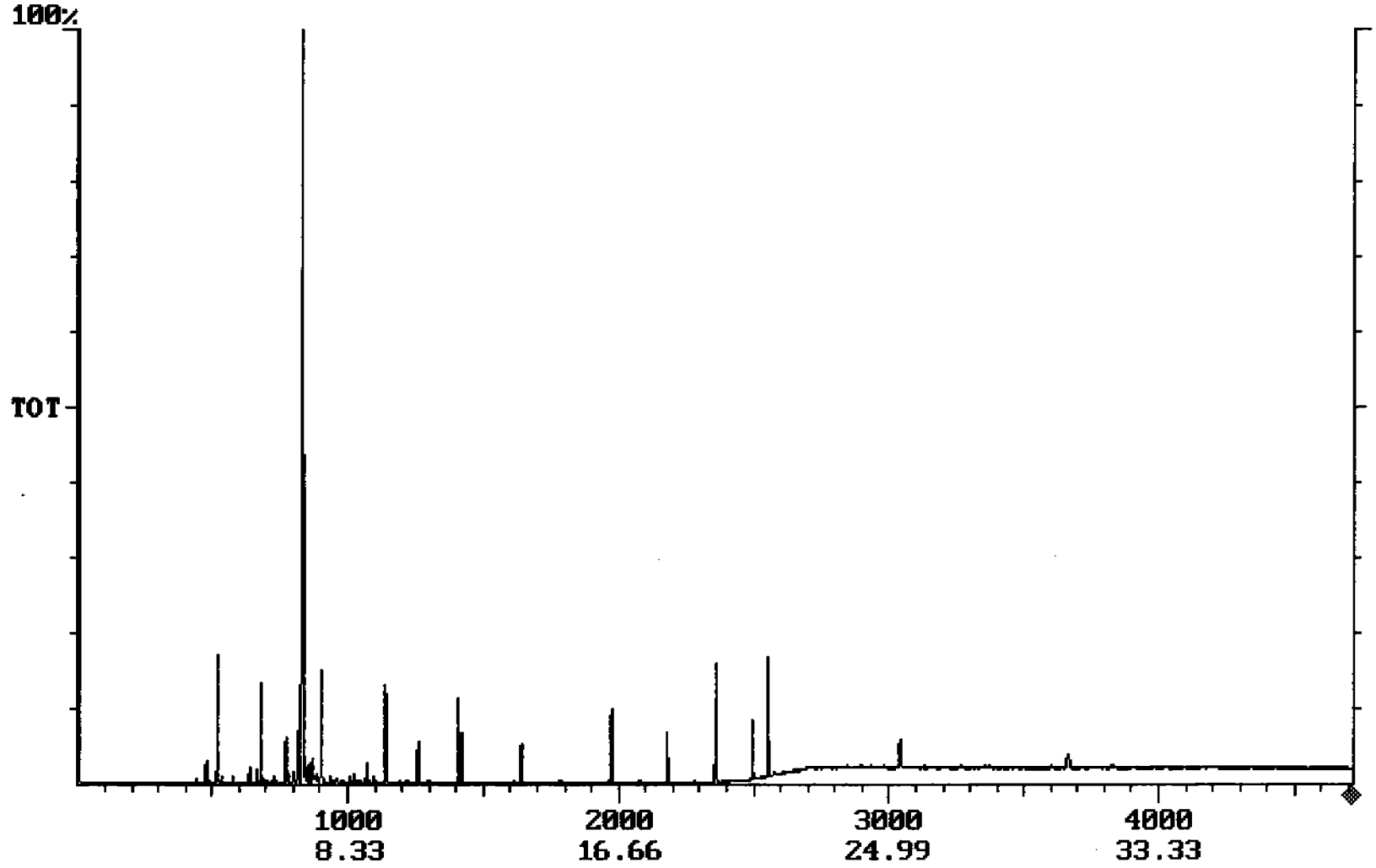
Chromatogram Plot C:\SATURN\DATA\MPB121S2 Date: 05/21/02 21:25:56
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 17943914



Operator ID: DMC
Output File: MPB121S2.1B2
Data File: MPB121S2.MS
Name: MPB121S2
Sample:

Quant Time: 05/22/02 08:27
Injected at: 05/21/02 21:25
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.50	1260	152	634508	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.68	1641	136	2081099	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.17	2180	162	1315160	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	1984897	5.00	ng/ul	993	1.000
5)	*IS:D12-Chrysene	25.34	3041	240	1708533	5.00	ng/ul	936	1.000
6)	*IS:D12-Perylene	30.53	3664	264	1787281	5.00	ng/ul	927	1.000
7)	ACSUR:2-Fluorophenol	7.53	904	112	3445860	17.25	ng/ul	996	1.574
8)	ACSUR:D6-Phenol	9.48	1138	99	4047861	16.76	ng/ul	996	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	1700471	19.17	ng/ul	995	0.338
10)	BNSUR:D5-Nitrobenzene	11.82	1419	127	663876	9.59	ng/ul	941	0.167
11)	BNSUR:Decafluorobiphenyl	11.73	1408	334	2637262	8.68	ng/ul	944	0.731
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	2806252	9.06	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.27	2553	230	2379089	9.60	ng/ul	984	0.725
14)	Pyridine	5.11	613	79	0	0.00	ng/ul	0	1.031
15)	Phenol	9.44	1133	94	0	0.00	ng/ul	53	1.701
16)	Aniline	9.73	1168	93	0	0.00	ng/ul	0	1.852
17)	Bis(2-Chloroethyl)Ether	9.72	1167	92	0	0.00	ng/ul	0	0.862
18)	2-Chlorophenol	0.00	1199	128	0	Not Found	ng/ul	601	0.000
19)	1,3-Dichlorobenzene	10.37	1245	146	688	0.00	ng/ul	821	1.538
20)	1,4-Dichlorobenzene	10.54	1265	146	544	0.00	ng/ul	451	1.533
21)	Benzyl Alcohol	10.79	1295	108	0	0.00	ng/ul	97	0.647
22)	1,2-Dichlorobenzene	10.90	1308	146	748	0.00	ng/ul	664	1.426
23)	2-Methylphenol	11.05	1326	108	0	0.00	ng/ul	465	1.185
24)	Bis(2-Chloroisopropyl)Ether	11.13	1336	45	0	0.00	ng/ul	0	1.041
25)	4-Methylphenol	11.32	1359	108	586	0.00	ng/ul	672	1.306
26)	N-Nitrosodi-N-Propylamine	11.32	1359	70	0	0.00	ng/ul	0	0.786
27)	Hexachloroethane	11.73	1408	119	0	0.00	ng/ul	852	0.645
28)	Nitrobenzene	11.83	1420	77	0	0.00	ng/ul	0	0.547
29)	Isophorone	0.00	1493	82	0	Not Found	ng/ul	412	0.000
30)	2-Nitrophenol	12.78	1534	109	0	0.00	ng/ul	425	0.374

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 08:27
Output File: MPB121S2.1B2 Injected at: 05/21/02 21:25
Data File: MPB121S2.MS Dilution Factor: 1.00
Name: MPB121S2 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	0.00	1520	107	0	Not Found	ng/ul	550	0.000
32)	Benzoic Acid	12.79	1535	105	2436	0.02	ng/ul	944	0.318
33)	Bis(2-Chloroethoxy)Methane	13.01	1561	92	0	0.00	ng/ul	0	0.473
34)	2,4-Dichlorophenol	0.00	1589	162	0	Not Found	ng/ul	227	0.000
35)	1,2,4-Trichlorobenzene	0.00	1619	180	0	Not Found	ng/ul	121	0.000
36)	Naphthalene	0.00	1648	128	0	Not Found	ng/ul	551	0.000
37)	4-Chloroaniline	13.79	1655	127	0	0.00	ng/ul	2	0.570
38)	2,6-Dichlorophenol	0.00	1664	162	0	Not Found	ng/ul	815	0.000
39)	Hexachlorobutadiene	14.07	1688	225	0	0.00	ng/ul	2	0.282
40)	4-Chloro-3-Methylphenol	0.00	1800	107	0	Not Found	ng/ul	433	0.000
41)	2-Methylnaphthalene	15.54	1865	142	0	0.00	ng/ul	579	0.647
42)	Hexachlorocyclopentadiene	16.08	1930	237	0	0.00	ng/ul	0	0.379
43)	2,4,6-Trichlorophenol	0.00	1947	196	0	Not Found	ng/ul	86	0.000
44)	2,4,5-Trichlorophenol	0.00	1960	196	0	Not Found	ng/ul	139	0.000
45)	2-Chloronapthalene	0.00	2020	162	0	Not Found	ng/ul	571	0.000
46)	2-Nitroaniline	17.18	2062	138	0	0.00	ng/ul	458	0.447
47)	Dimethyl Phthalate	17.46	2095	163	5378	0.01	ng/ul	894	1.884
48)	2,6-Dinitrotoluene	17.64	2117	165	0	0.00	ng/ul	8	0.371
49)	Acenaphthylene	17.85	2142	152	0	0.00	ng/ul	0	1.644
50)	3-Nitroaniline	17.97	2156	138	0	0.00	ng/ul	0	0.367
51)	Acenaphthene	0.00	2191	152	0	Not Found	ng/ul	308	0.000
52)	2,4-Dinitrophenol	18.24	2189	184	0	0.00	ng/ul	374	0.236
53)	4-Nitrophenol	18.45	2214	65	0	0.00	ng/ul	494	0.222
54)	Dibenzofuran	0.00	2232	168	0	Not Found	ng/ul	403	0.000
55)	2,4-Dinitrotoluene	18.48	2218	165	0	0.00	ng/ul	689	0.578
56)	Benzo(b)Fluoranthene	28.82	3458	252	0	0.00	ng/ul	0	1.127
57)	Diethyl Phthalate	0.00	2273	149	0	Not Found	ng/ul	687	0.000
58)	Fluorene	19.32	2319	166	0	0.00	ng/ul	701	1.020
59)	4-Chlorophenyl Phenyl Ether	19.06	2287	204	0	0.00	ng/ul	0	0.773
60)	4-Nitroaniline	19.32	2319	108	0	0.00	ng/ul	608	0.862

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 08:27
Output File: MPB121S2.1B2 Injected at: 05/21/02 21:25
Data File: MPB121S2.MS Dilution Factor: 1.00
Name: MPB121S2 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	0.00	2314	198	0	Not Found	ng/ul	199	0.000
62)	N-Nitrosodiphenylamine	0.00	2331	169	0	Not Found	ng/ul	0	0.000
63)	1,2-Diphenylhydrazine	0.00	2340	77	0	Not Found	ng/ul	730	0.000
64)	4-Bromophenyl Phenyl Ether	0.00	2406	248	0	Not Found	ng/ul	472	0.000
65)	Hexachlorobenzene	20.12	2415	284	0	0.00	ng/ul	0	0.276
66)	Pentachlorophenol	20.35	2442	266	0	0.00	ng/ul	0	0.224
67)	Phenanthrene	20.67	2481	178	0	0.00	ng/ul	32	1.126
68)	Anthracene	21.00	2520	178	0	0.00	ng/ul	0	1.171
69)	Carbazole	0.00	2536	167	0	Not Found	ng/ul	0	0.000
70)	Di-n-Butyl Phthalate	21.45	2574	149	184477	0.22	ng/ul	785	2.070
71)	Fluoranthene	0.00	2710	202	0	Not Found	ng/ul	0	0.000
72)	Benzidine	22.68	2722	184	0	0.00	ng/ul	0	0.875
73)	Pyrene	0.00	2756	202	0	Not Found	ng/ul	149	0.000
74)	Butyl Benzyl Phthalate	0.00	2852	149	0	Not Found	ng/ul	332	0.000
75)	3,3'-Dichlorobenzidine	25.28	3034	252	0	0.00	ng/ul	0	0.588
76)	Bis(2-Ethylhexyl)Phthalate	24.86	2983	149	9073	0.02	ng/ul	459	1.694
77)	Benzo(a)Anthracene	0.00	3042	228	0	Not Found	ng/ul	51	0.000
78)	Chrysene	0.00	3053	228	0	Not Found	ng/ul	12	0.000
79)	Di-n-Octylphthalate	26.60	3192	149	0	0.00	ng/ul	0	2.650
80)	Benzo(k)Fluoranthene	29.07	3489	252	0	0.00	ng/ul	0	1.252
81)	Benzo(a)Pyrene	30.37	3644	252	0	0.00	ng/ul	0	1.075
82)	Indeno(1,2,3-cd)Pyrene	0.00	4415	276	0	Not Found	ng/ul	69	0.000
83)	Dibenzo(a,h)Anthracene	0.00	4422	278	0	Not Found	ng/ul	24	0.000
84)	Benzo(g,h,i)Perylene	0.00	4651	276	0	Not Found	ng/ul	33	0.000
85)	N-Nitrosodimethylamine	4.97	597	73	3	0.00	ng/ul	0	0.367
86)	2,3,4,6-tetrachlorophenol	0.00	2255	232	0	Not Found	ng/ul	86	0.000
87)	2-Chloroaniline	12.77	1532	127	0	0.00	ng/ul	151	0.535
88)	2,4-Diaminotoluene	0.00	1981	121	0	Not Found	ng/ul	722	0.000
89)	2,3-Dinitrotoluene	0.00	2228	165	0	Not Found	ng/ul	899	0.000
90)	1-Naphthylamine	0.00	2230	143	0	Not Found	ng/ul	910	0.000

0.0073

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 08:27
Output File: MPB121S2.1B2 Injected at: 05/21/02 21:25
Data File: MPB121S2.MS Dilution Factor: 1.00
Name: MPB121S2 Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

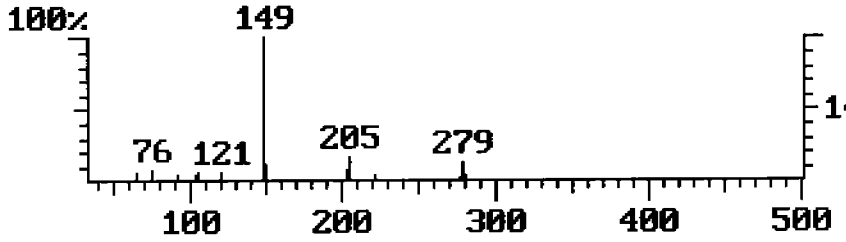
	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	0.00	2308	152	0	Not Found	ng/ul	270	0.000

* Compound is ISTD

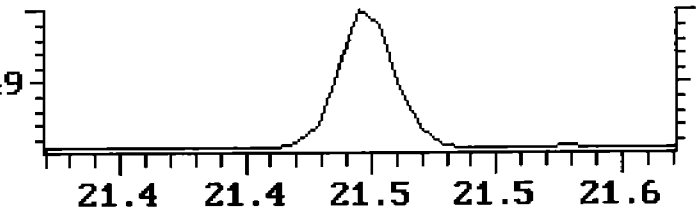
Method: 8270 TARGET COMPOUND CONFIRMATION REPORT 3 Page 51 of 59
Data File: MPB121S2 TRIMATRIX Calibration File: CCC8270
Date: 05/21/02 9:25 pm Calibration Date: 05/22/02
Sample: Operator: DMC
Comments: INSTRUMENT 138
Dilution Factor: 1.00

Di-n-Butyl Phthalate SCAN#: 2574
AGC: 435

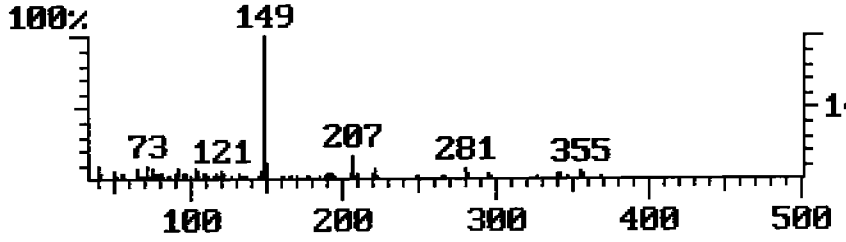
REFERENCE STANDARD SPECTRUM



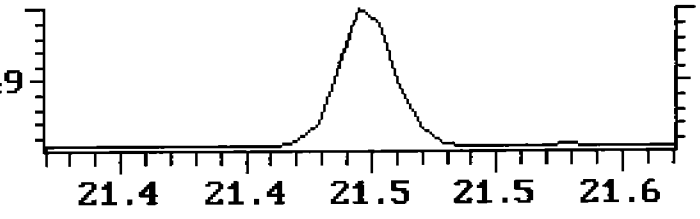
MASS 149 PLOT



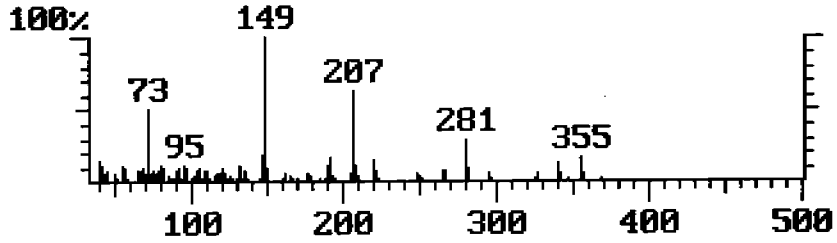
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



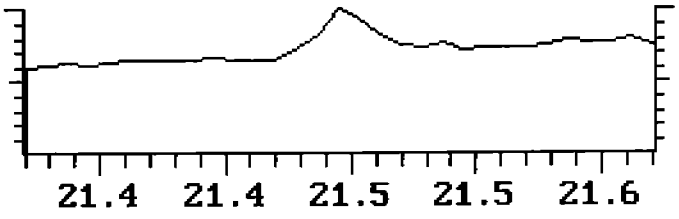
BASE PEAK MASS PLOT



SAMPLE SPECTRUM (UNALTERED)



TOTAL ION PLOT



Approved_____ Date_____

QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

USEPA-8270C SOIL
Test Date: 05/22/02

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Phenol	ND	0.347	0.276	80	58 - 126
Bis (2-Chloroethyl) Ether	ND	0.347	0.274	79	16 - 129
2-Chlorophenol	ND	0.347	0.279	80	51 - 126
1,3-Dichlorobenzene	ND	0.347	0.222	64	35 - 112
1,4-Dichlorobenzene	ND	0.347	0.229	66	43 - 122
1,2-Dichlorobenzene	0.001	0.347	0.246	71	42 - 114
2-Methylphenol	ND	0.347	0.284	82	32 - 116
Bis (2-Chloroisopropyl)-Ether	ND	0.347	0.278	80	61 - 144
4-Methylphenol	ND	0.347	0.282	81	35 - 128
N-Nitrosodi-n-Propylamine	ND	0.347	0.294	85	48 - 120
Hexachloroethane	ND	0.347	0.248	71	55 - 129
Nitrobenzene	ND	0.347	0.232	67	53 - 128
Isophorone	ND	0.347	0.267	77	70 - 111
2-Nitrophenol	ND	0.347	0.309	89	47 - 111
2,4-Dimethylphenol	ND	0.347	0.198	57	47 - 119
Bis (2-Chloroethoxy)-Methane	ND	0.347	0.262	76	39 - 121
2,4-Dichlorophenol	ND	0.347	0.278	80	41 - 115
1,2,4-Trichlorobenzene	ND	0.347	0.242	70	57 - 116
Naphthalene	ND	0.347	0.268	77	55 - 129
4-Chloroaniline	ND	0.347	0.140	40	30 - 92
Hexachlorobutadiene	ND	0.347	0.230	66	41 - 122
4-Chloro-3-Methylphenol	ND	0.347	0.290	84	61 - 125
2-Methylnaphthalene	ND	0.347	0.282	81	48 - 111
Hexachlorocyclopentadiene	ND	0.347	0.238	69	16 - 120
2,4,6-Trichlorophenol	ND	0.347	0.260	75	34 - 118
2,4,5-Trichlorophenol	ND	0.347	0.252	73	28 - 119
2-Chloronaphthalene	ND	0.347	0.247	71	39 - 119
2-Nitroaniline	ND	0.347	0.268	77	40 - 130
Dimethylphthalate	ND	0.347	0.238	69	60 - 116
Acenaphthylene	ND	0.347	0.251	72	40 - 113
2,6-Dinitrotoluene	ND	0.347	0.244	70	61 - 115
3-Nitroaniline	ND	0.347	0.202	58	50 - 100
Acenaphthene	ND	0.347	0.231	67	47 - 112
2,4-Dinitrophenol	ND	0.347	0.120	35	28 - 97
4-Nitrophenol	ND	0.347	0.213	61	34 - 128

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Individual sample results relate only to the sample tested.
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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Janet M. Kudirka Test Date: 05/22/02
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Dibenzofuran	ND	0.347	0.239	69	42 - 116
2,4-Dinitrotoluene	ND	0.347	0.251	72	52 - 128
Diethylphthalate	0.006	0.347	0.253	71	69 - 110
4-Chlorophenylphenyl-Ether	ND	0.347	0.243	70	42 - 120
Fluorene	ND	0.347	0.235	68	34 - 126
4-Nitroaniline	ND	0.347	0.230	66	38 - 116
4,6-Dinitro-2-Methylphenol	ND	0.347	0.173	50	28 - 111
N-Nitroso-di-Phenylamine	ND	0.347	0.301	87	38 - 124
4-Bromophenyl Phenylether	ND	0.347	0.286	82	70 - 111
Hexachlorobenzene	ND	0.347	0.280	81	34 - 116
Pentachlorophenol	ND	0.347	0.238	69	20 - 143
Phenanthrene	ND	0.347	0.286	82	40 - 134
Anthracene	ND	0.347	0.278	80	41 - 123
Carbazole	ND	0.347	0.279	80	70 - 130
Di-n-Butylphthalate	0.031	0.347	0.341	89	32 - 142
Fluoranthene	ND	0.347	0.284	82	45 - 138
Pyrene	ND	0.347	0.284	82	42 - 129
Butyl Benzyl Phthalate	0.003	0.347	0.289	82	38 - 136
Benzo (a) Anthracene	ND	0.347	0.297	86	30 - 145
Chrysene	ND	0.347	0.295	85	63 - 135
Bis (2-ethylhexyl)-Phthalate	0.012	0.347	0.299	83	39 - 141
Di-n-Octylphthalate	ND	0.347	0.312	90	33 - 149
Benzo (b) Fluoranthene	ND	0.347	0.306	88	58 - 132
Benzo (k) Fluoranthene	ND	0.347	0.302	87	54 - 128
Benzo (a) Pyrene	ND	0.347	0.312	90	49 - 124
Indeno (1,2,3-cd) Pyrene	ND	0.347	0.290	84	56 - 110
Dibenzo (a,h) Anthracene	ND	0.347	0.324	93	45 - 123
Benzo (g,h,i,) Perylene	ND	0.347	0.309	89	38 - 124

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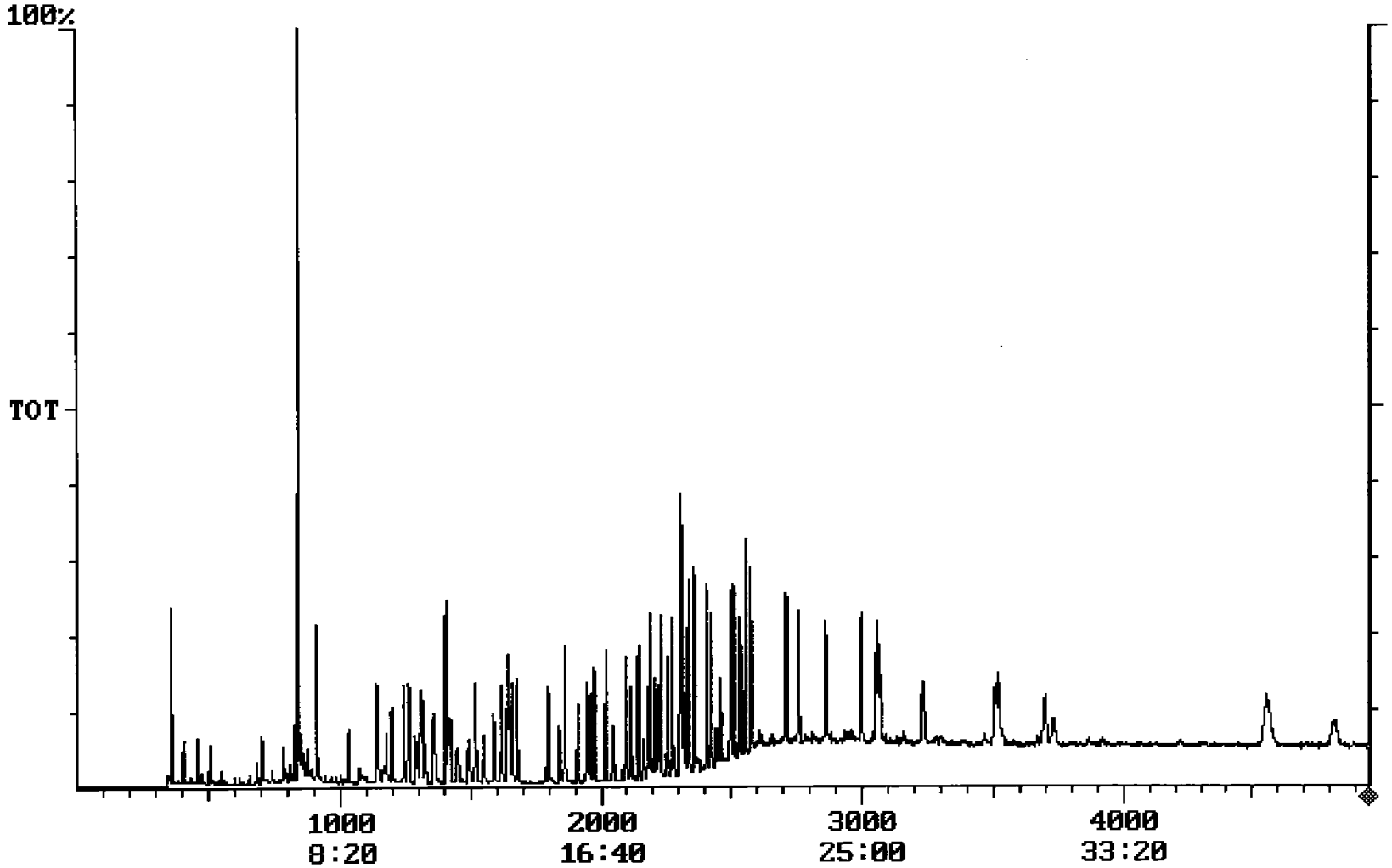
001165

Chromatogram Plot C:\SATURN\DATA\305054MS Date: 05/22/02 00:27:57
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1008309 Masses: 41-429
Plotted: 1 to 4944 Range: 1 to 4944 100% = 20323444



Operator ID: JMK
Output File: 305054MD.1B2
Data File: 305054MD.MS
Name: 305054MD
Sample:

Quant Time: 05/22/02 09:55
Injected at: 05/22/02 01:19
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.49	1259	152	1252009	5.00	ng/ul	997	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	4299777	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2925429	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.81	2497	188	4236433	5.00	ng/ul	995	1.000
5)	*IS:D12-Chrysene	25.50	3060	240	3439162	5.00	ng/ul	893	1.000
6)	*IS:D12-Perylene	31.10	3732	264	4140454	5.00	ng/ul	846	1.000
7)	ACSUR:2-Fluorophenol	7.57	909	112	4858714	13.20	ng/ul	997	1.471
8)	ACSUR:D6-Phenol	9.48	1138	99	5961939	14.12	ng/ul	598	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.67	2360	330	3738093	13.63	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	889076	7.23	NG/UL	988	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	4893299	6.49	ng/ul	998	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	4663787	6.81	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4226564	7.83	ng/ul	984	0.785
14)	Pyridine	5.02	602	79	2928	0.01	ng/ul	536	1.146
15)	Phenol	9.51	1141	94	3123863	7.94	ng/ul	506	1.572
16)	Aniline	9.70	1164	93	832624	1.83	ng/ul	990	1.821
17)	Bis(2-Chloroethyl)Ether	9.79	1175	92	1643841	7.88	ng/ul	963	0.833
18)	2-Chlorophenol	9.98	1198	128	3338623	8.03	ng/ul	999	1.661
19)	1,3-Dichlorobenzene	10.36	1243	146	2652739	6.38	ng/ul	999	1.660
20)	1,4-Dichlorobenzene	10.52	1263	146	2663940	6.59	ng/ul	997	1.616
21)	Benzyl Alcohol	10.74	1289	108	1172836	8.46	ng/ul	998	0.554
22)	1,2-Dichlorobenzene	10.90	1308	146	2658323	7.09	ng/ul	998	1.498
23)	2-Methylphenol	10.95	1314	108	2661020	8.18	ng/ul	951	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.07	1328	45	2246055	8.00	ng/ul	959	1.122
25)	4-Methylphenol	11.32	1358	108	2533380	8.12	ng/ul	999	1.246
26)	N-Nitrosodi-N-Propylamine	11.38	1365	70	1438380	8.48	ng/ul	877	0.678
27)	Hexachloroethane	11.74	1409	119	1079298	7.13	ng/ul	998	0.605
28)	Nitrobenzene	11.85	1422	77	2899069	6.69	ng/ul	993	0.505
29)	Isophorone	12.44	1493	82	4714786	7.68	ng/ul	990	0.714
30)	2-Nitrophenol	12.65	1518	109	2182341	8.90	ng/ul	994	0.286

* Compound is ISTD

Operator ID: JMK
Output File: 305054MD.1B2
Data File: 305054MD.MS
Name: 305054MD
Sample:

Quant Time: 05/22/02 09:55
Injected at: 05/22/02 01:19
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.67	1521	107	2603886	5.72	ng/ul	996	0.530
32)	Benzoic Acid	12.92	1551	105	234623	3.45	ng/ul	814	0.079
33)	Bis(2-Chloroethoxy)Methane	12.92	1551	92	2852122	7.54	ng/ul	987	0.440
34)	2,4-Dichlorophenol	13.25	1590	162	2478632	8.01	ng/ul	998	0.360
35)	1,2,4-Trichlorobenzene	13.49	1619	180	2387522	6.98	ng/ul	999	0.398
36)	Naphthalene	13.71	1646	128	8622761	7.71	ng/ul	997	1.301
37)	4-Chloroaniline	13.82	1658	127	2156525	4.02	ng/ul	991	0.625
38)	2,6-Dichlorophenol	13.83	1660	162	2217559	7.50	ng/ul	991	0.344
39)	Hexachlorobutadiene	14.00	1680	225	1773388	6.62	ng/ul	978	0.312
40)	4-Chloro-3-Methylphenol	14.99	1799	107	3830145	8.35	ng/ul	998	0.534
41)	2-Methylnaphthalene	15.52	1862	142	4458448	8.12	ng/ul	1000	0.639
42)	Hexachlorocyclopentadiene	15.92	1910	237	1660678	6.86	ng/ul	984	0.414
43)	2,4,6-Trichlorophenol	16.22	1947	196	1975661	7.50	ng/ul	998	0.450
44)	2,4,5-Trichlorophenol	16.33	1959	196	2065798	7.27	ng/ul	998	0.486
45)	2-Chloronapthalene	16.83	2019	162	5414096	7.11	ng/ul	994	1.302
46)	2-Nitroaniline	17.05	2046	138	1849864	7.73	ng/ul	997	0.409
47)	Dimethyl Phthalate	17.46	2095	163	7712861	6.87	ng/ul	999	1.919
48)	2,6-Dinitrotoluene	17.62	2115	165	1441733	7.03	ng/ul	994	0.351
49)	Acenaphthylene	17.86	2143	152	7248717	7.23	ng/ul	999	1.715
50)	3-Nitroaniline	18.02	2163	138	1150297	5.83	ng/ul	989	0.338
51)	Acenaphthene	18.23	2188	152	5839264	6.66	ng/ul	993	1.500
52)	2,4-Dinitrophenol	18.26	2191	184	198239	3.44	ng/ul	993	0.099
53)	4-Nitrophenol	18.31	2197	65	550140	6.13	ng/ul	979	0.154
54)	Dibenzofuran	18.58	2230	168	7140809	6.89	ng/ul	999	1.772
55)	2,4-Dinitrotoluene	18.50	2220	165	2309403	7.22	ng/ul	998	0.547
56)	Benzo(b)Fluoranthene	29.23	3508	252	7985829	8.80	ng/ul	786	1.096
57)	Diethyl Phthalate	18.93	2272	149	9315262	7.28	ng/ul	993	2.186
58)	Fluorene	19.24	2309	166	4592938	6.76	ng/ul	933	1.161
59)	4-Chlorophenyl Phenyl Ether	19.20	2304	204	3203046	7.00	ng/ul	898	0.783
60)	4-Nitroaniline	19.25	2310	108	2852376	6.63	ng/ul	832	0.736

* Compound is ISTD

Operator ID: JMK
Output File: 305054MD.1B2
Data File: 305054MD.MS
Name: 305054MD
Sample:

Quant Time: 05/22/02 09:55
Injected at: 05/22/02 01:19
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.28	2314	198	631997	4.98	ng/ul	855	0.150
62)	N-Nitrosodiphenylamine	19.40	2328	169	3737642	8.67	ng/ul	998	0.509
63)	1,2-Diphenylhydrazine	19.49	2339	77	7605278	8.84	ng/ul	962	1.016
64)	4-Bromophenyl Phenyl Ether	20.05	2406	248	2671694	8.23	ng/ul	998	0.384
65)	Hexachlorobenzene	20.19	2423	284	2077977	8.06	ng/ul	978	0.305
66)	Pentachlorophenol	20.48	2458	266	1340697	6.84	ng/ul	977	0.232
67)	Phenanthrene	20.84	2501	178	7498986	8.23	ng/ul	992	1.076
68)	Anthracene	20.92	2510	178	8038238	8.02	ng/ul	994	1.183
69)	Carbazole	21.12	2535	167	7318286	8.04	ng/ul	972	1.075
70)	Di-n-Butyl Phthalate	21.46	2576	149	12312977	9.82	ng/ul	967	1.481
71)	Fluoranthene	22.59	2711	202	7706270	8.17	ng/ul	958	1.113
72)	Benzidine	22.58	2710	184	0	0.00	ng/ul	372	0.403
73)	Pyrene	22.98	2758	202	8235892	8.18	ng/ul	924	1.465
74)	Butyl Benzyl Phthalate	23.82	2859	149	5796349	8.32	ng/ul	793	1.013
75)	3,3'-Dichlorobenzidine	25.17	3021	252	2462	0.01	ng/ul	447	0.519
76)	Bis(2-Ethylhexyl)Phthalate	24.97	2996	149	9683996	8.63	ng/ul	846	1.633
77)	Benzo(a)Anthracene	25.46	3055	228	9186620	8.56	ng/ul	743	1.560
78)	Chrysene	25.57	3068	228	8109324	8.50	ng/ul	865	1.387
79)	Di-n-Octylphthalate	26.92	3230	149	14537027	8.99	ng/ul	767	2.352
80)	Benzo(k)Fluoranthene	29.35	3522	252	9012412	8.72	ng/ul	862	1.249
81)	Benzo(a)Pyrene	30.82	3698	252	7951952	8.99	ng/ul	837	1.069
82)	Indeno(1,2,3-cd)Pyrene	37.93	4552	276	11983967	8.37	ng/ul	891	2.082
83)	Dibenzo(a,h)Anthracene	38.01	4562	278	7643919	9.08	ng/ul	895	1.017
84)	Benzo(g,h,i)Perylene	40.12	4814	276	9451156	8.89	ng/ul	836	1.284
85)	N-Nitrosodimethylamine	5.13	616	73	439745	5.89	ng/ul	969	0.299
86)	2,3,4,6-tetrachlorophenol	18.80	2256	232	1817134	7.18	ng/ul	997	0.433
87)	2,3-Dinitrotoluene	18.41	2209	165	2332623	7.39	ng/ul	997	0.540
88)	2,4-Diaminotoluene	17.05	2046	121	242409	1.54	ng/ul	125	0.184
89)	2-Chloroaniline	0.00	1508	127	0	Not Found	ng/ul	122	0.000
90)	5-Nitro-o-toluidine	19.23	2308	152	1941765	7.64	ng/ul	663	0.435

* Compound is ISTD

Operator ID: JMK
Output File: 305054MD.1B2
Data File: 305054MD.MS
Name: 305054MD
Sample:

Quant Time: 05/22/02 09:55
Injected at: 05/22/02 01:19
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.73	2248	143	1572340	3.10	ng/ul	981	0.867
92)	Benzaldehyde	9.41	1129	105	2839	0.00	ng/ul	695	2.400
93)	Acetophenone	11.42	1371	105	18516	0.02	ng/ul	574	0.909
94)	Caprolactam	14.55	1746	85	14071	0.21	ng/ul	640	0.078
95)	Biphenyl	16.74	2009	154	13438	0.02	ng/ul	905	1.531
96)	Atrazine	20.20	2424	200	0	0.00	ng/ul	571	0.437

* Compound is ISTD

QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Janet M. Kudirka Test Date: 05/22/02
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Phenol	ND	0.347	0.270	78	58 - 126
Bis (2-Chloroethyl) Ether	ND	0.347	0.290	84	16 - 129
2-Chlorophenol	ND	0.347	0.262	76	51 - 126
1,3-Dichlorobenzene	ND	0.347	0.221	64	35 - 112
1,4-Dichlorobenzene	ND	0.347	0.233	67	43 - 122
1,2-Dichlorobenzene	0.001	0.347	0.236	68	42 - 114
2-Methylphenol	ND	0.347	0.275	79	32 - 116
Bis (2-Chloroisopropyl)-Ether	ND	0.347	0.271	78	61 - 144
4-Methylphenol	ND	0.347	0.280	81	35 - 128
N-Nitrosodi-n-Propylamine	ND	0.347	0.278	80	48 - 120
Hexachloroethane	ND	0.347	0.250	72	55 - 129
Nitrobenzene	ND	0.347	0.250	72	53 - 128
Isophorone	ND	0.347	0.283	82	70 - 111
2-Nitrophenol	ND	0.347	0.313	90	47 - 111
2,4-Dimethylphenol	ND	0.347	0.218	63	47 - 119
Bis (2-Chloroethoxy)-Methane	ND	0.347	0.268	77	39 - 121
2,4-Dichlorophenol	ND	0.347	0.289	83	41 - 115
1,2,4-Trichlorobenzene	ND	0.347	0.259	75	57 - 116
Naphthalene	ND	0.347	0.288	83	55 - 129
4-Chloroaniline	ND	0.347	0.132	38	30 - 92
Hexachlorobutadiene	ND	0.347	0.221	64	41 - 122
4-Chloro-3-Methylphenol	ND	0.347	0.312	90	61 - 125
2-Methylnaphthalene	ND	0.347	0.296	85	48 - 111
Hexachlorocyclopentadiene	ND	0.347	0.266	77	16 - 120
2,4,6-Trichlorophenol	ND	0.347	0.288	83	34 - 118
2,4,5-Trichlorophenol	ND	0.347	0.287	83	28 - 119
2-Chloronaphthalene	ND	0.347	0.269	78	39 - 119
2-Nitroaniline	ND	0.347	0.283	82	40 - 130
Dimethylphthalate	ND	0.347	0.264	76	60 - 116
Acenaphthylene	ND	0.347	0.274	79	40 - 113
2,6-Dinitrotoluene	ND	0.347	0.275	79	61 - 115
3-Nitroaniline	ND	0.347	0.202	58	50 - 100
Acenaphthene	ND	0.347	0.258	74	47 - 112
2,4-Dinitrophenol	ND	0.347	0.106	31	28 - 97
4-Nitrophenol	ND	0.347	0.208	60	34 - 128

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Janet M. Kudirka Test Date: 05/22/02
Analytical Batch No: 186085
QC Batch No: 75188-121
Sample No: 305054
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Dibenzofuran	ND	0.347	0.262	76	42 - 116
2,4-Dinitrotoluene	ND	0.347	0.265	76	52 - 128
Diethylphthalate	0.006	0.347	0.285	80	69 - 110
4-Chlorophenylphenyl-Ether	ND	0.347	0.266	77	42 - 120
Fluorene	ND	0.347	0.264	76	34 - 126
4-Nitroaniline	ND	0.347	0.235	68	38 - 116
4,6-Dinitro-2-Methylphenol	ND	0.347	0.158	46	28 - 111
N-Nitroso-di-Phenylamine	ND	0.347	0.324	93	38 - 124
4-Bromophenyl Phenylether	ND	0.347	0.299	86	70 - 111
Hexachlorobenzene	ND	0.347	0.310	89	34 - 116
Pentachlorophenol	ND	0.347	0.251	72	20 - 143
Phenanthrene	ND	0.347	0.307	88	40 - 134
Anthracene	ND	0.347	0.306	88	41 - 123
Carbazole	ND	0.347	0.282	81	70 - 130
Di-n-Butylphthalate	0.031	0.347	0.378	100	32 - 142
Fluoranthene	ND	0.347	0.325	94	45 - 138
Pyrene	ND	0.347	0.303	87	42 - 129
Butyl Benzyl Phthalate	0.003	0.347	0.275	78	38 - 136
Benzo (a) Anthracene	ND	0.347	0.309	89	30 - 145
Chrysene	ND	0.347	0.308	89	63 - 135
Bis (2-ethylhexyl)-Phthalate	0.012	0.347	0.305	84	39 - 141
Di-n-Octylphthalate	ND	0.347	0.304	88	33 - 149
Benzo (b) Fluoranthene	ND	0.347	0.335	97	58 - 132
Benzo (k) Fluoranthene	ND	0.347	0.333	96	54 - 128
Benzo (a) Pyrene	ND	0.347	0.328	95	49 - 124
Indeno (1,2,3-cd) Pyrene	ND	0.347	0.292	84	56 - 110
Dibenzo (a,h) Anthracene	ND	0.347	0.335	97	45 - 123
Benzo (g,h,i,) Perylene	ND	0.347	0.326	94	38 - 124

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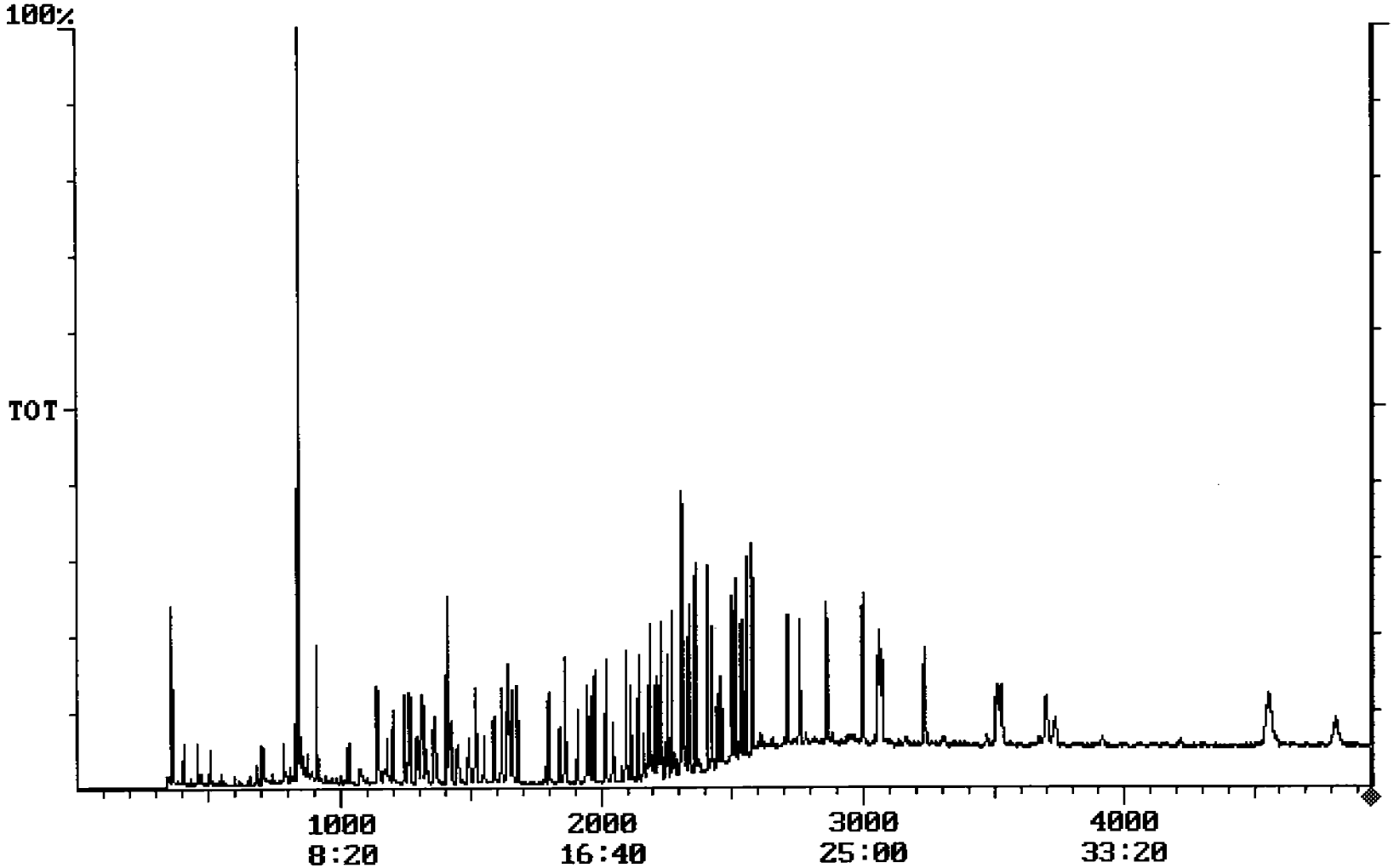
Chromatogram Plot C:\SATURN\DATA\305054MD Date: 05/22/02 01:19:00
Comment: INSTRUMENT 133
Scan: 4943 Seg: 1 Group: 0 Retention: 41:12 RIC: 1016128 Masses: 41-416
Plotted: 1 to 4943 Range: 1 to 4943 100% = 19756056



Operator ID: JMK
Output File: 305054MS.1B2
Data File: 305054MS.MS
Name: 305054MS
Sample:

Quant Time: 05/22/02 09:49
Injected at: 05/22/02 00:27
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02
Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.48	1258	152	1387609	5.00	ng/ul	996	1.000
2)	*IS:D8-Naphthalene	13.66	1639	136	4510764	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	2897365	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4335024	5.00	ng/ul	990	1.000
5)	*IS:D12-Chrysene	25.49	3059	240	3501946	5.00	ng/ul	885	1.000
6)	*IS:D12-Perylene	31.08	3730	264	4103534	5.00	ng/ul	880	1.000
7)	ACSUR:2-Fluorophenol	7.58	909	112	5560694	13.63	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1137	99	6354161	13.58	ng/ul	772	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	3860562	14.21	ng/ul	997	0.469
10)	BNSUR:D5-Nitrobenzene	11.81	1417	127	822800	6.38	NG/UL	986	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1407	334	4831560	6.11	ng/ul	998	0.877
12)	BNSUR:2-Fluorobiphenyl	16.46	1975	172	5216582	7.70	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.28	2554	230	4721850	8.52	ng/ul	988	0.791
14)	Pyridine	5.16	619	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.51	1141	94	3396040	7.79	ng/ul	423	1.572
16)	Aniline	9.70	1164	93	740691	1.47	ng/ul	984	1.821
17)	Bis(2-Chloroethyl)Ether	9.79	1175	92	1934525	8.37	ng/ul	893	0.833
18)	2-Chlorophenol	9.98	1198	128	3484134	7.56	ng/ul	999	1.661
19)	1,3-Dichlorobenzene	10.36	1243	146	2934634	6.37	ng/ul	999	1.660
20)	1,4-Dichlorobenzene	10.52	1263	146	3010070	6.72	ng/ul	998	1.616
21)	Benzyl Alcohol	10.73	1288	108	1241172	8.08	ng/ul	999	0.554
22)	1,2-Dichlorobenzene	10.90	1308	146	2832460	6.81	ng/ul	999	1.498
23)	2-Methylphenol	10.95	1314	108	2851020	7.91	ng/ul	954	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.06	1327	45	2428082	7.80	ng/ul	972	1.122
25)	4-Methylphenol	11.31	1357	108	2794643	8.08	ng/ul	999	1.246
26)	N-Nitrosodi-N-Propylamine	11.37	1365	70	1503439	8.00	ng/ul	923	0.678
27)	Hexachloroethane	11.74	1409	119	1208272	7.20	ng/ul	997	0.605
28)	Nitrobenzene	11.85	1422	77	3272841	7.20	ng/ul	994	0.505
29)	Isophorone	12.45	1494	82	5245410	8.15	ng/ul	991	0.714
30)	2-Nitrophenol	12.65	1518	109	2319459	9.02	ng/ul	996	0.286

* Compound is ISTD

Operator ID: JMK
Output File: 305054MS.1B2
Data File: 305054MS.MS
Name: 305054MS
Sample:

Quant Time: 05/22/02 09:49
Injected at: 05/22/02 00:27
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.67	1520	107	3004369	6.29	ng/ul	994	0.530
32)	Benzoic Acid	12.67	1520	105	141306	2.11	ng/ul	278	0.075
33)	Bis(2-Chloroethoxy)Methane	12.92	1551	92	3062659	7.72	ng/ul	964	0.440
34)	2,4-Dichlorophenol	13.24	1589	162	2698770	8.31	ng/ul	998	0.360
35)	1,2,4-Trichlorobenzene	13.49	1619	180	2679278	7.47	ng/ul	999	0.398
36)	Naphthalene	13.71	1646	128	9738464	8.30	ng/ul	997	1.301
37)	4-Chloroaniline	13.82	1658	127	2126162	3.80	ng/ul	972	0.621
38)	2,6-Dichlorophenol	13.83	1660	162	2505882	8.08	ng/ul	972	0.344
39)	Hexachlorobutadiene	13.99	1679	225	1787058	6.36	ng/ul	972	0.312
40)	4-Chloro-3-Methylphenol	14.99	1799	107	4330021	9.00	ng/ul	998	0.534
41)	2-Methylnaphthalene	15.52	1862	142	4904927	8.51	ng/ul	999	0.639
42)	Hexachlorocyclopentadiene	15.92	1910	237	1839962	7.67	ng/ul	974	0.414
43)	2,4,6-Trichlorophenol	16.22	1946	196	2163918	8.30	ng/ul	998	0.450
44)	2,4,5-Trichlorophenol	16.32	1959	196	2329669	8.28	ng/ul	999	0.486
45)	2-Chloronapthalene	16.82	2019	162	5836651	7.74	ng/ul	995	1.302
46)	2-Nitroaniline	17.06	2047	138	1933306	8.16	ng/ul	999	0.409
47)	Dimethyl Phthalate	17.46	2095	163	8458213	7.61	ng/ul	999	1.919
48)	2,6-Dinitrotoluene	17.62	2114	165	1606125	7.91	ng/ul	996	0.351
49)	Acenaphthylene	17.86	2143	152	7829379	7.88	ng/ul	999	1.715
50)	3-Nitroaniline	18.02	2163	138	1137619	5.82	ng/ul	994	0.338
51)	Acenaphthene	18.23	2188	152	6457725	7.43	ng/ul	962	1.500
52)	2,4-Dinitrophenol	18.21	2185	184	164716	3.06	ng/ul	950	0.093
53)	4-Nitrophenol	18.32	2198	65	531257	6.00	ng/ul	958	0.153
54)	Dibenzofuran	18.58	2230	168	7735684	7.54	ng/ul	1000	1.772
55)	2,4-Dinitrotoluene	18.50	2220	165	2417404	7.63	ng/ul	998	0.547
56)	Benzo(b)Fluoranthene	29.23	3508	252	8689016	9.66	ng/ul	794	1.096
57)	Diethyl Phthalate	18.93	2272	149	10394176	8.21	ng/ul	998	2.186
58)	Fluorene	19.24	2309	166	5105597	7.59	ng/ul	932	1.161
59)	4-Chlorophenyl Phenyl Ether	19.20	2304	204	3477150	7.67	ng/ul	913	0.783
60)	4-Nitroaniline	19.27	2312	108	2885086	6.77	ng/ul	831	0.736

* Compound is ISTD

Operator ID: JMK Quant Time: 05/22/02 09:49
Output File: 305054MS.1B2 Injected at: 05/22/02 00:27
Data File: 305054MS.MS Dilution Factor: 1.00
Name: 305054MS Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.29	2315	198	576607	4.54	ng/ul	765	0.147
62)	N-Nitrosodiphenylamine	19.40	2328	169	4121625	9.34	ng/ul	998	0.509
63)	1,2-Diphenylhydrazine	19.48	2338	77	8669391	10.10	ng/ul	966	0.990
64)	4-Bromophenyl Phenyl Ether	20.05	2406	248	2863188	8.62	ng/ul	999	0.384
65)	Hexachlorobenzene	20.19	2423	284	2355210	8.93	ng/ul	973	0.305
66)	Pentachlorophenol	20.48	2458	266	1450374	7.23	ng/ul	986	0.232
67)	Phenanthrene	20.84	2501	178	8245773	8.85	ng/ul	995	1.076
68)	Anthracene	20.92	2510	178	9033912	8.81	ng/ul	990	1.183
69)	Carbazole	21.12	2534	167	7558186	8.11	ng/ul	980	1.075
70)	Di-n-Butyl Phthalate	21.46	2576	149	13621209	10.89	ng/ul	971	1.443
71)	Fluoranthene	22.58	2710	202	9045842	9.38	ng/ul	955	1.113
72)	Benzidine	0.00	2728	184	0	Not Found	ng/ul	258	0.000
73)	Pyrene	22.98	2758	202	9062531	8.74	ng/ul	947	1.481
74)	Butyl Benzyl Phthalate	23.83	2860	149	5615667	7.92	ng/ul	921	1.013
75)	3,3'-Dichlorobenzidine	25.62	3074	252	31684	0.09	ng/ul	240	0.521
76)	Bis(2-Ethylhexyl)Phthalate	24.97	2996	149	10038920	8.78	ng/ul	870	1.633
77)	Benzo(a)Anthracene	25.46	3055	228	9798862	8.91	ng/ul	863	1.572
78)	Chrysene	25.57	3068	228	8679035	8.88	ng/ul	873	1.397
79)	Di-n-Octylphthalate	26.93	3232	149	14319432	8.77	ng/ul	774	2.332
80)	Benzo(k)Fluoranthene	29.34	3521	252	9822043	9.59	ng/ul	879	1.249
81)	Benzo(a)Pyrene	30.82	3699	252	8298891	9.46	ng/ul	833	1.069
82)	Indeno(1,2,3-cd)Pyrene	37.96	4555	276	12263019	8.40	ng/ul	886	2.085
83)	Dibenzo(a,h)Anthracene	37.99	4559	278	7839217	9.39	ng/ul	896	1.017
84)	Benzo(g,h,i)Perylene	40.12	4814	276	9884193	9.38	ng/ul	825	1.284
85)	N-Nitrosodimethylamine	5.12	615	73	473960	5.71	ng/ul	974	0.300
86)	2,3,4,6-tetrachlorophenol	18.80	2256	232	1939615	7.74	ng/ul	998	0.433
87)	2,3-Dinitrotoluene	18.40	2208	165	2426912	7.76	ng/ul	997	0.540
88)	2,4-Diaminotoluene	17.06	2047	121	259941	1.57	ng/ul	122	0.184
89)	2-Chloroaniline	12.55	1506	127	462	0.00	ng/ul	478	0.613
90)	5-Nitro-o-toluidine	19.22	2307	152	1873169	7.44	ng/ul	584	0.435

* Compound is ISTD

Operator ID: JMK Quant Time: 05/22/02 09:49
Output File: 305054MS.1B2 Injected at: 05/22/02 00:27
Data File: 305054MS.MS Dilution Factor: 1.00
Name: 305054MS Instrument ID: 133
Sample:

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02 Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.73	2248	143	1215749	2.42	ng/ul	981	0.867
92)	Benzaldehyde	9.42	1130	105	5050	0.01	ng/ul	667	2.400
93)	Acetophenone	11.41	1369	105	29618	0.04	ng/ul	601	0.909
94)	Caprolactam	14.64	1757	85	15846	0.23	ng/ul	597	0.078
95)	Biphenyl	16.73	2008	154	15384	0.02	ng/ul	922	1.531
96)	Atrazine	20.19	2423	200	0	0.00	ng/ul	464	0.437

* Compound is ISTD

QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Phenol	ND	0.333	0.294	88	58 - 126
Bis (2-Chloroethyl) Ether	ND	0.333	0.320	96	16 - 129
2-Chlorophenol	ND	0.333	0.288	86	51 - 126
1,3-Dichlorobenzene	ND	0.333	0.287	86	35 - 112
1,4-Dichlorobenzene	ND	0.333	0.277	83	43 - 122
1,2-Dichlorobenzene	ND	0.333	0.302	91	42 - 114
2-Methylphenol	ND	0.333	0.295	89	32 - 116
Bis (2-Chloroisopropyl)-Ether	ND	0.333	0.324	97	61 - 144
4-Methylphenol	ND	0.333	0.296	89	35 - 128
N-Nitrosodi-n-Propylamine	ND	0.333	0.313	94	48 - 120
Hexachloroethane	ND	0.333	0.290	87	55 - 129
Nitrobenzene	ND	0.333	0.300	90	53 - 128
Isophorone	ND	0.333	0.290	87	70 - 111
2-Nitrophenol	ND	0.333	0.326	98	47 - 111
2,4-Dimethylphenol	ND	0.333	0.255	77	47 - 119
Bis (2-Chloroethoxy)-Methane	ND	0.333	0.297	89	39 - 121
2,4-Dichlorophenol	ND	0.333	0.292	88	41 - 115
1,2,4-Trichlorobenzene	ND	0.333	0.281	84	57 - 116
Naphthalene	ND	0.333	0.307	92	55 - 129
4-Chloroaniline	ND	0.333	0.119	36	30 - 92
Hexachlorobutadiene	ND	0.333	0.276	83	41 - 122
4-Chloro-3-Methylphenol	0.006	0.333	0.301	89	61 - 125
2-Methylnaphthalene	ND	0.333	0.307	92	48 - 111
Hexachlorocyclopentadiene	ND	0.333	0.217	65	16 - 120
2,4,6-Trichlorophenol	ND	0.333	0.283	85	34 - 118
2,4,5-Trichlorophenol	ND	0.333	0.264	79	28 - 119
2-Chloronaphthalene	ND	0.333	0.292	88	39 - 119
2-Nitroaniline	ND	0.333	0.279	84	40 - 130
Dimethylphthalate	ND	0.333	0.262	79	60 - 116
Acenaphthylene	ND	0.333	0.308	92	40 - 113
2,6-Dinitrotoluene	ND	0.333	0.287	86	61 - 115
3-Nitroaniline	ND	0.333	0.198	59	50 - 100
Acenaphthene	ND	0.333	0.244	73	47 - 112
2,4-Dinitrophenol	ND	0.333	0.0100	3	28 - 97
4-Nitrophenol	ND	0.333	0.237	71	34 - 128

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QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Dibenzofuran	ND	0.333	0.285	86	42 - 116
2,4-Dinitrotoluene	0.027	0.333	0.304	83	52 - 128
Diethylphthalate	0.014	0.333	0.298	85	69 - 110
4-Chlorophenylphenyl-Ether	ND	0.333	0.269	81	42 - 120
Fluorene	ND	0.333	0.284	85	34 - 126
4-Nitroaniline	ND	0.333	0.238	71	38 - 116
4,6-Dinitro-2-Methylphenol	ND	0.333	0.130	39	28 - 111
N-Nitroso-di-Phenylamine	ND	0.333	0.318	95	38 - 124
4-Bromophenyl Phenylether	ND	0.333	0.274	82	70 - 111
Hexachlorobenzene	ND	0.333	0.299	90	34 - 116
Pentachlorophenol	ND	0.333	0.190	57	20 - 143
Phenanthrene	ND	0.333	0.296	89	40 - 134
Anthracene	ND	0.333	0.280	84	41 - 123
Carbazole	ND	0.333	0.276	83	70 - 130
Di-n-Butylphthalate	0.036	0.333	0.388	106	32 - 142
Fluoranthene	ND	0.333	0.297	89	45 - 138
Pyrene	ND	0.333	0.314	94	42 - 129
Butyl Benzyl Phthalate	0.008	0.333	0.256	74	38 - 136
Benzo (a) Anthracene	ND	0.333	0.303	91	30 - 145
Chrysene	ND	0.333	0.287	86	63 - 135
Bis (2-ethylhexyl)-Phthalate	0.016	0.333	0.304	86	39 - 141
Di-n-Octylphthalate	ND	0.333	0.273	82	33 - 149
Benzo (b) Fluoranthene	ND	0.333	0.363	109	58 - 132
Benzo (k) Fluoranthene	ND	0.333	0.288	86	54 - 128
Benzo (a) Pyrene	ND	0.333	0.320	96	49 - 124
Indeno (1,2,3-cd) Pyrene	ND	0.333	0.307	92	56 - 110
Dibenzo (a,h) Anthracene	ND	0.333	0.332	100	45 - 123
Benzo (g,h,i,) Perylene	ND	0.333	0.297	89	38 - 124

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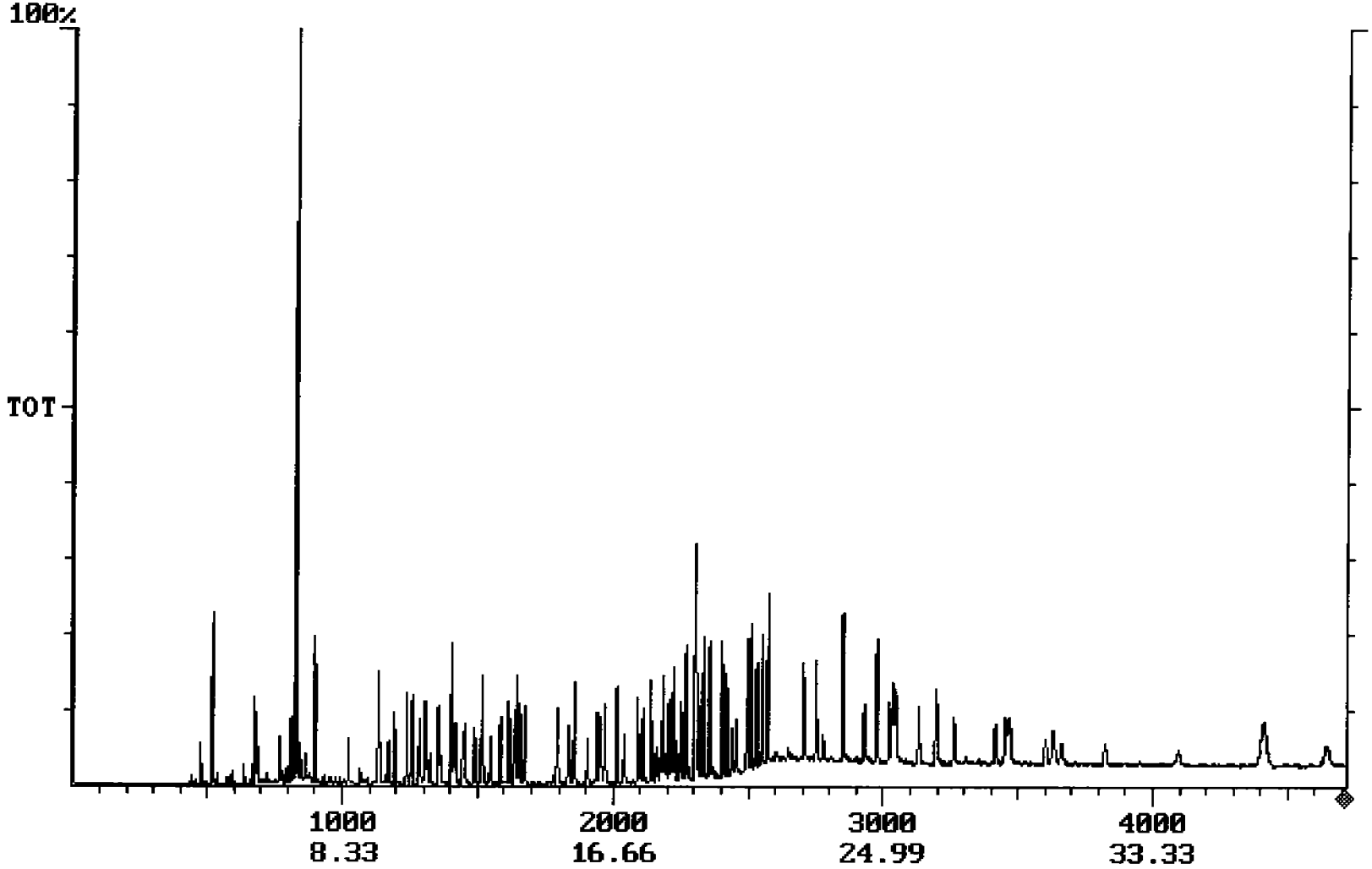
Chromatogram Plot C:\SATURN\DATA\305327MS Date: 05/22/02 00:30:57
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 14226700



Operator ID: DMC
Output File: 305327MS.1B2
Data File: 305327MS.MS
Name: 305327MS
Sample:

Quant Time: 05/22/02 09:37
Injected at: 05/22/02 00:30
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.45	1254	152	660021	5.00	ng/ul	997	1.000
2)	*IS:D8-Naphthalene	13.62	1635	136	2195604	5.00	ng/ul	997	1.000
3)	*IS:D10-Acenaphthene	18.13	2176	162	1372632	5.00	ng/ul	997	1.000
4)	*IS:D10-Phenanthrene	20.78	2494	188	2115162	5.00	ng/ul	995	1.000
5)	*IS:D12-Chrysene	25.33	3040	240	1650511	5.00	ng/ul	928	1.000
6)	*IS:D12-Perylene	30.50	3660	264	1885231	5.00	ng/ul	884	1.000
7)	ACSUR:2-Fluorophenol	7.50	900	112	3271780	0.52	ng/ul	998	1.574
8)	ACSUR:D6-Phenol	9.44	1133	99	3843323	0.50	ng/ul	997	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.64	2357	330	1498991	0.54	ng/ul	994	0.335
10)	BNSUR:D5-Nitrobenzene	11.77	1413	127	610004	0.28	ng/ul	959	0.167
11)	BNSUR:Decafluorobiphenyl	11.69	1403	334	2541283	0.26	ng/ul	996	0.731
12)	BNSUR:2-Fluorobiphenyl	16.42	1970	172	2554137	0.26	ng/ul	999	1.178
13)	BNSUR:O-Terphenyl	21.27	2552	230	2207077	0.31	ng/ul	983	0.723
14)	Pyridine	0.00	602	79	0	Not Found	ng/ul	74	0.000
15)	Phenol	9.47	1137	94	1996604	0.29	ng/ul	973	1.701
16)	Aniline	9.65	1158	93	314961	0.04	ng/ul	992	1.852
17)	Bis(2-Chloroethyl)Ether	9.76	1171	92	1102202	0.32	ng/ul	993	0.862
18)	2-Chlorophenol	9.94	1193	128	1940064	0.29	ng/ul	999	1.685
19)	1,3-Dichlorobenzene	10.32	1239	146	1762223	0.29	ng/ul	997	1.538
20)	1,4-Dichlorobenzene	10.49	1259	146	1693682	0.28	ng/ul	994	1.533
21)	Benzyl Alcohol	10.71	1285	108	767709	0.30	ng/ul	997	0.647
22)	1,2-Dichlorobenzene	10.87	1304	146	1721171	0.30	ng/ul	997	1.426
23)	2-Methylphenol	10.92	1310	108	1575618	0.29	ng/ul	971	1.337
24)	Bis(2-Chloroisopropyl)Ether	11.02	1323	45	1344002	0.32	ng/ul	985	1.041
25)	4-Methylphenol	11.28	1354	108	1543007	0.30	ng/ul	998	1.306
26)	N-Nitrosodi-N-Propylamine	11.34	1361	70	981574	0.31	ng/ul	889	0.786
27)	Hexachloroethane	11.71	1405	119	745175	0.29	ng/ul	995	0.645
28)	Nitrobenzene	11.82	1419	77	2181200	0.30	ng/ul	976	0.547
29)	Isophorone	12.40	1488	82	3044817	0.29	ng/ul	988	0.792
30)	2-Nitrophenol	12.62	1514	109	1271204	0.33	ng/ul	985	0.294

* Compound is ISTD

Operator ID: DMC
Output File: 305327MS.1B2
Data File: 305327MS.MS
Name: 305327MS
Sample:

Quant Time: 05/22/02 09:37
Injected at: 05/22/02 00:30
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.64	1517	107	2037364	0.25	ng/ul	991	0.603
32)	Benzoic Acid	12.81	1537	105	15181	0.00	ng/ul	861	0.319
33)	Bis(2-Chloroethoxy)Methane	12.90	1548	92	1865317	0.30	ng/ul	982	0.473
34)	2,4-Dichlorophenol	13.21	1585	162	1354682	0.29	ng/ul	997	0.350
35)	1,2,4-Trichlorobenzene	13.46	1615	180	1434404	0.28	ng/ul	995	0.385
36)	Naphthalene	13.68	1642	128	5670195	0.31	ng/ul	999	1.390
37)	4-Chloroaniline	13.78	1654	127	981841	0.12	ng/ul	991	0.622
38)	2,6-Dichlorophenol	13.80	1656	162	1312883	0.30	ng/ul	976	0.325
39)	Hexachlorobutadiene	13.97	1676	225	1033641	0.28	ng/ul	995	0.282
40)	4-Chloro-3-Methylphenol	14.97	1796	107	2376166	0.30	ng/ul	997	0.594
41)	2-Methylnaphthalene	15.48	1858	142	2634701	0.31	ng/ul	999	0.647
42)	Hexachlorocyclopentadiene	15.88	1906	237	734513	0.22	ng/ul	997	0.408
43)	2,4,6-Trichlorophenol	16.19	1943	196	1063177	0.28	ng/ul	997	0.453
44)	2,4,5-Trichlorophenol	16.29	1955	196	1069507	0.26	ng/ul	997	0.489
45)	2-Chloronapthalene	16.78	2014	162	3045671	0.29	ng/ul	987	1.258
46)	2-Nitroaniline	17.02	2042	138	1032112	0.28	ng/ul	997	0.447
47)	Dimethyl Phthalate	17.43	2091	163	4100569	0.26	ng/ul	999	1.884
48)	2,6-Dinitrotoluene	17.59	2111	165	882065	0.29	ng/ul	989	0.371
49)	Acenaphthylene	17.83	2140	152	4198103	0.31	ng/ul	999	1.644
50)	3-Nitroaniline	17.98	2158	138	601305	0.20	ng/ul	996	0.367
51)	Acenaphthene	18.21	2185	152	3263509	0.24	ng/ul	958	1.611
52)	2,4-Dinitrophenol	18.23	2187	184	17931	0.01	ng/ul	939	0.235
53)	4-Nitrophenol	18.28	2194	65	435271	0.24	ng/ul	973	0.222
54)	Dibenzofuran	18.56	2227	168	4001192	0.28	ng/ul	999	1.693
55)	2,4-Dinitrotoluene	18.48	2217	165	1456651	0.30	ng/ul	997	0.578
56)	Benzo(b)Fluoranthene	28.79	3455	252	4666107	0.36	ng/ul	956	1.127
57)	Diethyl Phthalate	18.91	2269	149	5260562	0.30	ng/ul	967	2.124
58)	Fluorene	19.22	2307	166	2556914	0.28	ng/ul	993	1.085
59)	4-Chlorophenyl Phenyl Ether	19.17	2301	204	1723504	0.27	ng/ul	989	0.773
60)	4-Nitroaniline	19.22	2306	108	1701747	0.24	ng/ul	947	0.862

* Compound is ISTD

Operator ID: DMC
Output File: 305327MS.1B2
Data File: 305327MS.MS
Name: 305327MS
Sample:

Quant Time: 05/22/02 09:37
Injected at: 05/22/02 00:30
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.26	2311	198	355392	0.13	ng/ul	840	0.215
62)	N-Nitrosodiphenylamine	19.38	2326	169	2009258	0.32	ng/ul	999	0.495
63)	1,2-Diphenylhydrazine	19.47	2336	77	4455812	0.31	ng/ul	990	1.112
64)	4-Bromophenyl Phenyl Ether	20.03	2404	248	1283109	0.27	ng/ul	996	0.367
65)	Hexachlorobenzene	20.17	2420	284	1053621	0.30	ng/ul	907	0.276
66)	Pentachlorophenol	20.46	2455	266	545196	0.19	ng/ul	994	0.224
67)	Phenanthrene	20.82	2498	178	4264460	0.30	ng/ul	991	1.126
68)	Anthracene	20.90	2508	178	4190864	0.28	ng/ul	986	1.171
69)	Carbazole	21.10	2532	167	3762102	0.28	ng/ul	992	1.065
70)	Di-n-Butyl Phthalate	21.44	2573	149	7015414	0.39	ng/ul	975	1.413
71)	Fluoranthene	22.55	2706	202	4085438	0.30	ng/ul	985	1.074
72)	Benzidine	0.00	2723	184	0	Not Found	ng/ul	130	0.000
73)	Pyrene	22.93	2752	202	4297708	0.31	ng/ul	967	1.370
74)	Butyl Benzyl Phthalate	23.75	2850	149	3049555	0.26	ng/ul	927	1.194
75)	3,3'-Dichlorobenzidine	25.12	3014	252	1587	0.00	ng/ul	138	0.588
76)	Bis(2-Ethylhexyl)Phthalate	24.83	2979	149	5336823	0.30	ng/ul	881	1.760
77)	Benzo(a)Anthracene	25.30	3036	228	4517548	0.30	ng/ul	950	1.494
78)	Chrysene	25.40	3048	228	4082573	0.29	ng/ul	975	1.426
79)	Di-n-Octylphthalate	26.64	3197	149	7632917	0.27	ng/ul	951	2.805
80)	Benzo(k)Fluoranthene	28.91	3469	252	4108668	0.29	ng/ul	922	1.252
81)	Benzo(a)Pyrene	30.26	3631	252	3925976	0.32	ng/ul	921	1.075
82)	Indeno(1,2,3-cd)Pyrene	36.72	4407	276	5974392	0.31	ng/ul	934	1.948
83)	Dibenzo(a,h)Anthracene	36.79	4415	278	3851752	0.33	ng/ul	894	1.017
84)	Benzo(g,h,i)Perylene	38.67	4641	276	4341774	0.30	ng/ul	906	1.281
85)	N-Nitrosodimethylamine	4.91	590	73	406903	0.35	ng/ul	980	0.290
86)	2,3,4,6-tetrachlorophenol	18.77	2253	232	892138	0.25	ng/ul	994	0.421
87)	2-Chloroaniline	12.51	1501	127	194	0.00	ng/ul	406	0.535
88)	2,4-Diaminotoluene	16.11	1933	121	12260	0.00	ng/ul	0	0.453
89)	2,3-Dinitrotoluene	18.38	2206	165	1343678	0.28	ng/ul	996	0.576
90)	1-Naphthylamine	18.71	2245	143	777168	0.12	ng/ul	995	0.790

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 09:37
Output File: 305327MS.1B2 Injected at: 05/22/02 00:30
Data File: 305327MS.MS Dilution Factor: 1.00
Name: 305327MS Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.21	2305	152	988542	0.25	ng/ul	665	0.472

* Compound is ISTD

QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS USEPA-8270C SOIL
Analyst: Dawn M. Carlstrom Test Date: 05/22/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Phenol	ND	0.333	0.269	81	58 - 126
Bis (2-Chloroethyl) Ether	ND	0.333	0.265	80	16 - 129
2-Chlorophenol	ND	0.333	0.265	80	51 - 126
1,3-Dichlorobenzene	ND	0.333	0.248	74	35 - 112
1,4-Dichlorobenzene	ND	0.333	0.252	76	43 - 122
1,2-Dichlorobenzene	ND	0.333	0.269	81	42 - 114
2-Methylphenol	ND	0.333	0.256	77	32 - 116
Bis (2-Chloroisopropyl)-Ether	ND	0.333	0.288	86	61 - 144
4-Methylphenol	ND	0.333	0.269	81	35 - 128
N-Nitrosodi-n-Propylamine	ND	0.333	0.278	83	48 - 120
Hexachloroethane	ND	0.333	0.246	74	55 - 129
Nitrobenzene	ND	0.333	0.296	89	53 - 128
Isophorone	ND	0.333	0.288	86	70 - 111
2-Nitrophenol	ND	0.333	0.324	97	47 - 111
2,4-Dimethylphenol	ND	0.333	0.226	68	47 - 119
Bis (2-Chloroethoxy)-Methane	ND	0.333	0.294	88	39 - 121
2,4-Dichlorophenol	ND	0.333	0.292	88	41 - 115
1,2,4-Trichlorobenzene	ND	0.333	0.275	83	57 - 116
Naphthalene	ND	0.333	0.294	88	55 - 129
4-Chloroaniline	ND	0.333	0.106	32	30 - 92
Hexachlorobutadiene	ND	0.333	0.273	82	41 - 122
4-Chloro-3-Methylphenol	0.006	0.333	0.300	88	61 - 125
2-Methylnaphthalene	ND	0.333	0.296	89	48 - 111
Hexachlorocyclopentadiene	ND	0.333	0.228	68	16 - 120
2,4,6-Trichlorophenol	ND	0.333	0.276	83	34 - 118
2,4,5-Trichlorophenol	ND	0.333	0.262	79	28 - 119
2-Chloronaphthalene	ND	0.333	0.295	89	39 - 119
2-Nitroaniline	ND	0.333	0.293	88	40 - 130
Dimethylphthalate	ND	0.333	0.285	86	60 - 116
Acenaphthylene	ND	0.333	0.304	91	40 - 113
2,6-Dinitrotoluene	ND	0.333	0.283	85	61 - 115
3-Nitroaniline	ND	0.333	0.199	60	50 - 100
Acenaphthene	ND	0.333	0.241	72	47 - 112
2,4-Dinitrophenol	ND	0.333	0.0100	3	28 - 97
4-Nitrophenol	ND	0.333	0.271	81	34 - 128

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

QUALITY CONTROL REPORT
MATRIX SPIKE RECOVERY
USEPA CLP FORM 3

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom
Analytical Batch No: 186156
QC Batch No: 75246-121
Sample No: 305327
Units: mg/kg dry

USEPA-8270C SOIL
Test Date: 05/22/02

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Dibenzofuran	ND	0.333	0.295	89	42 - 116
2,4-Dinitrotoluene	0.027	0.333	0.330	91	52 - 128
Diethylphthalate	0.014	0.333	0.311	89	69 - 110
4-Chlorophenylphenyl-Ether	ND	0.333	0.262	79	42 - 120
Fluorene	ND	0.333	0.299	90	34 - 126
4-Nitroaniline	ND	0.333	0.237	71	38 - 116
4,6-Dinitro-2-Methylphenol	ND	0.333	0.127	38	28 - 111
N-Nitroso-di-Phenylamine	ND	0.333	0.299	90	38 - 124
4-Bromophenyl Phenylether	ND	0.333	0.274	82	70 - 111
Hexachlorobenzene	ND	0.333	0.273	82	34 - 116
Pentachlorophenol	ND	0.333	0.194	58	20 - 143
Phenanthrene	ND	0.333	0.277	83	40 - 134
Anthracene	ND	0.333	0.276	83	41 - 123
Carbazole	ND	0.333	0.279	84	70 - 130
Di-n-Butylphthalate	0.036	0.333	0.355	96	32 - 142
Fluoranthene	ND	0.333	0.291	87	45 - 138
Pyrene	ND	0.333	0.317	95	42 - 129
Butyl Benzyl Phthalate	0.008	0.333	0.295	86	38 - 136
Benzo (a) Anthracene	ND	0.333	0.306	92	30 - 145
Chrysene	ND	0.333	0.285	86	63 - 135
Bis (2-ethylhexyl)-Phthalate	0.016	0.333	0.308	88	39 - 141
Di-n-Octylphthalate	ND	0.333	0.288	86	33 - 149
Benzo (b) Fluoranthene	ND	0.333	0.309	93	58 - 132
Benzo (k) Fluoranthene	ND	0.333	0.291	87	54 - 128
Benzo (a) Pyrene	ND	0.333	0.303	91	49 - 124
Indeno (1,2,3-cd) Pyrene	ND	0.333	0.311	93	56 - 110
Dibenzo (a,h) Anthracene	ND	0.333	0.301	90	45 - 123
Benzo (g,h,i,) Perylene	ND	0.333	0.284	85	38 - 124

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Individual sample results relate only to the sample tested.
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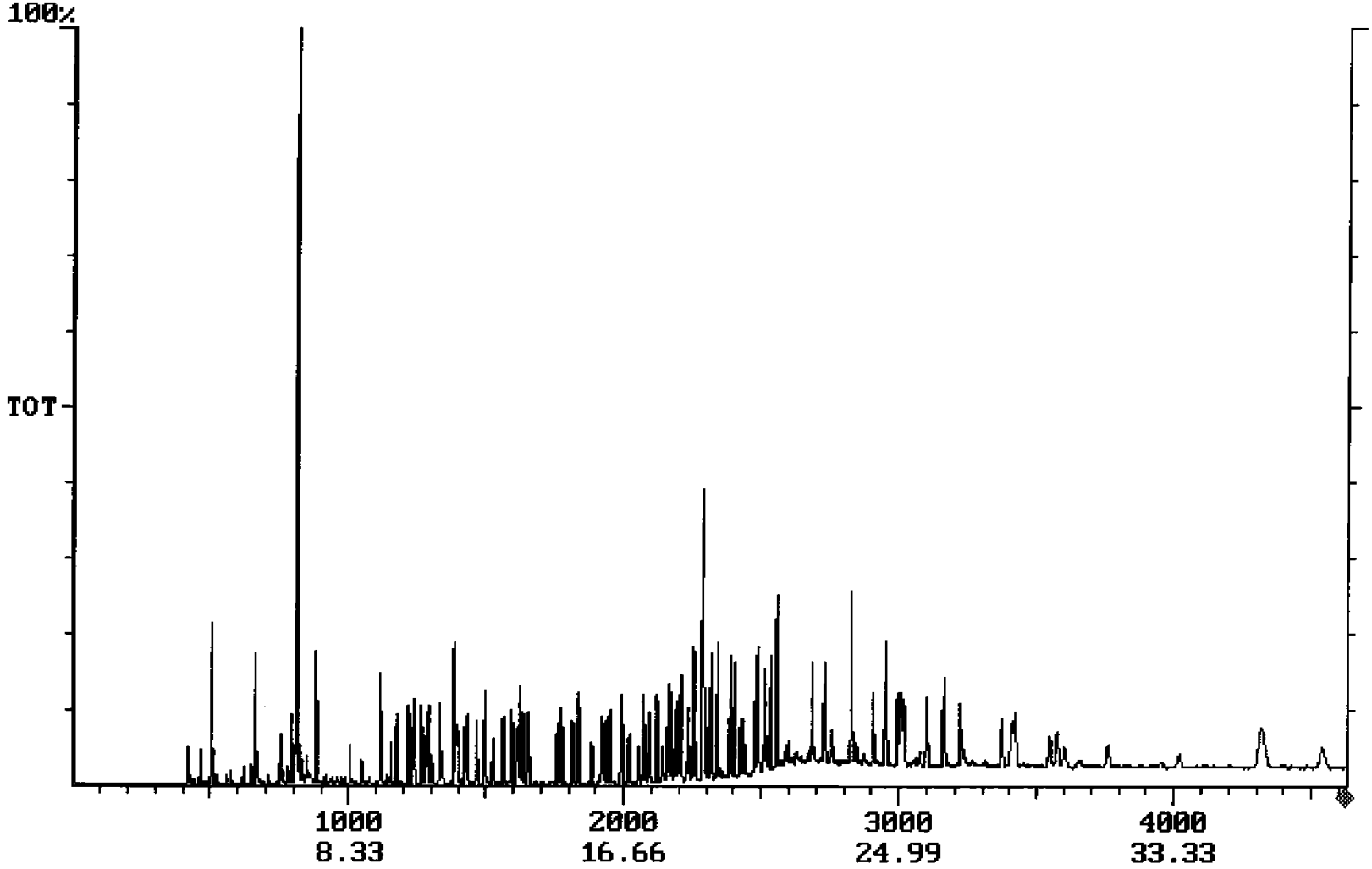
Chromatogram Plot C:\SATURN\DATA\305327DR Date: 05/22/02 11:05:32
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4620 Range: 1 to 4620 100% = 14619581



Operator ID: DMC
Output File: 305327DR.1B2
Data File: 305327DR.MS
Name: 305327DR
Sample:

Quant Time: 05/22/02 13:43
Injected at: 05/22/02 11:05
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.30	1236	152	704701	5.00	ng/ul	996	1.000
2)	*IS:D8-Naphthalene	13.46	1615	136	2152990	5.00	ng/ul	991	1.000
3)	*IS:D10-Acenaphthene	17.97	2156	162	1341919	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.64	2477	188	2150853	5.00	ng/ul	973	1.000
5)	*IS:D12-Chrysene	25.08	3009	240	1613542	5.00	ng/ul	905	1.000
6)	*IS:D12-Perylene	30.02	3603	264	2014219	5.00	ng/ul	889	1.000
7)	ACSUR:2-Fluorophenol	7.36	883	112	2953411	0.44	ng/ul	994	1.574
8)	ACSUR:D6-Phenol	9.29	1115	99	3771472	0.46	ng/ul	770	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.49	2339	330	1439036	0.53	ng/ul	997	0.335
10)	BNSUR:D5-Nitrobenzene	11.61	1393	127	571281	0.26	ng/ul	945	0.167
11)	BNSUR:Decafluorobiphenyl	11.54	1385	334	2384650	0.25	ng/ul	977	0.731
12)	BNSUR:2-Fluorobiphenyl	16.24	1949	172	2423818	0.25	ng/ul	997	1.178
13)	BNSUR:O-Terphenyl	21.13	2535	230	2090826	0.30	ng/ul	983	0.721
14)	Pyridine	4.76	571	79	311	0.00	ng/ul	480	1.031
15)	Phenol	9.32	1119	94	1953179	0.27	ng/ul	982	1.701
16)	Aniline	9.50	1140	93	336573	0.04	ng/ul	994	1.852
17)	Bis(2-Chloroethyl)Ether	9.61	1153	92	973922	0.26	ng/ul	988	0.862
18)	2-Chlorophenol	9.79	1175	128	1903527	0.26	ng/ul	997	1.685
19)	1,3-Dichlorobenzene	10.17	1220	146	1625584	0.25	ng/ul	997	1.538
20)	1,4-Dichlorobenzene	10.33	1240	146	1645355	0.25	ng/ul	989	1.533
21)	Benzyl Alcohol	10.55	1266	108	828719	0.30	ng/ul	996	0.647
22)	1,2-Dichlorobenzene	10.71	1285	146	1637870	0.27	ng/ul	998	1.426
23)	2-Methylphenol	10.77	1292	108	1433954	0.26	ng/ul	981	1.315
24)	Bis(2-Chloroisopropyl)Ether	10.88	1305	45	1276339	0.29	ng/ul	996	1.041
25)	4-Methylphenol	11.12	1335	108	1497876	0.27	ng/ul	998	1.306
26)	N-Nitrosodi-N-Propylamine	11.18	1342	70	930709	0.28	ng/ul	915	0.786
27)	Hexachloroethane	11.53	1384	119	674989	0.25	ng/ul	993	0.645
28)	Nitrobenzene	11.66	1399	77	2107885	0.30	ng/ul	989	0.547
29)	Isophorone	12.23	1468	82	2964736	0.29	ng/ul	995	0.792
30)	2-Nitrophenol	12.45	1494	109	1238766	0.32	ng/ul	980	0.294

* Compound is ISTD

Operator ID: DMC
Output File: 305327DR.1B2
Data File: 305327DR.MS
Name: 305327DR
Sample:

Quant Time: 05/22/02 13:43
Injected at: 05/22/02 11:05
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.47	1497	107	1773556	0.23	ng/ul	990	0.603
32)	Benzoic Acid	12.56	1507	105	39366	0.01	ng/ul	918	0.320
33)	Bis(2-Chloroethoxy)Methane	12.73	1528	92	1808752	0.29	ng/ul	984	0.473
34)	2,4-Dichlorophenol	13.04	1565	162	1331420	0.29	ng/ul	997	0.350
35)	1,2,4-Trichlorobenzene	13.28	1594	180	1378027	0.27	ng/ul	997	0.385
36)	Naphthalene	13.51	1621	128	5316557	0.29	ng/ul	998	1.390
37)	4-Chloroaniline	13.61	1633	127	847189	0.11	ng/ul	981	0.616
38)	2,6-Dichlorophenol	13.62	1634	162	1306741	0.31	ng/ul	976	0.325
39)	Hexachlorobutadiene	13.79	1655	225	998990	0.27	ng/ul	995	0.282
40)	4-Chloro-3-Methylphenol	14.78	1774	107	2321115	0.30	ng/ul	996	0.594
41)	2-Methylnaphthalene	15.30	1836	142	2487504	0.30	ng/ul	999	0.647
42)	Hexachlorocyclopentadiene	15.70	1884	237	756758	0.23	ng/ul	997	0.410
43)	2,4,6-Trichlorophenol	16.00	1920	196	1013266	0.28	ng/ul	995	0.453
44)	2,4,5-Trichlorophenol	16.09	1931	196	1039750	0.26	ng/ul	996	0.489
45)	2-Chloronapthalene	16.60	1992	162	3012711	0.29	ng/ul	941	1.258
46)	2-Nitroaniline	16.82	2018	138	1062796	0.29	ng/ul	997	0.447
47)	Dimethyl Phthalate	17.26	2071	163	4353877	0.28	ng/ul	999	1.884
48)	2,6-Dinitrotoluene	17.42	2090	165	851096	0.28	ng/ul	992	0.371
49)	Acenaphthylene	17.66	2119	152	4051592	0.30	ng/ul	976	1.644
50)	3-Nitroaniline	17.82	2139	138	591742	0.20	ng/ul	993	0.367
51)	Acenaphthene	18.04	2165	152	3148073	0.24	ng/ul	934	1.609
52)	2,4-Dinitrophenol	18.06	2167	184	17561	0.01	ng/ul	920	0.235
53)	4-Nitrophenol	18.12	2174	65	488098	0.27	ng/ul	975	0.222
54)	Dibenzofuran	18.40	2208	168	4049887	0.29	ng/ul	999	1.693
55)	2,4-Dinitrotoluene	18.31	2198	165	1548880	0.33	ng/ul	998	0.578
56)	Benzo(b)Fluoranthene	28.39	3407	252	4243104	0.31	ng/ul	956	1.127
57)	Diethyl Phthalate	18.77	2252	149	5359500	0.31	ng/ul	981	2.124
58)	Fluorene	19.07	2289	166	2644988	0.30	ng/ul	992	1.090
59)	4-Chlorophenyl Phenyl Ether	19.03	2284	204	1640488	0.26	ng/ul	982	0.773
60)	4-Nitroaniline	19.07	2288	108	1659848	0.24	ng/ul	979	0.862

* Compound is ISTD

Operator ID: DMC
Output File: 305327DR.1B2
Data File: 305327DR.MS
Name: 305327DR
Sample:

Quant Time: 05/22/02 13:43
Injected at: 05/22/02 11:05
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.11	2293	198	353984	0.13	ng/ul	949	0.215
62)	N-Nitrosodiphenylamine	19.23	2308	169	1923589	0.30	ng/ul	998	0.495
63)	1,2-Diphenylhydrazine	19.32	2318	77	4516264	0.31	ng/ul	998	1.112
64)	4-Bromophenyl Phenyl Ether	19.88	2386	248	1304417	0.27	ng/ul	998	0.367
65)	Hexachlorobenzene	20.02	2403	284	977118	0.27	ng/ul	972	0.276
66)	Pentachlorophenol	20.32	2438	266	564787	0.19	ng/ul	967	0.224
67)	Phenanthrene	20.67	2481	178	4060231	0.28	ng/ul	999	1.126
68)	Anthracene	20.75	2490	178	4208547	0.28	ng/ul	1000	1.171
69)	Carbazole	20.96	2515	167	3862301	0.28	ng/ul	997	1.065
70)	Di-n-Butyl Phthalate	21.31	2557	149	6636024	0.35	ng/ul	995	1.436
71)	Fluoranthene	22.38	2686	202	4059860	0.29	ng/ul	990	1.074
72)	Benzidine	22.42	2690	184	1881	0.00	ng/ul	570	0.875
73)	Pyrene	22.76	2731	202	4249045	0.32	ng/ul	980	1.373
74)	Butyl Benzyl Phthalate	23.55	2826	149	3438515	0.29	ng/ul	914	1.194
75)	3,3'-Dichlorobenzidine	24.86	2983	252	1307	0.00	ng/ul	635	0.588
76)	Bis(2-Ethylhexyl)Phthalate	24.59	2951	149	5293878	0.31	ng/ul	909	1.761
77)	Benzo(a)Anthracene	25.04	3005	228	4482322	0.31	ng/ul	973	1.499
78)	Chrysene	25.14	3017	228	3973281	0.28	ng/ul	951	1.427
79)	Di-n-Octylphthalate	26.34	3161	149	7919898	0.29	ng/ul	925	2.817
80)	Benzo(k)Fluoranthene	28.50	3420	252	4446559	0.29	ng/ul	971	1.252
81)	Benzo(a)Pyrene	29.79	3575	252	3962379	0.30	ng/ul	955	1.075
82)	Indeno(1,2,3-cd)Pyrene	35.98	4317	276	5943307	0.31	ng/ul	970	1.956
83)	Dibenzo(a,h)Anthracene	36.02	4323	278	3735191	0.30	ng/ul	963	1.017
84)	Benzo(g,h,i)Perylene	37.86	4543	276	4425051	0.28	ng/ul	942	1.281
85)	N-Nitrosodimethylamine	4.81	577	73	404883	0.32	ng/ul	992	0.293
86)	2,3,4,6-tetrachlorophenol	18.62	2234	232	893946	0.26	ng/ul	974	0.421
87)	2-Chloroaniline	12.35	1482	127	305	0.00	ng/ul	862	0.535
88)	2,4-Diaminotoluene	0.00	1972	121	0	Not Found	ng/ul	786	0.000
89)	2,3-Dinitrotoluene	18.22	2186	165	1379197	0.29	ng/ul	995	0.576
90)	1-Naphthylamine	18.55	2226	143	537391	0.09	ng/ul	996	0.771

* Compound is ISTD

Operator ID: DMC Quant Time: 05/22/02 13:43
Output File: 305327DR.1B2 Injected at: 05/22/02 11:05
Data File: 305327DR.MS Dilution Factor: 1.00
Name: 305327DR Instrument ID: 138
Sample:

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02 Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.05	2286	152	934581	0.24	ng/ul	792	0.470

* Compound is ISTD

QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka Test Date: 05/21/02
Analytical Batch No: 185980
QC Batch No: 75188-121
Units: mg/kg dry

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
Phenol	0.333	0.309	93	54 - 138
Bis (2-Chloroethyl) Ether	0.333	0.294	88	17 - 123
2-Chlorophenol	0.333	0.299	90	51 - 133
1,3-Dichlorobenzene	0.333	0.252	76	34 - 113
1,4-Dichlorobenzene	0.333	0.262	79	51 - 125
1,2-Dichlorobenzene	0.333	0.285	86	31 - 120
2-Methylphenol	0.333	0.302	91	53 - 124
Bis (2-Chloroisopropyl)-Ether	0.333	0.301	90	32 - 109
4-Methylphenol	0.333	0.313	94	32 - 125
N-Nitrosodi-n-Propylamine	0.333	0.319	96	43 - 126
Hexachloroethane	0.333	0.272	82	42 - 120
Nitrobenzene	0.333	0.304	91	43 - 115
Isophorone	0.333	0.316	95	52 - 132
2-Nitrophenol	0.333	0.334	100	32 - 127
2,4-Dimethylphenol	0.333	0.314	94	37 - 116
Bis (2-Chloroethoxy)-Methane	0.333	0.315	95	42 - 118
2,4-Dichlorophenol	0.333	0.328	98	42 - 116
1,2,4-Trichlorobenzene	0.333	0.297	89	57 - 124
Naphthalene	0.333	0.332	100	57 - 131
4-Chloroaniline	0.333	0.229	69	23 - 97
Hexachlorobutadiene	0.333	0.296	89	32 - 127
4-Chloro-3-Methylphenol	0.333	0.335	101	57 - 131
2-Methylnaphthalene	0.333	0.328	98	45 - 116
Hexachlorocyclopentadiene	0.333	0.329	99	10 - 113
2,4,6-Trichlorophenol	0.333	0.337	101	41 - 122
2,4,5-Trichlorophenol	0.333	0.334	100	41 - 118
2-Chloronaphthalene	0.333	0.289	87	45 - 115
2-Nitroaniline	0.333	0.344	103	43 - 120
Dimethylphthalate	0.333	0.307	92	44 - 116
Acenaphthylene	0.333	0.310	93	44 - 112
2,6-Dinitrotoluene	0.333	0.316	95	42 - 118
3-Nitroaniline	0.333	0.294	88	21 - 111
Acenaphthene	0.333	0.325	98	47 - 115
2,4-Dinitrophenol	0.333	0.247	74	1 - 126
4-Nitrophenol	0.333	0.334	100	41 - 126
Dibenzofuran	0.333	0.297	89	46 - 115

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Individual sample results relate only to the sample tested.
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QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK

Method: Semi-Volatiles GC/MS
Analyst: Janet M. Kudirka Test Date: 05/21/02
Analytical Batch No: 185980
QC Batch No: 75188-121
Units: mg/kg dry

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
2,4-Dinitrotoluene	0.333	0.326	98	44 - 139
Diethylphthalate	0.333	0.281	84	52 - 111
4-Chlorophenylphenyl-Ether	0.333	0.276	83	43 - 118
Fluorene	0.333	0.267	80	43 - 116
4-Nitroaniline	0.333	0.272	82	28 - 117
4,6-Dinitro-2-Methylphenol	0.333	0.321	96	27 - 113
N-Nitroso-di-Phenylamine	0.333	0.367	110	28 - 141
4-Bromophenyl Phenylether	0.333	0.314	94	37 - 121
Hexachlorobenzene	0.333	0.354	106	38 - 122
Pentachlorophenol	0.333	0.307	92	25 - 133
Phenanthrene	0.333	0.333	100	45 - 122
Anthracene	0.333	0.330	99	42 - 123
Carbazole	0.333	0.316	95	80 - 120
Di-n-Butylphthalate	0.333	0.374	112	45 - 132
Fluoranthene	0.333	0.335	101	43 - 123
Pyrene	0.333	0.350	105	44 - 123
Butyl Benzyl Phthalate	0.333	0.369	111	44 - 124
3,3'-Dichlorobenzidine	0.333	0.0102	3	1 - 119
Benzo (a) Anthracene	0.333	0.337	101	45 - 131
Chrysene	0.333	0.350	105	53 - 129
Bis (2-ethylhexyl)-Phthalate	0.333	0.359	108	47 - 123
Di-n-Octylphthalate	0.333	0.362	109	37 - 138
Benzo (b) Fluoranthene	0.333	0.347	104	53 - 117
Benzo (k) Fluoranthene	0.333	0.340	102	52 - 115
Benzo (a) Pyrene	0.333	0.367	110	36 - 130
Indeno (1,2,3-cd) Pyrene	0.333	0.348	105	37 - 123
Dibenzo (a,h) Anthracene	0.333	0.370	111	39 - 123
Benzo (g,h,i,) Perylene	0.333	0.344	103	36 - 126

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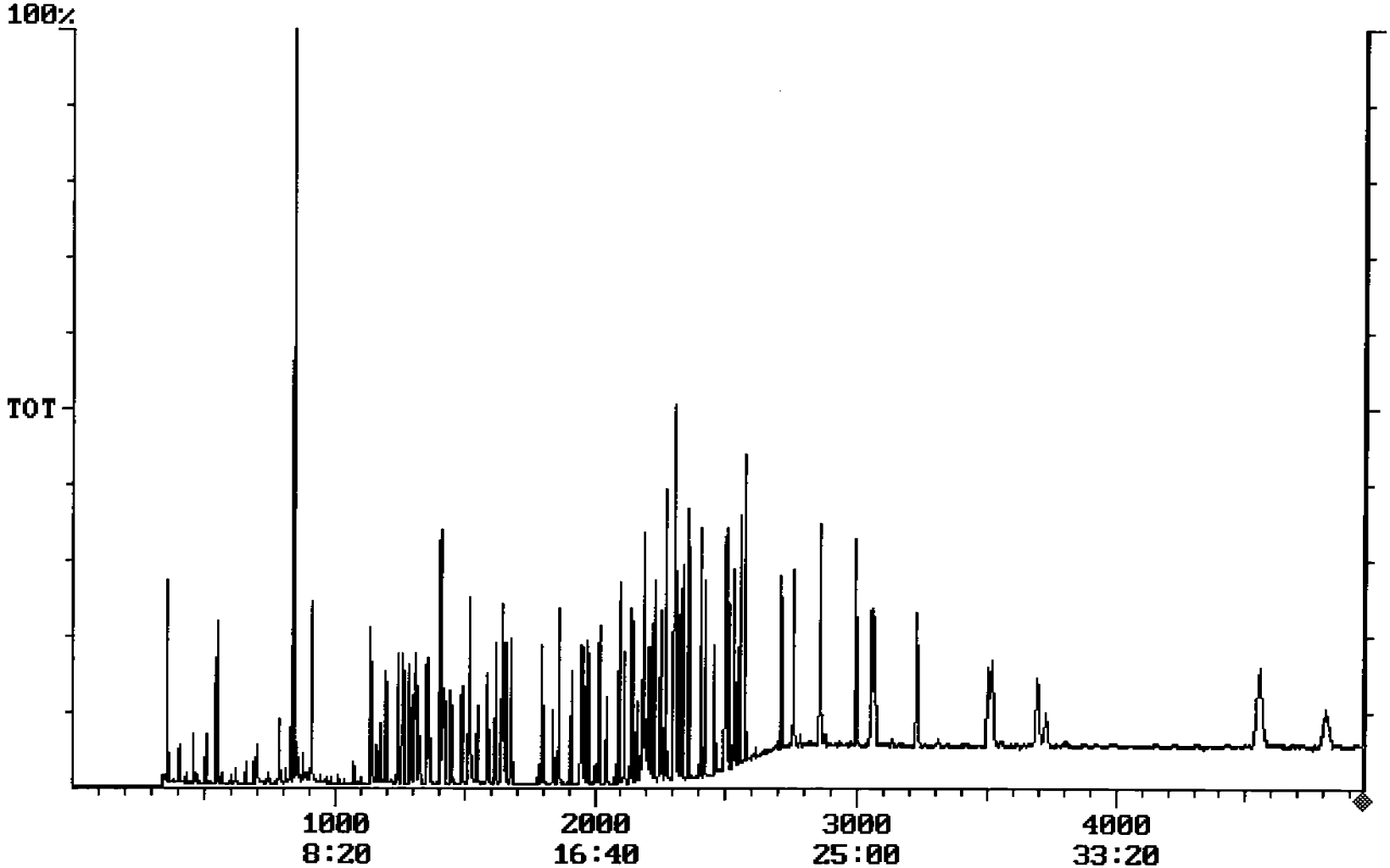
Chromatogram Plot C:\SATURN\DATA\LFB121S Date: 05/21/02 13:07:18
Comment: INSTRUMENT 133
Scan: 4944 Seg: 1 Group: 0 Retention: 41:12 RIC: 1119633 Masses: 43-430
Plotted: 1 to 4944 Range: 1 to 4944 100% = 19581092



Operator ID: JMK
Output File: LFB121S.1B2
Data File: LFB121S.MS
Name: LFB121S
Sample:

Quant Time: 05/21/02 15:29
Injected at: 05/21/02 13:07
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.47	1257	152	1493686	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.65	1638	136	4760719	5.00	ng/ul	999	1.000
3)	*IS:D10-Acenaphthene	18.16	2179	162	3044042	5.00	ng/ul	999	1.000
4)	*IS:D10-Phenanthrene	20.80	2496	188	4699870	5.00	ng/ul	988	1.000
5)	*IS:D12-Chrysene	25.48	3058	240	3521036	5.00	ng/ul	861	1.000
6)	*IS:D12-Perylene	31.07	3728	264	4743323	5.00	ng/ul	799	1.000
7)	ACSUR:2-Fluorophenol	7.57	908	112	6630759	15.10	ng/ul	998	1.471
8)	ACSUR:D6-Phenol	9.47	1136	99	8076540	16.04	ng/ul	781	1.686
9)	ACSUR:2,4,6-Tribromophenol	19.66	2359	330	4783306	16.76	ng/ul	998	0.469
10)	BNSUR:D5-Nitrobenzene	11.80	1416	127	1221714	8.97	NG/UL	993	0.144
11)	BNSUR:Decafluorobiphenyl	11.72	1406	334	6506573	7.79	ng/ul	998	0.877
12)	BNSUR:2-Fluorobiphenyl	16.45	1974	172	6221939	8.74	ng/ul	999	1.170
13)	BNSUR:O-Terphenyl	21.27	2553	230	5646284	9.97	ng/ul	989	0.805
14)	Pyridine	5.43	652	79	0	0.00	ng/ul	0	1.146
15)	Phenol	9.50	1140	94	4353692	9.27	ng/ul	519	1.572
16)	Aniline	9.68	1162	93	2134206	3.92	ng/ul	997	1.821
17)	Bis(2-Chloroethyl)Ether	9.78	1174	92	2196131	8.83	ng/ul	964	0.833
18)	2-Chlorophenol	9.97	1197	128	4448252	8.97	ng/ul	998	1.661
19)	1,3-Dichlorobenzene	10.36	1243	146	3749992	7.57	ng/ul	999	1.660
20)	1,4-Dichlorobenzene	10.52	1263	146	3796150	7.87	ng/ul	998	1.616
21)	Benzyl Alcohol	10.73	1288	108	1670054	10.09	ng/ul	998	0.554
22)	1,2-Dichlorobenzene	10.89	1307	146	3823067	8.54	ng/ul	998	1.498
23)	2-Methylphenol	10.94	1313	108	3519983	9.07	ng/ul	980	1.299
24)	Bis(2-Chloroisopropyl)Ether	11.05	1326	45	3031321	9.05	ng/ul	951	1.122
25)	4-Methylphenol	11.30	1356	108	3501377	9.41	ng/ul	999	1.246
26)	N-Nitrosodi-N-Propylamine	11.36	1364	70	1936980	9.58	ng/ul	932	0.678
27)	Hexachloroethane	11.73	1408	119	1477693	8.18	ng/ul	999	0.605
28)	Nitrobenzene	11.85	1422	77	4388863	9.14	ng/ul	996	0.505
29)	Isophorone	12.42	1490	82	6447708	9.49	ng/ul	984	0.714
30)	2-Nitrophenol	12.64	1517	109	2723938	10.04	ng/ul	992	0.286

* Compound is ISTD

Operator ID: JMK
Output File: LFB121S.1B2
Data File: LFB121S.MS
Name: LFB121S
Sample:

Quant Time: 05/21/02 15:29
Injected at: 05/21/02 13:07
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.66	1519	107	4748502	9.42	ng/ul	995	0.530
32)	Benzoic Acid	12.72	1526	105	1374590	11.53	ng/ul	987	0.126
33)	Bis(2-Chloroethoxy)Methane	12.92	1550	92	3967565	9.47	ng/ul	991	0.440
34)	2,4-Dichlorophenol	13.23	1588	162	3370084	9.84	ng/ul	998	0.360
35)	1,2,4-Trichlorobenzene	13.48	1618	180	3374970	8.91	ng/ul	999	0.398
36)	Naphthalene	13.71	1645	128	12329939	9.96	ng/ul	996	1.301
37)	4-Chloroaniline	13.79	1655	127	4365611	6.88	ng/ul	990	0.667
38)	2,6-Dichlorophenol	13.83	1659	162	3115704	9.51	ng/ul	990	0.344
39)	Hexachlorobutadiene	13.99	1679	225	2630424	8.87	ng/ul	995	0.312
40)	4-Chloro-3-Methylphenol	14.98	1797	107	5103729	10.05	ng/ul	999	0.534
41)	2-Methylnaphthalene	15.51	1861	142	5983231	9.84	ng/ul	999	0.639
42)	Hexachlorocyclopentadiene	15.91	1909	237	2489778	9.88	ng/ul	982	0.414
43)	2,4,6-Trichlorophenol	16.21	1945	196	2772174	10.12	ng/ul	998	0.450
44)	2,4,5-Trichlorophenol	16.31	1957	196	2969257	10.04	ng/ul	998	0.486
45)	2-Chloronapthalene	16.82	2018	162	6869391	8.67	ng/ul	999	1.302
46)	2-Nitroaniline	17.03	2044	138	2572325	10.33	ng/ul	998	0.409
47)	Dimethyl Phthalate	17.44	2093	163	10760332	9.21	ng/ul	999	1.919
48)	2,6-Dinitrotoluene	17.61	2113	165	2021682	9.48	ng/ul	997	0.351
49)	Acenaphthylene	17.85	2142	152	9719399	9.31	ng/ul	999	1.715
50)	3-Nitroaniline	18.01	2161	138	1815082	8.84	ng/ul	989	0.338
51)	Acenaphthene	18.22	2187	152	8917810	9.77	ng/ul	998	1.500
52)	2,4-Dinitrophenol	18.22	2187	184	685210	7.41	ng/ul	998	0.152
53)	4-Nitrophenol	18.28	2194	65	1052695	10.04	ng/ul	963	0.173
54)	Dibenzofuran	18.57	2229	168	9622788	8.92	ng/ul	1000	1.772
55)	2,4-Dinitrotoluene	18.48	2218	165	3260897	9.80	ng/ul	997	0.547
56)	Benzo(b)Fluoranthene	29.21	3505	252	10828872	10.42	ng/ul	806	1.096
57)	Diethyl Phthalate	18.92	2271	149	11232686	8.44	ng/ul	996	2.186
58)	Fluorene	19.24	2309	166	5656570	8.01	ng/ul	970	1.161
59)	4-Chlorophenyl Phenyl Ether	19.19	2303	204	3952724	8.30	ng/ul	976	0.783
60)	4-Nitroaniline	19.22	2306	108	3659883	8.18	ng/ul	842	0.736

* Compound is ISTD

Operator ID: JMK
Output File: LFB121S.1B2
Data File: LFB121S.MS
Name: LFB121S
Sample:

Quant Time: 05/21/02 15:29
Injected at: 05/21/02 13:07
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.27	2312	198	1621691	9.64	ng/ul	902	0.179
62)	N-Nitrosodiphenylamine	19.39	2327	169	5269382	11.01	ng/ul	999	0.509
63)	1,2-Diphenylhydrazine	19.47	2337	77	9972524	10.88	ng/ul	965	0.975
64)	4-Bromophenyl Phenyl Ether	20.04	2405	248	3399564	9.44	ng/ul	998	0.384
65)	Hexachlorobenzene	20.18	2422	284	3041128	10.64	ng/ul	997	0.305
66)	Pentachlorophenol	20.47	2457	266	2004606	9.22	ng/ul	962	0.232
67)	Phenanthrene	20.83	2500	178	10107743	10.00	ng/ul	993	1.076
68)	Anthracene	20.91	2509	178	11027277	9.92	ng/ul	996	1.183
69)	Carbazole	21.12	2534	167	9582897	9.49	ng/ul	969	1.075
70)	Di-n-Butyl Phthalate	21.46	2575	149	15109185	11.24	ng/ul	972	1.431
71)	Fluoranthene	22.58	2709	202	10511039	10.05	ng/ul	930	1.113
72)	Benzidine	0.00	2728	184	0	Not Found	ng/ul	232	0.000
73)	Pyrene	22.98	2757	202	11322996	10.49	ng/ul	919	1.533
74)	Butyl Benzyl Phthalate	23.81	2857	149	7902109	11.08	ng/ul	909	1.013
75)	3,3'-Dichlorobenzidine	25.23	3028	252	112828	0.31	ng/ul	558	0.525
76)	Bis(2-Ethylhexyl)Phthalate	24.95	2994	149	12379555	10.77	ng/ul	906	1.633
77)	Benzo(a)Anthracene	25.44	3053	228	11492932	10.12	ng/ul	869	1.614
78)	Chrysene	25.55	3066	228	10621630	10.49	ng/ul	864	1.438
79)	Di-n-Octylphthalate	26.89	3227	149	19321303	10.86	ng/ul	852	2.528
80)	Benzo(k)Fluoranthene	29.32	3518	252	12076628	10.20	ng/ul	878	1.249
81)	Benzo(a)Pyrene	30.81	3697	252	11178502	11.03	ng/ul	874	1.069
82)	Indeno(1,2,3-cd)Pyrene	37.93	4552	276	16404135	10.44	ng/ul	925	2.231
83)	Dibenzo(a,h)Anthracene	37.96	4555	278	10409632	10.79	ng/ul	903	1.017
84)	Benzo(g,h,i)Perylene	40.07	4809	276	12584205	10.34	ng/ul	891	1.284
85)	N-Nitrosodimethylamine	5.11	613	73	764694	9.01	ng/ul	981	0.285
86)	2,3,4,6-tetrachlorophenol	18.79	2255	232	2713299	10.31	ng/ul	998	0.433
87)	2,3-Dinitrotoluene	18.39	2207	165	3248684	9.89	ng/ul	999	0.540
88)	2,4-Diaminotoluene	16.67	2001	121	1241616	7.12	ng/ul	981	0.184
89)	2-Chloroaniline	0.00	1508	127	0	Not Found	ng/ul	0	0.000
90)	5-Nitro-o-toluidine	19.21	2305	152	2470030	9.34	ng/ul	829	0.435

* Compound is ISTD

Operator ID: JMK
Output File: LFB121S.1B2
Data File: LFB121S.MS
Name: LFB121S
Sample:

Quant Time: 05/21/02 15:29
Injected at: 05/21/02 13:07
Dilution Factor: 1.00
Instrument ID: 133

ID File: ICC0518.QCI
Comment: INSTRUMENT 133
Last Calibration: 05/19/02

Last Qcal Time: 05/17/02 21:11

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	1-Naphthylamine	18.72	2247	143	3855174	7.31	ng/ul	981	0.867
92)	Benzaldehyde	9.41	1129	105	4124	0.01	ng/ul	773	2.400
93)	Acetophenone	11.40	1368	105	13355	0.02	ng/ul	746	0.909
94)	Caprolactam	14.65	1758	85	14891	0.20	ng/ul	750	0.078
95)	Biphenyl	16.72	2007	154	17416	0.02	ng/ul	377	1.531
96)	Atrazine	20.21	2425	200	0	0.00	ng/ul	445	0.437

* Compound is ISTD

QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom Test Date: 05/21/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Units: mg/kg dry

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
Phenol	0.333	0.328	98	54 - 138
Bis (2-Chloroethyl) Ether	0.333	0.311	93	17 - 123
2-Chlorophenol	0.333	0.324	97	51 - 133
1,3-Dichlorobenzene	0.333	0.295	89	34 - 113
1,4-Dichlorobenzene	0.333	0.302	91	51 - 125
1,2-Dichlorobenzene	0.333	0.317	95	31 - 120
2-Methylphenol	0.333	0.309	93	53 - 124
Bis (2-Chloroisopropyl)-Ether	0.333	0.344	103	32 - 109
4-Methylphenol	0.333	0.329	99	32 - 125
N-Nitrosodi-n-Propylamine	0.333	0.345	104	43 - 126
Hexachloroethane	0.333	0.297	89	42 - 120
Nitrobenzene	0.333	0.309	93	43 - 115
Isophorone	0.333	0.333	100	52 - 132
2-Nitrophenol	0.333	0.397	119	32 - 127
2,4-Dimethylphenol	0.333	0.308	92	37 - 116
Bis (2-Chloroethoxy)-Methane	0.333	0.316	95	42 - 118
2,4-Dichlorophenol	0.333	0.342	103	42 - 116
1,2,4-Trichlorobenzene	0.333	0.313	94	57 - 124
Naphthalene	0.333	0.334	100	57 - 131
4-Chloroaniline	0.333	0.182	55	23 - 97
Hexachlorobutadiene	0.333	0.308	92	32 - 127
4-Chloro-3-Methylphenol	0.333	0.350	105	57 - 131
2-Methylnaphthalene	0.333	0.335	101	45 - 116
Hexachlorocyclopentadiene	0.333	0.281	84	10 - 113
2,4,6-Trichlorophenol	0.333	0.326	98	41 - 122
2,4,5-Trichlorophenol	0.333	0.302	91	41 - 118
2-Chloronaphthalene	0.333	0.322	97	45 - 115
2-Nitroaniline	0.333	0.319	96	43 - 120
Dimethylphthalate	0.333	0.321	96	44 - 116
Acenaphthylene	0.333	0.327	98	44 - 112
2,6-Dinitrotoluene	0.333	0.323	97	42 - 118
3-Nitroaniline	0.333	0.277	83	21 - 111
Acenaphthene	0.333	0.316	95	47 - 115
2,4-Dinitrophenol	0.333	0.246	74	1 - 126
4-Nitrophenol	0.333	0.322	97	41 - 126
Dibenzofuran	0.333	0.321	96	46 - 115

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QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK

Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Carlstrom
Test Date: 05/21/02
Analytical Batch No: 186156
QC Batch No: 75246-121
Units: mg/kg dry

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
2,4-Dinitrotoluene	0.333	0.330	99	44 - 139
Diethylphthalate	0.333	0.316	95	52 - 111
4-Chlorophenylphenyl-Ether	0.333	0.277	83	43 - 118
Fluorene	0.333	0.328	98	43 - 116
4-Nitroaniline	0.333	0.275	83	28 - 117
4,6-Dinitro-2-Methylphenol	0.333	0.328	98	27 - 113
N-Nitroso-di-Phenylamine	0.333	0.346	104	28 - 141
4-Bromophenyl Phenylether	0.333	0.318	95	37 - 121
Hexachlorobenzene	0.333	0.348	105	38 - 122
Pentachlorophenol	0.333	0.308	92	25 - 133
Phenanthrene	0.333	0.331	99	45 - 122
Anthracene	0.333	0.338	102	42 - 123
Carbazole	0.333	0.345	104	80 - 120
Di-n-Butylphthalate	0.333	0.413	124	45 - 132
Fluoranthene	0.333	0.362	109	43 - 123
Pyrene	0.333	0.359	108	44 - 123
Butyl Benzyl Phthalate	0.333	0.332	100	44 - 124
Benzo (a) Anthracene	0.333	0.356	107	45 - 131
Chrysene	0.333	0.349	105	53 - 129
Bis (2-ethylhexyl)-Phthalate	0.333	0.359	108	47 - 123
Di-n-Octylphthalate	0.333	0.337	101	37 - 138
Benzo (b) Fluoranthene	0.333	0.359	108	53 - 117
Benzo (k) Fluoranthene	0.333	0.341	102	52 - 115
Benzo (a) Pyrene	0.333	0.360	108	36 - 130
Indeno (1,2,3-cd) Pyrene	0.333	0.353	106	37 - 123
Dibenzo (a,h) Anthracene	0.333	0.359	108	39 - 123
Benzo (g,h,i,) Perylene	0.333	0.335	101	36 - 126

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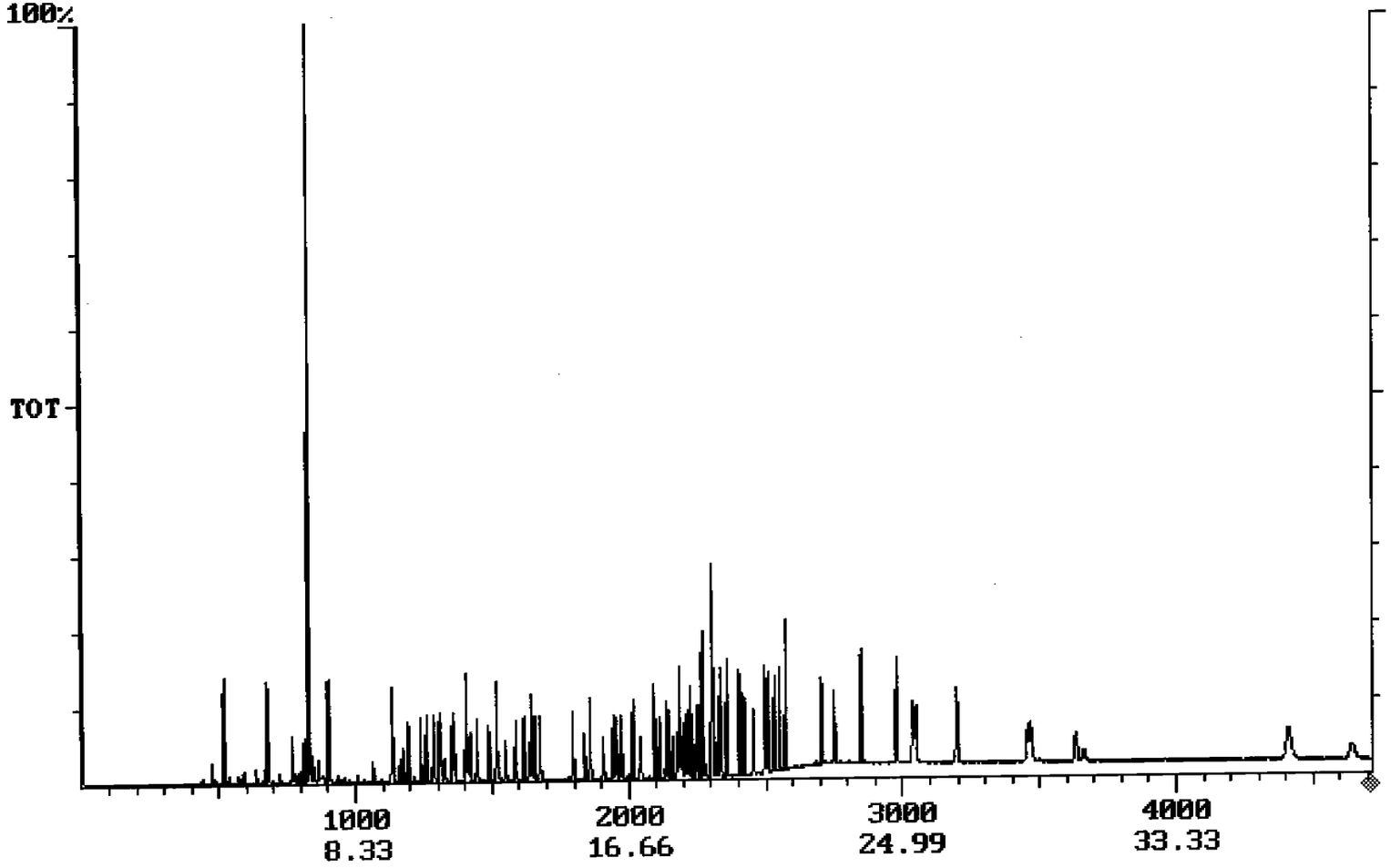
Chromatogram Plot C:\SATURN\DATA\LFB121S2 Date: 05/21/02 22:12:15
Comment: INSTRUMENT 138
Scan: 1 Seg: 1 Group: 0 Retention: 0.00 RIC: 0 Masses: 0-0
Plotted: 1 to 4704 Range: 1 to 4704 100% = 21370732



001200

001205

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Individual sample results relate only to the sample tested.

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Operator ID: DMC
Output File: LFB121S2.1B2
Data File: LFB121S2.MS
Name: LFB121S2
Sample:

Quant Time: 05/22/02 08:52
Injected at: 05/21/02 22:12
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
1)	*IS:D4-1,4-Dichlorobenzene	10.46	1255	152	670990	5.00	ng/ul	998	1.000
2)	*IS:D8-Naphthalene	13.64	1637	136	2177897	5.00	ng/ul	996	1.000
3)	*IS:D10-Acenaphthene	18.14	2177	162	1390485	5.00	ng/ul	998	1.000
4)	*IS:D10-Phenanthrene	20.79	2495	188	2075432	5.00	ng/ul	993	1.000
5)	*IS:D12-Chrysene	25.34	3041	240	1605093	5.00	ng/ul	923	1.000
6)	*IS:D12-Perylene	30.51	3662	264	2031439	5.00	ng/ul	913	1.000
7)	ACSUR:2-Fluorophenol	7.50	900	112	3560041	0.56	ng/ul	998	1.574
8)	ACSUR:D6-Phenol	9.45	1134	99	4463777	0.58	ng/ul	997	1.904
9)	ACSUR:2,4,6-Tribromophenol	19.65	2358	330	1871669	0.66	ng/ul	996	0.339
10)	BNSUR:D5-Nitrobenzene	11.78	1414	127	651967	0.30	ng/ul	952	0.167
11)	BNSUR:Decafluorobiphenyl	11.70	1404	334	2774703	0.29	ng/ul	997	0.731
12)	BNSUR:2-Fluorobiphenyl	16.42	1971	172	2999591	0.30	ng/ul	998	1.178
13)	BNSUR:O-Terphenyl	21.27	2552	230	2469406	0.35	ng/ul	996	0.732
14)	Pyridine	0.00	602	79	0	Not Found	ng/ul	172	0.000
15)	Phenol	9.48	1138	94	2265430	0.33	ng/ul	956	1.701
16)	Aniline	9.66	1159	93	765275	0.10	ng/ul	994	1.852
17)	Bis(2-Chloroethyl)Ether	9.77	1172	92	1090021	0.31	ng/ul	998	0.862
18)	2-Chlorophenol	9.95	1194	128	2212979	0.32	ng/ul	997	1.685
19)	1,3-Dichlorobenzene	10.33	1240	146	1842166	0.29	ng/ul	997	1.538
20)	1,4-Dichlorobenzene	10.50	1260	146	1878692	0.30	ng/ul	997	1.533
21)	Benzyl Alcohol	10.72	1286	108	914784	0.35	ng/ul	998	0.647
22)	1,2-Dichlorobenzene	10.87	1304	146	1837454	0.32	ng/ul	997	1.426
23)	2-Methylphenol	10.93	1312	108	1688563	0.31	ng/ul	993	1.345
24)	Bis(2-Chloroisopropyl)Ether	11.03	1324	45	1451184	0.34	ng/ul	983	1.041
25)	4-Methylphenol	11.29	1355	108	1744601	0.33	ng/ul	998	1.306
26)	N-Nitrosodi-N-Propylamine	11.35	1362	70	1100139	0.34	ng/ul	859	0.786
27)	Hexachloroethane	11.72	1406	119	775589	0.30	ng/ul	991	0.645
28)	Nitrobenzene	11.83	1420	77	2229503	0.31	ng/ul	965	0.547
29)	Isophorone	12.41	1489	82	3473778	0.33	ng/ul	994	0.792
30)	2-Nitrophenol	12.62	1515	109	1500268	0.40	ng/ul	995	0.287

* Compound is ISTD

Operator ID: DMC
Output File: LFB121S2.1B2
Data File: LFB121S2.MS
Name: LFB121S2
Sample:

Quant Time: 05/22/02 08:52
Injected at: 05/21/02 22:12
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
31)	2,4-Dimethylphenol	12.65	1518	107	2446622	0.31	ng/ul	982	0.603
32)	Benzoic Acid	12.69	1523	105	587019	0.13	ng/ul	997	0.346
33)	Bis(2-Chloroethoxy)Methane	12.91	1549	92	1966064	0.32	ng/ul	981	0.473
34)	2,4-Dichlorophenol	13.22	1587	162	1574881	0.34	ng/ul	997	0.350
35)	1,2,4-Trichlorobenzene	13.47	1617	180	1586063	0.31	ng/ul	994	0.385
36)	Naphthalene	13.70	1644	128	6112633	0.33	ng/ul	999	1.390
37)	4-Chloroaniline	13.78	1654	127	1561611	0.18	ng/ul	994	0.652
38)	2,6-Dichlorophenol	13.81	1657	162	1460881	0.34	ng/ul	991	0.325
39)	Hexachlorobutadiene	13.98	1677	225	1143768	0.31	ng/ul	992	0.282
40)	4-Chloro-3-Methylphenol	14.97	1796	107	2739384	0.35	ng/ul	997	0.594
41)	2-Methylnaphthalene	15.50	1860	142	2853922	0.33	ng/ul	999	0.647
42)	Hexachlorocyclopentadiene	15.89	1907	237	985543	0.28	ng/ul	995	0.418
43)	2,4,6-Trichlorophenol	16.20	1944	196	1238776	0.33	ng/ul	997	0.453
44)	2,4,5-Trichlorophenol	16.30	1956	196	1242007	0.30	ng/ul	997	0.489
45)	2-Chloronapthalene	16.80	2016	162	3409496	0.32	ng/ul	997	1.258
46)	2-Nitroaniline	17.02	2043	138	1197474	0.32	ng/ul	997	0.447
47)	Dimethyl Phthalate	17.43	2092	163	5088440	0.32	ng/ul	999	1.884
48)	2,6-Dinitrotoluene	17.59	2111	165	1007342	0.32	ng/ul	994	0.371
49)	Acenaphthylene	17.84	2141	152	4518560	0.33	ng/ul	990	1.644
50)	3-Nitroaniline	17.99	2159	138	853191	0.28	ng/ul	996	0.367
51)	Acenaphthene	18.22	2186	152	4366376	0.32	ng/ul	996	1.643
52)	2,4-Dinitrophenol	18.22	2187	184	434815	0.25	ng/ul	992	0.211
53)	4-Nitrophenol	18.28	2194	65	600810	0.32	ng/ul	989	0.222
54)	Dibenzofuran	18.57	2228	168	4572498	0.32	ng/ul	999	1.693
55)	2,4-Dinitrotoluene	18.48	2218	165	1606171	0.33	ng/ul	998	0.578
56)	Benzo(b)Fluoranthene	28.80	3456	252	4976562	0.36	ng/ul	957	1.127
57)	Diethyl Phthalate	18.91	2269	149	5643859	0.32	ng/ul	991	2.124
58)	Fluorene	19.23	2307	166	3033764	0.33	ng/ul	986	1.100
59)	4-Chlorophenyl Phenyl Ether	19.18	2302	204	1800276	0.28	ng/ul	984	0.773
60)	4-Nitroaniline	19.22	2306	108	1992502	0.27	ng/ul	956	0.862

* Compound is ISTD

Operator ID: DMC
Output File: LFB121S2.1B2
Data File: LFB121S2.MS
Name: LFB121S2
Sample:

Quant Time: 05/22/02 08:52
Injected at: 05/21/02 22:12
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
61)	4,6-Dinitro-2-Methylphenol	19.26	2311	198	883725	0.33	ng/ul	940	0.215
62)	N-Nitrosodiphenylamine	19.38	2326	169	2151045	0.35	ng/ul	998	0.495
63)	1,2-Diphenylhydrazine	19.47	2336	77	4992935	0.36	ng/ul	984	1.112
64)	4-Bromophenyl Phenyl Ether	20.03	2404	248	1461818	0.32	ng/ul	998	0.367
65)	Hexachlorobenzene	20.16	2420	284	1205361	0.35	ng/ul	975	0.276
66)	Pentachlorophenol	20.46	2455	266	865216	0.31	ng/ul	997	0.224
67)	Phenanthrene	20.82	2499	178	4679268	0.33	ng/ul	996	1.126
68)	Anthracene	20.91	2509	178	4975337	0.34	ng/ul	997	1.171
69)	Carbazole	21.11	2533	167	4611001	0.34	ng/ul	987	1.065
70)	Di-n-Butyl Phthalate	21.44	2573	149	7260545	0.41	ng/ul	976	1.398
71)	Fluoranthene	22.55	2706	202	4876264	0.36	ng/ul	990	1.074
72)	Benzidine	22.57	2709	184	50532	0.01	ng/ul	655	0.875
73)	Pyrene	22.93	2752	202	4949192	0.36	ng/ul	987	1.418
74)	Butyl Benzyl Phthalate	23.75	2850	149	3850542	0.33	ng/ul	860	1.194
75)	3,3'-Dichlorobenzidine	25.21	3025	252	1864	0.00	ng/ul	462	0.588
76)	Bis(2-Ethylhexyl)Phthalate	24.82	2979	149	6208210	0.36	ng/ul	855	1.782
77)	Benzo(a)Anthracene	25.31	3037	228	5389993	0.36	ng/ul	963	1.558
78)	Chrysene	25.41	3049	228	4758898	0.35	ng/ul	932	1.406
79)	Di-n-Octylphthalate	26.65	3198	149	9352599	0.34	ng/ul	941	2.859
80)	Benzo(k)Fluoranthene	28.91	3469	252	5249898	0.34	ng/ul	943	1.252
81)	Benzo(a)Pyrene	30.28	3634	252	4759641	0.36	ng/ul	927	1.075
82)	Indeno(1,2,3-cd)Pyrene	36.72	4407	276	7018522	0.35	ng/ul	920	2.050
83)	Dibenzo(a,h)Anthracene	36.77	4413	278	4488337	0.36	ng/ul	917	1.017
84)	Benzo(g,h,i)Perylene	38.69	4643	276	5270851	0.33	ng/ul	913	1.281
85)	N-Nitrosodimethylamine	4.91	590	73	465785	0.40	ng/ul	983	0.284
86)	2,3,4,6-tetrachlorophenol	18.78	2254	232	1160399	0.33	ng/ul	983	0.421
87)	2-Chloroaniline	0.00	1508	127	0	Not Found	ng/ul	0	0.000
88)	2,4-Diaminotoluene	16.67	2000	121	229663	0.06	ng/ul	999	0.453
89)	2,3-Dinitrotoluene	18.38	2206	165	1608642	0.33	ng/ul	996	0.576
90)	1-Naphthylamine	18.72	2246	143	1393814	0.20	ng/ul	996	0.838

* Compound is ISTD

Operator ID: DMC
Output File: LFB121S2.1B2
Data File: LFB121S2.MS
Name: LFB121S2
Sample:

Quant Time: 05/22/02 08:52
Injected at: 05/21/02 22:12
Dilution Factor: 1.00
Instrument ID: 138

ID File: CCC8270.QCI
Comment: INSTRUMENT 138
Last Calibration: 05/15/02

Last Qcal Time: 05/22/02 14:23

	Compound	R.T.	Scan#	Q ion	Area	Conc	Units	Fit	Rf
91)	5-Nitro-o-toluidine	19.21	2305	152	1277386	0.31	ng/ul	878	0.485

* Compound is ISTD

SECTION - D

PREPARATION LOGS / MISCELLANEOUS

GC/MS
SEMI-VOLATILE ORGANIC COMPOUND
DATA

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Individual sample results relate only to the sample tested.
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EXTRACTION LAB EXTRACTION SUMMARY

21-MAY-02

Prepared by: JEO

Time spent: _____

Lims Batch: 85953/121

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: JEO
Opened Date: 5-21-02
Sequence: 1

EXTRACTION METHOD
1 liquid/liquid
2 sonication
3. soxlet
4. _____

001206

Client..... [Test number] Parameter	Submittal Sample QC COC Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP QC Type
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305052 LV5 EXT/SONIC/SOIL	5-21-02	30.0g	1.0ml	100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305053 LV5 EXT/SONIC/SOIL		30.0g		95			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305054 LV5 EXT/SONIC/SOIL		30.0g		96			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305055 LV5 EXT/SONIC/SOIL		30.0g		96			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305056 LV5 EXT/SONIC/SOIL		30.0g		98			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305057 LV5 EXT/SONIC/SOIL		30.0g		95			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305058 LV5 EXT/SONIC/SOIL		30.0g		94			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305059 LV5 EXT/SONIC/SOIL		30.0g		97			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305060 LV5 EXT/SONIC/SOIL		30.0g		97			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305061 LV5 EXT/SONIC/SOIL		30.0g		96			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A	1 305316 LV5 EXT/SONIC/SOIL		30.0g					

QUALITY CONTROL DATA

Type	Amt Ext	Final Volume	Surrogates... Standard	Surrogates... Amount	Spikes... Standard	Spikes... Amount	Spikes... Standard	Spikes... Amount
MPB			M-24-13	100uL				
DUP								
SPK#								
MSD#								
LCS								
(Sample Notes)								

*	Type	Date done	# times
* 1	Nitrogen Blowdown		
* 2	Alumina		
* 3	Copper/Sulf. Acid		
* 4	Small Florisil		
* 5	Lg. Florisil Col.		
* 6	Silica Gel		
* 7	GPC		

EXTRACTION LAB EXTRACTION SUMMARY

21-MAY-02

Prepared by: JEO

Time spent: _____

Lims Batch: 185253/121

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: JEO
Opened Date: 5-21-02
Sequence: 1

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

001207

Client..... [Test number] Parameter	Submittal Sample QC COC Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP QC Type
	MPB121	5-21-02	30.0g	1.0ml				
	LFB121		30.0g					
Stone & Webster Engineering Corp 35988- 1 305316 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
Stone & Webster Engineering Corp 35988- 1 305317 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
Stone & Webster Engineering Corp 35988- 1 305318 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
Stone & Webster Engineering Corp 35988- 1 305319 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
Stone & Webster Engineering Corp 35988- 1 305320 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
Stone & Webster Engineering Corp 35988- 1 305321 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
Stone & Webster Engineering Corp 35988- 1 303322 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
Stone & Webster Engineering Corp 35988- 1 305323 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
Stone & Webster Engineering Corp 35988- 1 305324 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
Stone & Webster Engineering Corp 35988- 1 305325 LV5 [535.01- 42.01] EXTRACT: 8270-B/N/A EXT/SONIC/SOIL SEMI TCL BNA S&W 8270 SOL USEPA-8270C			30.0g					
	305054MS		30.0g					
	305054MSD		30.0g					

QUALITY CONTROL DATA

Type	Amt Ext	Final Volume	Surrogates: Standard	Surrogates: Amount	Spikes: Standard	Spikes: Amount	Spikes: Standard	Spikes: Amount
MPB			PL2.4-13	100uL	PL2.8-13	100uL		
DUP					PL2.9-11	100uL		
SPK#					PL2.2-3	100uL		
MSD#								
LCS								
(Sample Notes)								

*	Type	Date done	# times
* 1	Nitrogen Blowdown		
* 2	Alumina		
* 3	Copper/Sulf. Acid		
* 4	Small Florisil		
* 5	Lg. Florisil Col.		
* 6	Silica Gel		
* 7	GPC		

EXTRACTION LAB EXTRACTION SUMMARY

21-MAY-02

Prepared by: JEO

Time spent: _____

Lims Batch: 185954/121

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: JEO
Opened Date: 5-21-02
Sequence: 2

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

001208

Client [Test number] Parameter	Submittal Sample QC COC Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP QC Type
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305326 LV5 EXT/SONIC/SOIL	5-21-02	30.0g	1.0ml	99			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305327 LV5 EXT/SONIC/SOIL		30.0g		100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305328 LV5 EXT/SONIC/SOIL		30.0g		100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305329 LV5 EXT/SONIC/SOIL		30.0g		100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305330 LV5 EXT/SONIC/SOIL		30.0g		99			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305331 LV5 EXT/SONIC/SOIL		30.0g		99			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305332 LV5 EXT/SONIC/SOIL		30.0g		100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305333 LV5 EXT/SONIC/SOIL		30.0g		100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305334 LV5 EXT/SONIC/SOIL		30.0g		96			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305335 LV5 EXT/SONIC/SOIL		30.0g		94			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305336 LV5 EXT/SONIC/SOIL		30.0g		98			

QUALITY CONTROL DATA

Type	Amt Ext	Final Volume	Surrogates... Standard	Amount	Spikes... Standard	Amount	Standard	Amount
MPB			PCB-13	100 uL				
DUP								
SPK#								
MSD#								
LCS								
(Sample Notes)								

*	Type	Date done	# times
* 1	Nitrogen Blowdown		
* 2	Alumina		
* 3	Copper/Sulf. Acid		
* 4	Small Florisil		
* 5	Lg. Florisil Col.		
* 6	Silica Gel		
* 7	GPC		

EXTRACTION LAB EXTRACTION SUMMARY

21-MAY-02

Prepared by: JEO

Time spent: _____

Lims Batch: 185954/121

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: JEO
Opened Date: 5-21-02
Sequence: 2

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

001209

Client [Test number] Parameter	Submittal	Sample QC COC Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP QC Type
		MPB121	5-21-02	30.0g	1.0ml				
		LFB121		30.0g					
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305336 LV5	EXT/SONIC/SOIL		30.0g		(98)			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305337 LV5	EXT/SONIC/SOIL		30.0g		99			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305338 LV5	EXT/SONIC/SOIL		30.0g		99			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305339 LV5	EXT/SONIC/SOIL		30.0g		98			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305340 LV5	EXT/SONIC/SOIL		30.0g		99			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305341 LV5	EXT/SONIC/SOIL		30.0g		100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305342 LV5	EXT/SONIC/SOIL		30.0g		100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305343 LV5	EXT/SONIC/SOIL		30.0g		100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305344 LV5	EXT/SONIC/SOIL		30.0g		100			
Stone & Webster Engineering Corp 35988- [535.01- 42.01] EXTRACT: 8270-B/N/A SEMI TCL BNA S&W 8270 SOL USEPA-8270C	1 305345 LV5	EXT/SONIC/SOIL		30.0g		100			
		305327 MS		30.0g					
		305327 MSD		30.0g					

QUALITY CONTROL DATA

Type	Amt Ext	Final Volume	Surrogates Standard	Surrogates Amount	Spikes Standard	Spikes Amount	Spikes Standard	Spikes Amount
MPB			PL24-13	100uL	PL2.8-13	100uL	SEO	
DUP					PL2.9-1	100uL	5-21-02	
SPK#					PL2.9-11	100uL		
MSD#					PL2.7-3	100uL		
LCS								
(Sample Notes)								

	Type	Date done	# times
* 1	Nitrogen Blowdown		
* 2	Alumina		
* 3	Copper/Sulf. Acid		
* 4	Small Florisil		
* 5	Lg. Florisil Col.		
* 6	Silica Gel		
* 7	GPC		

TriMatrix Laboratories, Inc.

001210

Instrument ID: Saturn GC/MS Instrument #133 Date: 5/12/12 Taped: _____ Disk ID: _____ Analyst: [illegible]

Instrument Settings	Acquisition Information
Multiplier: 1630	Scan Range: 40-450 amu
AGC 60000	Seconds/Scan: 0.500
Interface Temp: 250C	Filament Delay: 3.5 min.
Source Temp: 190C	Threshold: 2 counts
Head Pressure: 8 psi	Mass Defect: 0
	Background Mass: 35 amu
	Curve Date: 5/12/12 new curve

Temperature Program					Miscellaneous
GC	Temp. (C)	Rate (C/min)	Time (min)	Total (min)	New Column Date: 5/12/12
Step #1	45	0.0	1.5	1.5	New Septa: (Yes) No
Step #2	200	10	15.5	17.0	Working Std. #: SV3794
Step #3	315	25	4.6	21.6	Int Std. #: SV2359
Step #4	315	0.0	16.4	38	Tune Std. #: SV3611
Inject.	45	0.0	0.5	0.5	Inj. Vol.: 1 uL
Inject.	300	100	2.55	3.5	DFTPP Area 198: 1506226
Inject.	300	0.0	15	15.05	DDT Breakdown: 32

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
DFTPSIK (1st 5/12/12)		19:09 (2nd 5/12/12)	(1st 5/12/12)		DFTPP	8270	DFTPpass
10 CCSIK		19:33			BNA		
0.5ICCSIK		20:25					
1 ICCSIK		21:17					new curve
2 ICCSIK		22:09					
5 ICCSIK		23:02					
15 ICCSIK		23:54					
20 ICCSIK		00:46					
25 ICCSIK		01:38					
LCSSIK		02:30					
LCSDSIK		03:23					

TriMatrix Laboratories, Inc.

Instrument ID: Saturn GC/MS Instrument #133 | Date: 5/21/02 | Taped: _____ | Disk ID: _____ | Analyst: [illegible]

Instrument Settings	Acquisition Information
Multiplier: 1800	Scan Range: 40-450 amu
AGC 6000	Seconds/Scan: 0.500
Interface Temp: 250C	Filament Delay: 3.5 min.
Source Temp: 190C	Threshold: 2 counts
Head Pressure: 8 psi	Mass Defect: 0
	Background Mass: 35 amu
	Curve Date: 5/15/2

Temperature Program

GC	Temp. (C)	Rate (C/min)	Time (min)	Total (min)
Step #1	45	0.0	1.5	1.5
Step #2	200	10	15.5	17.0
Step #3	315	25	4.6	21.6
Step #4	315	0.0	16.4	38
Inject.	45	0.0	0.5	0.5
Inject.	300	100	2.55	3.5
Inject.	300	0.0	15	15.05

Miscellaneous

New Column Date: 5/12/2
New Septa: Yes / No
Working Std. #: SU37.4
Int Std. #: SU2.38.9
Tune Std. #: SU3.6.1
Inj. Vol.: 1 uL
DFTPP Area 198: 1476541
DDT Breakdown: 5.32

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
DFT0521A		07:33	Str		DFTPP	8270	DFTPP passes
10C0521A		07:59	Str		BNA	8270	Cont. cal std., CCLA, SPCLA, pass
BLK0521A		08:50	↓		↓	↓	BLK 5/21/2 1 8270 2 Str
LFB117AG	AG	09:42	Str	wtr	BNA	8270	
305473MS	↓	~~10:34~~ ~~11:21~~	↓	↓	↓	↓	
305473MD	↓	11:25	↓	↓	↓	↓	
MPB121S	Stw	12:16	Str	Soil	BNA	8270	
LFB121S	↓	13:07	↓	↓	↓	↓	
305052	↓	13:58	↓	↓	↓	↓	
305053	↓	14:49	↓	↓	↓	↓	
305054	↓	15:40	↓	↓	↓	↓	
305055	↓	16:30	↓	↓	↓	↓	

TriMatrix Laboratories, Inc.

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
305056	SAW	17:21	SL	50.1	BNA	8270	
305057		18:12					
305058		19:03					

file: 133_RUN.XLS

page: 27 of 61

revision: 1.0

00212

TriMatrix Laboratories, Inc.

2nd sh. ft

001213

Instrument ID: Saturn GC/MS Instrument #133 | Date: 5/21/2 | Taped: _____ | Disk ID: _____ | Analyst: [illegible]

Instrument Settings	Acquisition Information	Temperature Program					Miscellaneous
Multiplier: 1500	Scan Range: 40-450 amu	GC	Temp. (C)	Rate (C/min)	Time (min)	Total (min)	New Column Date: 5/21/2
AGC 6000	Seconds/Scan: 0.500	Step #1	45	0.0	1.5	1.5	New Septa: Yes / No
Interface Temp: 250C	Filament Delay: 3.5 min.	Step #2	200	10	15.5	17.0	Working Std. #: SU39.4
Source Temp: 190C	Threshold: 2 counts	Step #3	315	25	4.6	21.6	Int Std. #: SU2.359
Head Pressure: 8 psi	Mass Defect: 0	Step #4	315	0.0	16.4	38	Tune Std. #: SU361
	Background Mass: 35 amu	Inject.	45	0.0	0.5	0.5	Inj. Vol.: 1 uL
	Curve Date: 5/18/2	Inject.	300	100	2.55	3.5	DFTPP Area 198: 1294119
		Inject.	300	0.0	15	15.05	DDT Breakdown: 4.662

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
DFT0521B		19:48	Str		DFTPP	8270	DFTPP passes
10C0521B		20:13	Str		BNA	↓	Cont. Cal Mid, CCC's, SPCC's pass
B1K0521B		21:40	Str		↓	↓	
305059	Solo	21:55	Str	Soil	BNA	8270	
305060	↓	22:46	↓	↓	↓	↓	
305061	↓	23:37	↓	↓	↓	↓	
305054MS	↓	00:27	↓	↓	↓	↓	
305054MD	↓	01:19	↓	↓	↓	↓	
305316	↓	02:09	↓	↓	↓	↓	
305317	↓	03:00	↓	↓	↓	↓	
305318	↓	03:51	↓	↓	↓	↓	
305319	↓	04:43	↓	↓	↓	↓	

TriMatrix Laboratories, Inc.

001214

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
305320	S&W	05:31	SL	SQ1	BNA	8270	
305321	↓	06:25	↓	↓	↓	↓	
305322	↓	07:17	↓	↓	↓	↓	

[illegible]

TriMatrix Laboratories, Inc.

2nd shift

Instrument ID: Saturn GC/MS Instrument #133 Date: 5/22/12 Taped: _____ Disk ID: _____ Analyst: [illegible]

OD 1 P15

Instrument Settings	Acquisition Information
Multiplier: 1620	Scan Range: 40-450 amu
AGC 6000	Seconds/Scan: 0.500
Interface Temp: 250C	Filament Delay: 3.5 min.
Source Temp: 190C	Threshold: 2 counts
Head Pressure: 8 psi	Mass Defect: 0
	Background Mass: 35 amu
	Curve Date: 5/16/12

Temperature Program				
GC	Temp. (C)	Rate (C/min)	Time (min)	Total (min)
Step #1	45	0.0	1.5	1.5
Step #2	200	10	15.5	17.0
Step #3	315	25	4.6	21.6
Step #4	315	0.0	16.4	38
Inject.	45	0.0	0.5	0.5
Inject.	300	100	2.55	3.5
Inject.	300	0.0	15	15.05

Miscellaneous
New Column Date: 5/12/12
New Septa: (Yes) / No
Working Std. #: SV37.9
Int Std. #: IV2.36.9
Tune Std. #: SV3.6.1
Inj. Vol.: 1 uL
DFTPP Area 198: 12173-17
DDT Breakdown: 9.92

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
DFTO522F		16:21	SH		DFTPP	8270	DFTPP passes
16C522A		16:44	"		BNA		Cont. w/std [illegible] passes criteria
MPB122B	Batch	17:25	SH	WH	BNA		Blk 5/22/12 2E270 3622-6 ~~mnb~~ TPHd 418.1
LFB122B	"	18:25	"	"	"		
LFB122BE	"	19:15	"	"	"		
305323	S+W	20:06	SH	SOIL	"		
305324	"	20:57	"	"	"		
305325	"	21:48	"	"	"		
305340	"	22:39	20x	"	"		
305603	Batch	23:30	DL	WH	"		
305604	"	00:22	"	"	"		
305795	MSD	01:13	SH	WH	"		

515

TriMatrix Laboratories, Inc.

001216

Instrument ID: Saturn GC/MS Instrument #138 | Date: 5/15/02 | Taped: _____ | Disk ID: _____ | Analyst: RMC

Instrument Settings		Acquisition Information		Temperature Program					Miscellaneous	
Multiplier:	1650	Scan Range:	40-450 amu	GC	Temp. (C)	Rate (C/min)	Time (min)	Total (min)	New Column Date:	5-15-02
MASC:	>000	Seconds/Scan:	0.500	Step #1	45	0.0	1.5	1.5	New Septa:	(Yes) / No
Interface Temp:	250C	Filament Delay:	3.5 min.	Step #2	200	10	15.5	17.0	Working Std. #:	SV 3.5.18
Source Temp:	190C	Threshold:	2 counts	Step #3	315	25	4.6	21.6	Int Std. #:	SV 2.38.9
Head Pressure:	8 psi	Mass Defect:	0	Step #4	315	0.0	16.4	38	Tune Std. #:	SV 3.5.17
		Background Mass:	35 amu	Inject.	45	0.0	0.5	0.5	Inj. Vol.:	1 ul.
		Curve Date:	5/15/02	Inject.	300	100	2.55	3.5	DFTPP Area 198:	440458
			new curve	Inject.	300	0.0	15	15.05	DDT Breakdown:	1.8

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
							Applied to:
DFTO515A	Tune	8:43	STR		DFTPP	8270	
10CO515A	Curve	8:47			BNA		
1ICO515		9:43					
2ICO515		10:31					
5ICO515		11:18					
15ICO515		12:06					
20ICO515		12:53					
25ICO515		13:41					
LCS0515	Curve	14:39	STR		BNA	8270	

revision: 1.0

file: 138rum.xls

521 2 wk old. ft

TriMatrix Laboratories, Inc.

00217

Instrument ID: Saturn GC/MS Instrument #138 Date: 5/21/02 Taped: _____ Disk ID: _____ Analyst: JWK 1,2

Instrument Settings	Acquisition Information	Temperature Program					Miscellaneous
Multiplier: 1650	Scan Range: 40-450 amu	GC	Temp. (C)	Rate (C/min)	Time (min)	Total (min)	New Column Date: 5-15-02
GC 7000	Seconds/Scan: 0.500	Step #1	45	0.0	1.5	1.5	New Septa: Yes (No)
nterface Temp: 250C	Filament Delay: 3.5 min.	Step #2	200	10	15.5	17.0	Working Std. #: SV 3.5.1
Source Temp: 190C	Threshold: 2 counts	Step #3	315	25	4.6	21.6	Int Std. #: SV 2.28.5
Head Pressure: 8 psi	Mass Defect: 0	Step #4	315	0.0	16.4	38	Tune Std. #: SV 3.5.13
	Background Mass: 35 amu	Inject.	45	0.0	0.5	0.5	Inj. Vol.: 1 uL
	Curve Date: 5/15/02	Inject.	300	100	2.55	3.5	DFTPP Area 198: 57006
		Inject.	300	0.0	15	15.05	DDT Breakdown: 2.22

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
DFTPP 521B	Tune	20:16	SPK	/	DFTPP	8270	
10CCV521B	CCV	20:39		/	BLK		
MBLK 1 521B	S-C	21:25		SOIL			8270 #2 BLK
LCS 1 521B		22:12					
305326		22:58					
305327		23:44					
305327 MS		00:30					
305327 MSD		1:17					Is 1 in SPK
305328		2:03					
305329		2:49					
305330		3:35					
305331		4:22					

TriMatrix
Laboratories, Inc.

00218

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
305332	SOL	5:08	STA	SOIL	BNA	8270	
305333		5:55					
305334		6:41					
305335		7:28					
(8:16)							

5²²

TriMatrix Laboratories, Inc.

0001219

Instrument ID: Saturn GC/MS Instrument #138 **Date:** 5/22/02 **Taped:** _____ **Disk ID:** _____ **Analyst:** [illegible]

Instrument Settings	Acquisition Information
Multiplier: 1652	Scan Range: 40-450 amu
AGC 30000	Seconds/Scan: 0.500
Interface Temp: 250C	Filament Delay: 3.5 min.
Source Temp: 190C	Threshold: 2 counts
Head Pressure: 8 psi	Mass Defect: 0
	Background Mass: 35 amu
	Curve Date: 5/15/02

Temperature Program					Miscellaneous
GC	Temp. (C)	Rate (C/min)	Time (min)	Total (min)	New Column Date: 5-15-02
Step #1	45	0.0	1.5	1.5	New Septa: (Yes) No
Step #2	200	10	15.5	17.0	Working Std. #: SV 8.5.1
Step #3	315	25	4.6	21.6	Int Std. #: SV 2.38.5
Step #4	315	0.0	16.4	38	Tune Std. #: SV 3.5.13
Inject.	45	0.0	0.5	0.5	Inj. Vol.: 1 uL
Inject.	300	100	2.55	3.5	DFTPP Area 198: 44158
Inject.	300	0.0	15	15.05	DDT Breakdown: 2.0%

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
							Cleanup
DFTP052202	Tech	9:05	STD	/	BASE	8270	
IVC05-22A	C.C.V.	9:28		/	BLK		
BLK05-22A	Ent Blk	10:20		Soil			8270 #1 SLW 8270 #2 Bego
305320R	SLW	11:05	SIR	Soil			
305340		11:50	500x				x 50x Ea 5-22 (2x)
305336		12:36	SIR				
305337		13:21					
305338		14:07					
305339		14:53					
305341		15:39					
305342		16:24					
305343		17:09					

TriMatrix Laboratories, Inc.

001220

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
305344	SCC	17:55	5X	SOIL	BNA	8270	
305345	"	18:34	"	"	"	"	
305407	Benzon	19:26	"	WATER	"	"	
305408	"	20:12	"	"	"	"	
(2:20)							

5 52

2 of 3 ll

TriMatrix Laboratories, Inc.

Instrument ID: Saturn GC/MS Instrument #138 Date: 5/22/02 Taped: _____ Disk ID: _____ Analyst: [illegible]

Instrument Settings	
Multiplier:	1650
AGC	7000
Interface Temp:	250C
Source Temp:	190C
Head Pressure:	8 psi

Acquisition Information	
Scan Range:	40-450 amu
Seconds/Scan:	0.500
Filament Delay:	3.5 min.
Threshold:	2 counts
Mass Defect:	0
Background Mass:	35 amu
Curve Date:	5/15/02

Temperature Program

GC	Temp. (C)	Rate (C/min)	Time (min)	Total (min)
Step #1	45	0.0	1.5	1.5
Step #2	200	10	15.5	17.0
Step #3	315	25	4.6	21.6
Step #4	315	0.0	16.4	38
Inject.	45	0.0	0.5	0.5
Inject.	300	100	2.55	3.5
Inject.	300	0.0	15	15.05

Miscellaneous	
New Column Date:	5-15-02
New Septa:	Yes / No
Working Std. #:	SV 3-5-1
Int Std. #:	SV 2-38-9
Tune Std. #:	SV 3-5-17
Inj. Vol.:	1 uL
DFTPP Area 198:	374082
DDT Breakdown:	1.8%

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
DFT0522C	Tune	23:23	Str		DFTPP	8270	DFTPP passes
10C0522B	C.cal	23:45	↓		BNA	8270	CCCX, SPCCX pass
MPB122MA	MDEQ	00:30	Str	Soil	↓	↓	8270 #3 BNA
LFB122MA	↓	1:16	↓	↓	↓	↓	
LFB122M2	↓	1:54	↓	↓	↓	↓	
305737	↓	2:32	↓	↓	↓	↓	
305738	↓	3:17	↓	↓	↓	↓	
305739	↓	4:03	↓	↓	↓	↓	
305740	↓	4:48	↓	↓	↓	↓	
305741	↓	5:34	↓	↓	↓	↓	
305742	↓	6:20	↓	↓	↓	↓	
305743	↓	7:05	↓	WW	↓	↓	

001221

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001222

Sample / File ID	Client	Inj Time	Dil	Matrix	Fraction	Method	Notes
305744	MDEQ	7:50	Sh	Wh	BNA	8270	
305745		8:36					
305746		9:21					
305747		10:06					m 10x
305340R	SEW	10:52	~~40x~~ 50x	Sm 1	BNA	8270	

SECTION – I

INORGANIC (METALS) FURNACE-AA/ICP/ICPMS/MERCURY DATA

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SECTION - I

SAMPLE RESULT SUMMARIES

INORGANIC (METALS) FURNACE-AA/ICP/ICPMS/MERCURY DATA

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		12FNS01001				
	Lab Sample No:	305052				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.2	J	1.9	6.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 1820		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	* 4.8		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	7.9		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/10/02
Time Sampled: 13:55
Date Received: 05/11/02
Time Received: 09:45

* See attached Statement of Data Qualifications.

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		14HWP01002				
	Lab Sample No:	305053				
E-1047	Percent Solids	95		N/A	0.1	%
9004-70-0	Nitrocellulose	5.9	J	2.0	6.5	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	927		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	3.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	1.9		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/10/02
Time Sampled: 13:58
Date Received: 05/11/02
Time Received: 09:45

001226

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 6FNP01003		LOD	LOQ	Units
	Lab Sample No:	305054				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	6.9	J	2.1	7.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	4.0		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.3		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/10/02
Time Sampled: 14:05
Date Received: 05/11/02
Time Received: 09:45

001227

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 6CNS01004		LOD	LOQ	Units
	Lab Sample No:	305055				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	6.0	J	2.1	7.0	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1480		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	4.0		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:07
Date Received:	05/11/02
Time Received:	09:45

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		3CNS01005				
	Lab Sample No:	305056				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	5.4	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1190		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	3.9		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	31		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:09
Date Received:	05/11/02
Time Received:	09:45

001229

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		2BNS01006				
	Lab Sample No:	305057				
E-1047	Percent Solids	95		N/A	0.1	%
9004-70-0	Nitrocellulose	5.2	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1860		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	5.1		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.4		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/10/02
Time Sampled: 14:15
Date Received: 05/11/02
Time Received: 09:45

001230

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		6BNS01007				
	Lab Sample No:	305058				
E-1047	Percent Solids	94		N/A	0.1	%
9004-70-0	Nitrocellulose	2.6	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1920		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	5.7		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.5		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/10/02
Time Sampled: 04:19
Date Received: 05/11/02
Time Received: 09:45

001231

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 8ENS01008		LOD	LOQ	Units
	Lab Sample No:	305059				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	3.3	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	893		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	2.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	1.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:23
Date Received:	05/11/02
Time Received:	09:45

001232

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 8EANS01008		LOD	LOQ	Units
	Lab Sample No:	305060				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	3.3	J	2.0	6.8	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	967		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	2.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	1.6		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:30
Date Received:	05/11/02
Time Received:	09:45

001233

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 1DNS01010		LOD	LOQ	Units
	Lab Sample No:	305061				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	5.8	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1280		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	3.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.2		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/10/02
Time Sampled: 14:22
Date Received: 05/11/02
Time Received: 09:45

001234

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 5AWP01001		LOD	LOQ	Units
	Lab Sample No:	305316				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	3.1	J	1.9	6.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	9770		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	9.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:32
Date Received:	05/14/02
Time Received:	08:43

001235

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 4BNP01002		LOD	LOQ	Units
	Lab Sample No:	305317				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	16		2.0	6.8	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	13500		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	9.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	12		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:38
Date Received:	05/14/02
Time Received:	08:43

001236

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 3CWP01003		LOD	LOQ	Units
	Lab Sample No:	305318				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	12		2.0	6.5	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	7440		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.8		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.0		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:43
Date Received:	05/14/02
Time Received:	08:43

001237

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 3CAWP01003		LOD	LOQ	Units
	Lab Sample No:	305319				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	9.5		1.9	6.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	10600		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	7.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	9.2		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:47
Date Received:	05/14/02
Time Received:	08:43

001238

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 2BWP01004		LOD	LOQ	Units
	Lab Sample No:	305320				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	8.5		2.0	6.8	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	12400		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	12		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:52
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 1DWP01005		LOD	LOQ	Units
	Lab Sample No:	305321				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	21		2.0	6.6	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	13300		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	16		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	30		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:55
Date Received:	05/14/02
Time Received:	08:43

001240

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 3DNS01006		LOD	LOQ	Units
	Lab Sample No:	305322				
E-1047	Percent Solids	93		N/A	0.1	%
9004-70-0	Nitrocellulose	12		2.1	6.9	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	10700		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	15		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	12		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:00
Date Received:	05/14/02
Time Received:	08:43

001241

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 5CNS01007		LOD	LOQ	Units
	Lab Sample No:	305323				
E-1047	Percent Solids	88		N/A	0.1	%
9004-70-0	Nitrocellulose	8.3		2.1	6.9	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	17300		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	22		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	24		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:07
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 2AWP01001		LOD	LOQ	Units
	Lab Sample No:	305324				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.5	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2570		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.6		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.7		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:30
Date Received:	05/14/02
Time Received:	08:43

001243

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 4AWP01002		LOD	LOQ	Units
	Lab Sample No:	305325				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	4.9	J	1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 2780		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.0		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	4.5		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 11:33
Date Received: 05/14/02
Time Received: 08:43

* See attached Statement of Data Qualifications.

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 4BNP01003		LOD	LOQ	Units
	Lab Sample No:	305326				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	4.7	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2960		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.7		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 11:37
Date Received: 05/14/02
Time Received: 08:43

001245

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 5CWP01004		LOD	LOQ	Units
	Lab Sample No:	305327				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.1	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1140		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.3		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.1		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:42
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 5CAWP01004		LOD	LOQ	Units
	Lab Sample No:	305328				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	5.1	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2160		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.7		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:45
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 6AWP01005		LOD	LOQ	Units
	Lab Sample No:	305329				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.1	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1940		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.1		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.6		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:47
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 6BWP01006		LOD	LOQ	Units
	Lab Sample No:	305330				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	9.8		1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5120		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.9		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.1		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:52
Date Received:	05/14/02
Time Received:	08:43

001249

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 8AWP01007		LOD	LOQ	Units
	Lab Sample No:	305331				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	2.8	J	2.1	7.0	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	4200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	10		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.4		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:55
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 9BWP01008		LOD	LOQ	Units
	Lab Sample No:	305332				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.7	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.9		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.9		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:59
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 1ANS01001		LOD	LOQ	Units
	Lab Sample No:	305333				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.3	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2620		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	10		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	7.7		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:15
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736		LOD	LOQ	Units
		2CNS01002				
	Lab Sample No:	305334				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	2.4	J	1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	4590		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	15		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	8.6		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:19
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 2CANS01002		LOD	LOQ	Units
	Lab Sample No:	305335				
E-1047	Percent Solids	94		N/A	0.1	%
9004-70-0	Nitrocellulose	4.9	J	2.1	6.9	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 3480		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	* 14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.1		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 12:22
Date Received: 05/14/02
Time Received: 08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 2DNS01003		LOD	LOQ	Units
	Lab Sample No:	305336				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	11		2.0	6.6	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	7940		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	13		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	10		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:27
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 1ENS01004		LOD	LOQ	Units
	Lab Sample No:	305337				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	4.9	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	16		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	7.1		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:29
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 1CNP01001		LOD	LOQ	Units
	Lab Sample No:	305338				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	2.4	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5300		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	11		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.3		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:48
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 1CANP01001		LOD	LOQ	Units
	Lab Sample No:	305339				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	3.3	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5380		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	10		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	5.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:52
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 2DNP01002		LOD	LOQ	Units
	Lab Sample No:	305340				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	6.8		1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	3540		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	41		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2140		4.0	13.3	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:59
Date Received:	05/14/02
Time Received:	08:43

001259

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 2ANP01003		LOD	LOQ	Units
	Lab Sample No:	305341				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.4	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2380		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	19		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:10
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4BNP01004		LOD	LOQ	Units
	Lab Sample No:	305342				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.9	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 1780		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.8		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	5.1		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 13:13
Date Received: 05/14/02
Time Received: 08:43

* See attached Statement of Data Qualifications.

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4DNP01005		LOD	LOQ	Units
	Lab Sample No:	305343				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.9	J	1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2210		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.6		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.4		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:18
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4ANP01006		LOD	LOQ	Units
	Lab Sample No:	305344				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	4.6	J	2.0	6.6	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2210		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.5		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:21
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 7BNP01007		LOD	LOQ	Units
	Lab Sample No:	305345				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.7	J	2.0	6.7	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1350		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	5.3		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.2		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:28
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4DANP01008		LOD	LOQ	Units
	Lab Sample No:	305346				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.5	J	2.0	6.7	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	14:00
Date Received:	05/14/02
Time Received:	08:43

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SECTION - I

QUALITY CONTROL SUMMARIES

INORGANIC (METALS) FURNACE-AA/ICP/ICPMS/MERCURY DATA

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QUALITY CONTROL REPORT
INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV-CCV)
USEPA CLP FORM 2A

SDG No.	35988 -1	Parameter	Aluminum, Total
Batch No.	185994		
Instrument ID	101	Ref. Cit.	EPA-200.7/6010B
		Matrix	WATER
		Units	ug/L

Verification QC Type	True Value	Amount Found	% Recovery	Acceptance Window-%	Date	Analyst
ICV 1	5000	4997	100	90 - 110	05/20/02	KLVM
CCV 1	2500	2523	101	90 - 110	05/20/02	KLVM
CCV 2	2500	2500	100	90 - 110	05/20/02	KLVM
CCV 3	2500	2531	101	90 - 110	05/20/02	KLVM
CCV 4	2500	2534	101	90 - 110	05/20/02	KLVM
CCV 5	2500	2488	100	90 - 110	05/20/02	KLVM
CCV 6	2500	2529	101	90 - 110	05/20/02	KLVM
CCV 7	2500	2504	100	90 - 110	05/20/02	KLVM
CCV 8	2500	2533	101	90 - 110	05/20/02	KLVM

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QUALITY CONTROL REPORT
INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV-CCV)
USEPA CLP FORM 2A

SDG No.	35988 -1	Parameter	Copper, Total
Batch No.	186133		
Instrument ID	114	Ref. Cit.	EPA-200.8/6020
		Matrix	WATER
		Units	ug/L

Verification QC Type	True Value	Amount Found	% Recovery	Acceptance Window-%	Date	Analyst
ICV 1	100	97.1	97	90 - 110	05/22/02	DSC
CCV 1	40	40.9	102	90 - 110	05/22/02	DSC
CCV 2	40	39.7	99	90 - 110	05/22/02	DSC
CCV 3	40	40.9	102	90 - 110	05/22/02	DSC
CCV 4	40	40.9	102	90 - 110	05/22/02	DSC
CCV 5	40	41.3	103	90 - 110	05/22/02	DSC
CCV 6	40	41.0	103	90 - 110	05/22/02	DSC
CCV 7	40	40.5	101	90 - 110	05/22/02	DSC
CCV 8	40	40.6	102	90 - 110	05/22/02	DSC
CCV 9	40	40.0	100	90 - 110	05/22/02	DSC

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QUALITY CONTROL REPORT
INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV-CCV)
USEPA CLP FORM 2A

SDG No.	35988 -1	Parameter	Lead, Total
Batch No.	186133		
Instrument ID	114	Ref. Cit.	EPA-200.8/6020
		Matrix	WATER
		Units	ug/L

Verification QC Type	True Value	Amount Found	% Recovery	Acceptance Window-%	Date	Analyst
ICV 1	100	101.8	102	90 - 110	05/22/02	DSC
CCV 1	40	42.5	106	90 - 110	05/22/02	DSC
CCV 2	40	40.4	101	90 - 110	05/22/02	DSC
CCV 3	40	41.3	103	90 - 110	05/22/02	DSC
CCV 4	40	42.0	105	90 - 110	05/22/02	DSC
CCV 5	40	41.7	104	90 - 110	05/22/02	DSC
CCV 6	40	40.9	102	90 - 110	05/22/02	DSC
CCV 7	40	42.2	106	90 - 110	05/22/02	DSC
CCV 8	40	42.2	106	90 - 110	05/22/02	DSC
CCV 9	40	41.4	104	90 - 110	05/22/02	DSC

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QUALITY CONTROL REPORT
CRDL STANDARD
USEPA CLP FORM 2B

SDG No. 35988 -1 Matrix WATER
Units ug/L

Analyte	Analytical Batch	True Value	Amount Found	% Recovery
Aluminum, Total	185994	200	164	82
Aluminum, Total	185994	200	169	85
Copper, Total	186133	1.0	1.12	112
Copper, Total	186133	1.0	1.11	111
Lead, Total	186133	1.0	1.13	113
Lead, Total	186133	1.0	1.11	111

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Aluminum, Total
Instrument ID	101	Ref. Cit.	EPA-200.7/6010B
		Matrix	WATER
		Units	ug/L

Batch	Blank QC Type	Sequence No.	Amount Found
185994	Initial Calibration	1	<100
185994	Continuing Calibration	1	<100
185994	Continuing Calibration	2	<100
185994	Continuing Calibration	3	<100
185994	Continuing Calibration	4	<100
185994	Continuing Calibration	5	<100
185994	Continuing Calibration	6	<100
185994	Continuing Calibration	7	<100
185994	Continuing Calibration	8	<100
185994	Instrument	1	<100

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Aluminum, Total
Instrument ID	101	Ref. Cit.	USEPA-6010B
		Matrix	SOIL
		Units	mg/kg dry

Batch	Blank QC Type	Sequence No.	Amount Found	
75109	Method Preparation	1	<7.8	U
75110	Method Preparation	1	<7.8	U
75111	Method Preparation	1	<7.8	U

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Copper, Total
Instrument ID	114	Ref. Cit.	EPA-200.8/6020
		Matrix	WATER
		Units	ug/L

Batch	Blank QC Type	Sequence No.	Amount Found
186133	Initial Calibration	1	<1.0
186133	Continuing Calibration	1	<1.0
186133	Continuing Calibration	2	<1.0
186133	Continuing Calibration	3	<1.0
186133	Continuing Calibration	4	<1.0
186133	Continuing Calibration	5	<1.0
186133	Continuing Calibration	6	<1.0
186133	Continuing Calibration	7	<1.0
186133	Continuing Calibration	8	<1.0
186133	Continuing Calibration	9	<1.0
186133	Instrument	1	<1.0

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Copper, Total
Instrument ID	114	Ref. Cit.	USEPA-6020
		Matrix	SOIL
		Units	mg/kg dry

Batch	Blank QC Type	Sequence No.	Amount Found	
75197	Method Preparation	1	<0.22	U
75199	Method Preparation	1	<0.22	U
75200	Method Preparation	1	<0.22	U

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Lead, Total
Instrument ID	114	Ref. Cit.	EPA-200.8/6020
		Matrix	WATER
		Units	ug/L

Batch	Blank QC Type	Sequence No.	Amount Found
186133	Initial Calibration	1	<1.0
186133	Continuing Calibration	1	<1.0
186133	Continuing Calibration	2	<1.0
186133	Continuing Calibration	3	<1.0
186133	Continuing Calibration	4	<1.0
186133	Continuing Calibration	5	<1.0
186133	Continuing Calibration	6	<1.0
186133	Continuing Calibration	7	<1.0
186133	Continuing Calibration	8	<1.0
186133	Continuing Calibration	9	<1.0
186133	Instrument	1	<1.0

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Lead, Total
Instrument ID	114	Ref. Cit.	USEPA-6020
		Matrix	SOIL
		Units	mg/kg dry

Batch	Blank QC Type	Sequence No.	Amount Found	
75197	Method Preparation	1	<0.13	U
75199	Method Preparation	1	<0.13	U
75200	Method Preparation	1	<0.13	U

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QUALITY CONTROL REPORT
ICP INTERFERENCE CHECK SAMPLE
SOLUTION AB
USEPA CLP FORM 4

SDG No.	35988 -1	Matrix	WATER
IEC Source	NA	Units	ug/L
Instrument ID	101		

Analyte	Batch	Initial True Value	Initial Amount Found	Initial %R	Final True Value	Final Amount Found	Final %R
Aluminum, Total	185994	1000	1012	101	1000	1050	105

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QUALITY CONTROL REPORT
ICP INTERFERENCE CHECK SAMPLE
SOLUTION AB
USEPA CLP FORM 4

SDG No.	35988 -1	Matrix	WATER
IEC Source	NA	Units	ug/L
Instrument ID	114		

Analyte	Batch	Initial True Value	Initial Amount Found	Initial %R	Final True Value	Final Amount Found	Final %R
Copper, Total	186133	20	21.3	107	20	20.3	102

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -1 | Matrix SOIL
Lab Sample No. 305052
Sample ID. 6807-1312FNS01001 | Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Copper, Total	47 - 144	26.8	4.8		25	88	MS
Copper, Total	47 - 144	27.5	4.8		25	91	MS
Lead, Total	74 - 132	30.7	7.9		25	91	MS
Lead, Total	74 - 132	33.0	7.9		25	100	MS
Nitrocellulose	0 - 0	16	3.2	J	42	30	

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305325
Sample ID.	67394AWP01002	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Copper, Total	47 - 144	30.9	8.0		25	92	MS
Copper, Total	47 - 144	30.8	8.0		25	91	MS
Lead, Total	74 - 132	30.0	4.5		25	102	MS
Lead, Total	74 - 132	28.5	4.5		25	96	MS
Nitrocellulose	0 - 0	27	4.9	J	38	58	

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305335
Sample ID.	67362CANS01002	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result	Spike Added	%R	M
Copper, Total	47 - 144	33.5	14	25	78	MS
Copper, Total	47 - 144	31.1	14	25	68	MS
Lead, Total	74 - 132	28.2	6.1	25	88	MS
Lead, Total	74 - 132	28.6	6.1	25	90	MS

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -1
Sample ID. 67124BNP01004
Matrix SOIL
Lab Sample No. 305342
Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result	Spike Added	%R	M
Copper, Total	47 - 144	29.4	6.8	25	90	MS
Copper, Total	47 - 144	33.4	6.8	25	106	MS
Lead, Total	74 - 132	30.5	5.1	25	102	MS
Lead, Total	74 - 132	30.9	5.1	25	103	MS

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QUALITY CONTROL REPORT
POST DIGESTION SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5B

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305052
Sample ID.	6807-1312FNS01001	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result	Spike Added	%R	M
Copper, Total	75 - 125	26.8	4.8	25	88	MS
Lead, Total	75 - 125	31.3	7.9	25	94	MS

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QUALITY CONTROL REPORT
POST DIGESTION SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5B

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305325
Sample ID.	67394AWP01002	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result	Spike Added	%R	M
Copper, Total	75 - 125	29.9	8.0	25	88	MS
Lead, Total	75 - 125	28.5	4.5	25	96	MS

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QUALITY CONTROL REPORT
POST DIGESTION SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5B

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305335
Sample ID.	67362CANS01002	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result	Spike Added	%R	M
Copper, Total	75 - 125	36.4	14	25	90	MS
Lead, Total	75 - 125	30.0	6.1	25	96	MS

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QUALITY CONTROL REPORT
POST DIGESTION SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5B

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305342
Sample ID.	67124BNP01004	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result	Spike Added	%R	M
Copper, Total	75 - 125	29.4	6.8	25	90	MS
Lead, Total	75 - 125	28.6	5.1	25	94	MS

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305052
Sample ID.	6807-1312FNS01001	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Copper, Total	0 - 20	26.8	27.5	3	MS
Lead, Total	0 - 20	30.7	33.0	7	MS

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305325
Sample ID.	67394AWP01002	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Copper, Total	0 - 20	30.9	30.8	0	MS
Lead, Total	0 - 20	30.0	28.5	5	MS

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305335
Sample ID.	67362CANS01002	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Copper, Total	0 - 20	31.1	33.5	7	MS
Lead, Total	0 - 20	28.2	28.6	1	MS

001289

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305342
Sample ID.	67124BNP01004	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Copper, Total	0 - 20	33.4	29.4	13	MS
Lead, Total	0 - 20	30.9	30.5	1	MS

001290

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Individual sample results relate only to the sample tested.

QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305052
Sample ID.	6807-1312FNS01001	Units	mg/kg dry

Analyte	Control Limit	Sample Result		Duplicate Result		RPD	M
Aluminum, Total	0 - 20	1820		1880		3	P
Copper, Total	0 - 20	4.8		24		133	MS
Lead, Total	0 - 20	7.9		7.3		8	MS
Nitrocellulose	0 - 0	3.2	J	3.0	J	6	

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305325
Sample ID.	67394AWP01002	Units	mg/kg dry

Analyte	Control Limit	Sample Result		Duplicate Result		RPD	M
Aluminum, Total	0 - 20	2780		2750		1	P
Copper, Total	0 - 20	8.0		6.8		16	MS
Lead, Total	0 - 20	4.5		4.1		9	MS
Nitrocellulose	0 - 0	4.9	J	3.1	J	45	

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305335
Sample ID.	67362CANS01002	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Aluminum, Total	0 - 20	3480	3790	9	P
Copper, Total	0 - 20	14	11	24	MS
Lead, Total	0 - 20	6.1	6.3	3	MS

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305342
Sample ID.	67124BNP01004	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Aluminum, Total	0 - 20	1780	1730	3	P
Copper, Total	0 - 20	6.8	5.8	16	MS
Lead, Total	0 - 20	5.1	4.7	8	MS

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Individual sample results relate only to the sample tested.

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE
USEPA CLP FORM 7

SDG No. 35988 -1 Units ug/L

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Aluminum, Total	185994	1000	956	90 - 110	96
Copper, Total	186133	40	40.6	90 - 110	102
Lead, Total	186133	40	42.3	90 - 110	106

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QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No. 35988 -1 Units mg/kg dry

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Aluminum, Total	75109	250	241.6	78 - 123	97
Aluminum, Total	75110	250	249.2	78 - 123	100
Aluminum, Total	75111	250	226.3	78 - 123	91
Copper, Total	75197	25	23.1	72 - 115	92
Copper, Total	75199	25	23.2	72 - 115	93
Copper, Total	75200	25	24.3	72 - 115	97
Lead, Total	75197	25	23.9	80 - 110	96
Lead, Total	75199	25	22.9	80 - 110	92
Lead, Total	75200	25	24.1	80 - 110	96
Nitroglycerine	75193	50	47.6	70 - 130	95
Nitroglycerine	75194	50	45.6	70 - 130	91
Nitroglycerine	75195	50	41.8	70 - 130	84

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FORM 10
INORGANIC INSTRUMENT DETECTION LIMITS

Submittal Number: 35988-1 Project Description: Stone & Webster
Laboratory Name: **TriMatrix** Instrument: PE Instrument #101

Analyte	Wave-lenght (nm)	Date	Back-ground	AQL (ug/L)	IDL (ug/L)	M
Aluminum	396.140	1/8/02		100	9.796	P
Antimony	206.831	1/8/02			39.787	P
Arsenic	188.979	1/8/02			27.424	P
Barium	455.403	1/22/02			1.669	P
Beryllium	234.861	1/8/02			0.125	P
Boron	249.773	1/8/02			4.369	P
Cadmium	214.438	1/8/02			1.514	P
Calcium	315.887	1/8/02			10.988	P
Chromium	205.558	1/8/02			4.714	P
Cobalt	230.786	1/8/02			2.225	P
Copper	324.754	1/8/02			1.395	P
Iron	238.204	1/8/02			6.908	P
Lead	220.353	1/8/02			25.655	P
Lithium	670.781	1/8/02			0.822	P
Magnesium	279.074	1/8/02			19.043	P
Manganese	257.610	1/22/02			0.916	P
Molybdenum	202.031	1/8/02			6.828	P
Nickel	231.603	1/8/02			7.521	P
Phosphorus	213.618	1/8/02			151.889	P
Potassium	766.514	1/8/02			44.386	P
Selenium	196.026	1/8/02			63.460	P
Silver	328.065	1/22/02			2.976	P
Sodium	588.995	1/8/02			92.899	P
Strontium	407.771	1/22/02			1.151	P
Thallium	190.800	1/8/02			43.425	P
Tin	189.933	1/8/02			33.281	P
Titanium	334.941	1/22/02			1.989	P
Vanadium	292.402	1/8/02			2.665	P
Zinc	206.200	1/8/02			2.629	P

FORM 10
INORGANIC INSTRUMENT DETECTION LIMITS

Submittal Number: 35988-1 Project Description: Stone & Webster
Laboratory Name: TriMatrix Instrument: PE Instrument #114

Analyte	Date	Back-ground	AQL ug/L	IDL ug/L	M
Antimony	1/9/02			0.061	MS
Arsenic	1/11/02			0.074	MS
Barium	1/11/02			0.042	MS
Beryllium	1/9/02			0.056	MS
Boron	1/11/02			0.343	MS
Cadmium	1/9/02			0.012	MS
Chromium	1/11/02			0.182	MS
Cobalt	1/11/02			0.033	MS
Copper	1/9/02		5.0	0.097	MS
Lead	1/9/02		10.0	0.023	MS
Manganese	1/11/02			0.069	MS
Molybdenum	1/9/02			0.123	MS
Nickel	1/11/02			0.138	MS
Silver	1/9/02			0.006	MS
Selenium	1/11/02			0.149	MS
Thallium	1/9/02			0.030	MS
Tin	1/9/02			0.043	MS
Vanadium	1/11/02			0.113	MS
Zinc	1/16/02			0.146	MS
Mercury	1/9/02			0.011	MS

IEC Factors
1-3-02
Instrument #101

Iec-17c

1/3/02 12:45:41

	Ag 328.068	Al 396.140	As 188.979	B 249.773
Ag 328.068	n/a	0	0	0
Al 396.140	-2.37003	n/a	-0.161575	0
As 188.979	0	0	n/a	0
B 249.773	0.650061	0	0	n/a
Ba 455.403	-0.3214	-0.0353724	-0.0318913	0
Be 234.861	0	0.00590437	0	0
Ca 315.887	0	0	0	0
Cd 214.438	0	0.0807193	0.0287478	0
Co 228.616	0	0.050601	0	0
Cr 205.558	-0.645461	-0.093217	-0.0752769	0
Cu 324.764	0	0	0	0
Fe 238.204	0	0	0	0
K 766.514	0	0	0	0
Li 670.781	0	0	0	0
Mg 279.074	0	0	0	0
Mn 257.610	0	0	0	0
Mo 202.031	0	0	0	0
Na 588.995	0	0	0	0
Ni 231.603	0	0	0	0
P 178.220	0	0	0	0
Pb 220.353	0	0	0	0
Sb 206.831	0	0	0	0

IEC Factors
1-3-02
Instrument #101

Iec-17c

Sc	357.253	0	0	0
0				
Se	196.026	0	0	0
0				
Si	251.611	0	0	0
0				
Sn	189.933	0	0	0
0				
Sr	407.771	-0.349426	-0.0383111	-0.0369061
0				
Ti	334.941	-0.563915	-0.0655424	-0.0623258
0				
Tl	190.800	0	0	0
0				
V	292.402	0	0	0
0				
Zn	206.200	0	0	0
0				
Y	360.064	0	0	0
0				

		Ba 455.403	Be 234.861	Ca 315.887
Cd 214.438				
Ag	328.068	0	0	0
0				
Al	396.140	0	0	0.310897
-0.175612				
As	188.979	0	0	0
0				
B	249.773	0	0	0
0				
Ba	455.403	n/a	0.0358977	-0.031679
-0.0326185				
Be	234.861	0	n/a	0.00722195
0.0137129				
Ca	315.887	0	0	n/a
0				
Cd	214.438	0.248676	-0.977858	0
n/a				
Co	228.616	0.461311	0	0
0				
Cr	205.558	-0.418738	1.679	-0.0983314
-0.16373				
Cu	324.764	0	0	0
0				
Fe	238.204	0	0	0
0				
K	766.514	0	0	0

IEC Factors
1-3-02
Instrument #101

Iec-17c

0				
Li	670.781	0	0	0
0				
Mg	279.074	0	0	0
0				
Mn	257.610	0	0	0
0				
Mo	202.031	0	0.28614	0
0				
Na	588.995	0	0	0
0				
Ni	231.603	0	0	0
0				
P	178.220	0	0	0
0				
Pb	220.353	0	-1.46511	0
0				
Sb	206.831	0	0	0
0				
Sc	357.253	0	0	0
0				
Se	196.026	0	0	0
0				
Si	251.611	0	0	0
0				
Sn	189.933	-2.72953	1.43126	-2.56526
0				
Sr	407.771	-0.18624	-0.0770948	-0.00783969
-0.0384028				
Ti	334.941	-0.31133	-0.126499	-0.0964661
-0.067513				
Tl	190.800	0	0	0
0				
V	292.402	0	0	0
0				
Zn	206.200	0	0	0
0				
Y	360.064	0	0	0
0				

Co	228.616	Cr 205.558	Cu 324.764
Fe 238.204			
Ag	328.068	0	0
0			
Al	396.140	-0.570557	-0.200195
-0.835611			
-0.477589			
As	188.979	0	1.30989
0			

001301

IEC Factors
1-3-02
Instrument #101

		Iec-17c		
B	249.773	0.0843086	-0.0900354	-0.132948
1.32967				
Ba	455.403	-0.0347817	-0.03902	-0.0708306
-0.0407636				
Be	234.861	0	-0.0103447	0
0.0874492				
Ca	315.887	0	0	0
0				
Cd	214.438	0.174381	0	0.175167
0.0986679				
Co	228.616	n/a	0	0
0				
Cr	205.558	0.0795391	n/a	-1.1279
-0.403571				
Cu	324.764	0	0	n/a
0				
Fe	238.204	0.328467	0	0
n/a				
K	766.514	0	0	0
0				
Li	670.781	0	0	0
0				
Mg	279.074	0	0	0
0				
Mn	257.610	0	0	0
0				
Mo	202.031	0	0.174788	0.22476
0				
Na	588.995	0	0	0
0				
Ni	231.603	0	0	0
0				
P	178.220	0	0	0
0				
Pb	220.353	-1.21524	-0.304524	1.60111
0				
Sb	206.831	0	18.4806	0
-1.05541				
Sc	357.253	0	0	0
0				
Se	196.026	0	-1.18934	0
0				
Si	251.611	0	0	0
0				
Sn	189.933	0	1.9613	0
0				
Sr	407.771	-0.038708	-0.0342823	-0.0848857
-0.0403014				

001302

IEC Factors
1-3-02
Instrument #101

Iec-17c

Ti	334.941	-0.0625146	0.229065	-0.0685005
-0.0634827				
Tl	190.800	9.2827	0.79287	0
-0.396955				
V	292.402	0	0	0
0				
Zn	206.200	0	0.450835	0
0				
Y	360.064	0	0	0
0				

K 766.514	Li 670.781	Mg 279.074	Mn 257.610
Ag 328.068	0	0	0
0			
Al 396.140	0	-0.231498	-0.224449
-0.198694			
As 188.979	0	0	0
0			
B 249.773	-0.0692026	-0.059158	-0.0522563
0			
Ba 455.403	-0.0307559	-0.0353532	-0.0343098
-0.0349042			
Be 234.861	0	0	0
-0.00876933			
Ca 315.887	0	0	0
0			
Cd 214.438	0.0202329	0.0225742	0.0518421
0.0246573			
Co 228.616	0	0	0
0			
Cr 205.558	-0.0739422	-0.0545454	0
0			
Cu 324.764	0	0	0.107
0			
Fe 238.204	0	0	0
0.139573			
K 766.514	n/a	0	0
0			
Li 670.781	0	n/a	0
0			
Mg 279.074	0	0	n/a
0			
Mn 257.610	0	0	0
n/a			
Mo 202.031	0	0	0
0			
Na 588.995	0	0	0

IEC Factors
1-3-02
Instrument #101

Iec-17c

				0
Ni	231.603	0	0	0
				0
P	178.220	0	0	0
				0
Pb	220.353	0	0	0
				0
Sb	206.831	0	0	0
				0
Sc	357.253	0	0	0
				0
Se	196.026	0	0	0
				-0.892056
Si	251.611	0	0	4.66527
				0
Sn	189.933	0	-0.584456	10.3716
				0
Sr	407.771	-0.03373	-0.0395372	-0.0370019
				-0.0372865
Ti	334.941	-0.0612281	-0.066363	-0.0401514
				-0.106837
Tl	190.800	0	-1.32154	-0.337103
				-1.04171
V	292.402	0	0	0
				0
Zn	206.200	0	0	0
				0.296311
Y	360.064	0	0	0
				0
		Mo 202.031	Na 588.995	Ni 231.603
				P 178.220
Ag	328.068	0	0	0
				0
Al	396.140	32.9421	-0.134023	-0.229312
				-0.318276
As	188.979	2.99042	0	-0.79606
				0
B	249.773	-0.16196	-0.0712289	0
				-0.0908778
Ba	455.403	-0.0257037	-0.0305257	-0.0341156
				-0.034789
Be	234.861	-0.068744	0	0
				0
Ca	315.887	0	0	0
				0
Cd	214.438	-0.0622213	0	0.430965
				0.0256136

IEC Factors
1-3-02
Instrument #101

Iec-17c

Co	228.616	0	0	0.257737
0				
Cr	205.558	0.90629	-0.0875477	0.353105
-0.0938174				
Cu	324.764	0.0696384	0	0
0				
Fe	238.204	0	0	0
0				
K	766.514	0	0	0
0				
Li	670.781	0	0	0
0				
Mg	279.074	0	0	0
0				
Mn	257.610	0	0	0
0				
Mo	202.031	n/a	0.137107	0.378648
0				
Na	588.995	0	n/a	0
0				
Ni	231.603	0	0	n/a
0				
P	178.220	0	0	0
n/a				
Pb	220.353	-0.920306	0	-0.383648
0				
Sb	206.831	2.53945	0	0.88149
0				
Sc	357.253	0	0	0
0				
Se	196.026	0	0	0
0				
Si	251.611	8.92999	0	0
0				
Sn	189.933	0	-0.48891	0
-0.590014				
Sr	407.771	-0.0314451	-0.0372165	-0.0372864
-0.0390081				
Ti	334.941	-0.0652237	-0.0654758	-0.0684792
-0.069996				
Tl	190.800	1.59828	-0.326126	0
-0.327462				
V	292.402	0	0	0
0				
Zn	206.200	0	0	0
0				
Y	360.064	0	0	0
0				

IEC Factors
1-3-02

Instrument #101

Iec-17c

	Pb 220.353	Sb 206.831	Sc 357.253	Se 196.026
Ag 328.068	0	0	0	0
Al 396.140	0	0	0	-0.12202
As 188.979	0	-0.566476	0	0
B 249.773	-0.0952403	0	0	-0.0976168
Ba 455.403	-0.0318785	-0.034769	0	-0.0327033
Be 234.861	0.0327919	0	0	0
Ca 315.887	0	0	0	0
Cd 214.438	0	0.0237276	0	0
Co 228.616	0	0	0	0
Cr 205.558	-0.0643263	0	0	-0.0502069
Cu 324.764	0	0	0	0
Fe 238.204	0	0	0	0
K 766.514	0	0	0	0
Li 670.781	0	0	0	0
Mg 279.074	0	0	0	0
Mn 257.610	0	0	0	0
Mo 202.031	0	0.133009	0	0
Na 588.995	0	0	0	0
Ni 231.603	0	0.367014	0	0
P 178.220	0	0	0	0
Pb 220.353	n/a	0	0	0
Sb 206.831	0	n/a	0	0
Sc 357.253	0	0	n/a	0

IEC Factors
1-3-02

Instrument #101

Iec-17c

0				
Se	196.026	0	0	0
n/a				
Si	251.611	0	0	0
0				
Sn	189.933	0	-1.22648	0
0				
Sr	407.771	-0.0367449	-0.0389894	0
-0.0383141				
Ti	334.941	-0.0629616	-0.0607855	0
-0.0678363				
Tl	190.800	0	0	0
-0.407601				
V	292.402	0	0	0
0				
Zn	206.200	0.311335	0	0
0				
Y	360.064	0	0	0
0				

	Si 251.611	Sn 189.933	Sr 407.771
Ti 334.941			
Ag 328.068	0	0	0
0			
Al 396.140	-0.285629	-0.169091	0
-0.121793			
As 188.979	-0.836644	0	0
2.66884			
B 249.773	-0.0773028	-0.0896593	0
0			
Ba 455.403	-0.034737	-0.0291795	0
-0.0340436			
Be 234.861	0	0	0
0			
Ca 315.887	0	0	0
0			
Cd 214.438	0.499022	0	0.35725
0			
Co 228.616	0	0	0
1.64787			
Cr 205.558	-0.0944387	-0.0744628	0
0.616252			
Cu 324.764	0	0	0
0			
Fe 238.204	0	0	0
0			
K 766.514	0	0	0
0			

IEC Factors
1-3-02
Instrument #101

Iec-17c

Li	670.781	0	0	0
0				
Mg	279.074	0	0	0
0				
Mn	257.610	0	0	0
0.0778729				
Mo	202.031	0	0	0
0.101711				
Na	588.995	0	0	0
0				
Ni	231.603	0	0	0
0				
P	178.220	0	0	0
0				
Pb	220.353	0	0	0
0				
Sb	206.831	0	0	0
0				
Sc	357.253	0	0	0
0				
Se	196.026	0.809499	0	0
0				
Si	251.611	n/a	1.25919	0
8.0425				
Sn	189.933	0	n/a	0
0.576694				
Sr	407.771	-0.0414816	-0.0343504	n/a
-0.0205051				
Ti	334.941	-0.0407463	-0.0640044	0
n/a				
Tl	190.800	0	-0.373001	0
0				
V	292.402	0	0	0
0				
Zn	206.200	0	0	0
0				
Y	360.064	0	0	0
0				

	Tl 190.800	V 292.402	Zn 206.200
Y 360.064			
Ag 328.068	0	0	0
0			
Al 396.140	-0.244706	0	-0.161815
0			
As 188.979	0	0.511513	0
0			
B 249.773	-0.113258	-0.177189	-0.112206

001308

IEC Factors
1-3-02
Instrument #101

Iec-17c

0				
	Ba 455.403	-0.0329276	-0.0332193	-0.0314845
0				
	Be 234.861	0	0	0
0				
	Ca 315.887	0	0	0
0				
	Cd 214.438	0	-0.0426143	0.0704507
0				
	Co 228.616	0	0	0
0				
	Cr 205.558	-0.0815857	0	0
0				
	Cu 324.764	0	0	0
0				
	Fe 238.204	0	-0.398475	0
0				
	K 766.514	0	0	0
0				
	Li 670.781	0	0	0
0				
	Mg 279.074	0	0	0
0				
	Mn 257.610	0	0	0
0				
	Mo 202.031	0	0	0.20881
0				
	Na 588.995	0	0	0
0				
	Ni 231.603	0.598911	0	0
0				
	P 178.220	0	0	0
0				
	Pb 220.353	0	0	0
0				
	Sb 206.831	0	0	0
0				
	Sc 357.253	0	0	0
0				
	Se 196.026	0	0	0
0				
	Si 251.611	0	0	0
0				
	Sn 189.933	0	-2.0025	0
0				
	Sr 407.771	-0.0336742	-0.0284163	-0.0322882
0				
	Ti 334.941	0.192953	-0.0313367	-0.0355132

IEC Factors
1-3-02
Instrument #101

Iec-17c

0				
Tl	190.800	n/a	4.60284	0
0				
V	292.402	0	n/a	0
0				
Zn	206.200	0	0	n/a
0				
Y	360.064	0	0	0

n/a

TriMatrix Laboratories, Inc.

LINEAR RANGE STUDY
SUMMARY SHEET
FOR
OPTIMA 3000/ INSTRUMENT #101
METALS LABORATORY

Parameter /Compound	Method Number	Date Analyzed	Analyst	Analysis	Amount Spiked	Percent Recovery	Units	Pass/Fail SPK Range
Aluminum	200.7/6010	1/14/02	DSC	210.50	200	105.25%	mg/l	PASS
Arsenic	200.7/6010	1/14/02	DSC	211.10	200	105.55%	mg/l	PASS
Antimony	200.7/6010	1/14/02	DSC	217.20	200	108.60%	mg/l	PASS
Boron	200.7/6010	1/14/02	DSC	49.44	50	98.88%	mg/l	PASS
Barium	200.7/6010	1/14/02	DSC	19.46	20	97.30%	mg/l	PASS
Beryllium	200.7/6010	1/14/02	DSC	49.87	50	99.74%	mg/l	PASS
Cadmium	200.7/6010	1/14/02	DSC	94.87	100	94.87%	mg/l	PASS
Calcium	200.7/6010	1/14/02	DSC	204.00	200	102.00%	mg/l	PASS
Chromium	200.7/6010	1/14/02	DSC	49.89	50	99.78%	mg/l	PASS
Cobalt	200.7/6010	1/14/02	DSC	95.61	100	95.61%	mg/l	PASS
Copper	200.7/6010	1/14/02	DSC	49.92	50	99.84%	mg/l	PASS
Iron	200.7/6010	1/14/02	DSC	96.84	100	96.84%	mg/l	PASS
Lead	200.7/6010	1/14/02	DSC	98.91	100	98.91%	mg/l	PASS
Lithium	200.7/6010	1/14/02	DSC	102.50	100	102.50%	mg/l	PASS
Magnesium	200.7/6010	1/14/02	DSC	101.40	100	101.40%	mg/l	PASS
Manganese	200.7/6010	1/14/02	DSC	102.10	100	102.10%	mg/l	PASS
Molydenum	200.7/6010	1/14/02	DSC	98.52	100	98.52%	mg/l	PASS
Nickel	200.7/6010	1/14/02	DSC	97.70	100	97.70%	mg/l	PASS
Phosphorus	200.7/6010	1/14/02	DSC	49.63	50	99.26%	mg/l	PASS
Potassium	200.7/6010	1/14/02	DSC	212.90	200	106.45%	mg/l	PASS
Selenium	200.7/6010	1/14/02	DSC	212.00	200	106.00%	mg/l	PASS
Silicon	200.7/6010	1/16/02	DSC	23.37	25	93.48%	mg/l	PASS
Silver	200.7/6010	1/16/02	DSC	4.74	5	94.78%	mg/l	PASS
Sodium	200.7/6010	1/14/02	DSC	99.50	100	99.50%	mg/l	PASS
Strontium	200.7/6010	1/16/02	DSC	9.16	10	91.59%	mg/l	PASS
Thallium	200.7/6010	1/14/02	DSC	95.54	100	95.54%	mg/l	PASS
Tin	200.7/6010	1/14/02	DSC	198.40	200	99.20%	mg/l	PASS
Titanium	200.7/6010	1/14/02	DSC	103.00	100	103.00%	mg/l	PASS
Vanadium	200.7/6010	1/14/02	DSC	99.53	100	99.53%	mg/l	PASS
Zinc	200.7/6010	1/14/02	DSC	96.67	100	96.67%	mg/l	PASS

SECTION - I

SAMPLE RAW DATA

INORGANIC (METALS) FURNACE-AA/ICP/ICPMS/MERCURY DATA

This report shall not be reproduced except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

Due 5-23

18:32 20-MAY-2002 METALS BENCHSHEET BY GROUP

001313

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KWM Reviewed by: _____ Benchsheet ID: 289136

Run date: 5-20-02 Entered by: PAK

Stock std: Me9.8.11 on: 5.21.02

Sample: ICV

Stock std: _____ Verified by: KLK Batch number: 185994

Stock std: _____ on: 5-22-02 Batch open dt: _____

Instrument #: 101 Approved by: DS Batch sequence: ___

Weight/volume: _____ on: 5/23 QC Batch #: _____

	ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT 208.1	10		ug/L			90-110
AlT 187.1	200	4997 ✓	ug/L	5000.		90-110
AsT 189.1	200		ug/L			90-110
AuT 495.1	50		ug/L			90-110
B 220.1	100		ug/L			90-110
B T 220.3	100		ug/L			90-110
BaT 190.1	10		ug/L			90-110
BeT 191.1	10		ug/L			90-110
CaC 194.7	1.2		mg/L			90-110
CaT 194.1	0.50		mg/L			90-110
CdT 193.1	10		ug/L			90-110
CoT 197.1	10		ug/L			90-110
CrT 196.1	50		ug/L			90-110
CuT 198.1	10		ug/L			90-110
FeT 199.1	100		ug/L			90-110
GaT 1735.1	50		ug/L			-
GeT 1736.1	100		ug/L			-
HD 1226.1	3.3		mg/L			-

	ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
InT 638.1	20000		ug/L			90-110
K T 206.1	0.50		mg/L			90-110
KL 1893.1	0.50		mg/L			-
LiT 216.1	20		ug/L			90-110
MgC 201.6	2.1		mg/L			90-110
MgT 201.1	0.50		mg/L			90-110
MnT 202.1	10		ug/L			90-110
MoT 219.1	100		ug/L			90-110
NaT 209.1	0.50		mg/L			90-110
NiT 205.1	10		ug/L			90-110
P T 407.1	250		ug/L			90-110
PbT 200.1	50		ug/L			90-110
S T 443.1	200		ug/L			90-110
SbT 188.1	200		ug/L			90-110
SeT 207.1	100		ug/L			90-110
SiT 221.1	500		ug/L			90-110
SnT 218.1	1000		ug/L			90-110
SrT 217.1	50		ug/L			90-110

18:32 20-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KWM Reviewed by: _____ Benchsheet ID: 289136

Run date: 5-20-02 Entered by: _____

on: _____

Sample: ICB

Verified by: _____ Batch number: _____

on: _____ Batch open dt: _____

Instrument #: 101 Approved by: _____ Batch sequence: _____

Weight/volume: _____ on: _____ QC Batch #: _____

001314

		MDL	Reported Conc.	Unit
AgT	208.1	10		ug/L
AlT	187.1	~~200~~ 100	< 100	ug/L
AsT	189.1	200		ug/L
AuT	495.1	50		ug/L
B	220.1	100		ug/L
B T	220.3	100		ug/L
BaT	190.1	10		ug/L
BeT	191.1	10		ug/L
CaC	194.7	1.2		mg/L
CaT	194.1	0.50		mg/L
CdT	193.1	10		ug/L
CoT	197.1	10		ug/L
CrT	196.1	50		ug/L
CuT	198.1	10		ug/L
FeT	199.1	100		ug/L
GaT	1735.1	50		ug/L
GeT	1736.1	100		ug/L
HD	1226.1	3.3		mg/L

		MDL	Reported Conc.	Unit
InT	638.1	20000		ug/L
K T	206.1	0.50		mg/L
KL	1893.1	0.50		mg/L
LiT	216.1	20		ug/L
MgC	201.6	2.1		mg/L
MgT	201.1	0.50		mg/L
MnT	202.1	10		ug/L
MoT	219.1	100		ug/L
NaT	209.1	0.50		mg/L
NiT	205.1	10		ug/L
P T	407.1	250		ug/L
PbT	200.1	50		ug/L
S T	448.1	200		ug/L
SbT	188.1	200		ug/L
SeT	207.1	100		ug/L
SiT	221.1	500		ug/L
SnT	218.1	1000		ug/L
SrT	217.1	50		ug/L

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101
Benchsheet ID: 289137
Owner: KLVM
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

001315

Comments:

		Reported Conc.	Spike Result	Spike Qty.	Spike Stock #	%	ODL
MPB:	185858 - 117	<10 <7.8		XXXXXXXX XXXXXXXX			~~7.77~~ 7.8
LFB:	Stk ↓	241.6		250.			↓
BLK:		<100.		XXXXXXXX XXXXXXXX			100.
LCS:	Stk	956.		1000.			
LCS:	Stk						
IEC:	Stk Rep _1_	1012.		1000.			
IEC:	Stk Rep _2_						
CRL:		164		200.			

QC Type	Range	Active Lcl	Active Ucl
DUP	1		20
DUP	2		20
LCS	1	90	110
LFB	1	78	123
MSD	1		20
MSD	2		20
SPK	1	76	118

18:32 20-MAY-2002

METALS BENCHSHEET BY GROUP

001316

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KWM Reviewed by: _____ Benchsheet ID: 209136

Run date: 5-20-02 Entered by: _____

Stock std: Me9.8.8 on: _____

Sample: CCV 1 Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 701 Approved by: _____ Batch sequence: _____

Weight/volume: _____ on: _____ QC Batch #: _____

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	10		ug/L			90-110
AlT	187.1	200	2523	ug/L	2500		90-110
AsT	189.1	200		ug/L			90-110
AuT	495.1	50		ug/L			90-110
B	220.1	100		ug/L			90-110
B T	220.3	100		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	10		ug/L			90-110
CaC	194.7	1.2		mg/L			90-110
CaT	194.1	0.50		mg/L			90-110
CdT	193.1	10		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	50		ug/L			90-110
CuT	198.1	10		ug/L			90-110
FeT	199.1	100		ug/L			90-110
GaT	1735.1	50		ug/L			-
GeT	1736.1	100		ug/L			-
HD	1226.1	3.3		mg/L			-

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
InT	638.1	20000		ug/L			90-110
K T	206.1	0.50		mg/L			90-110
KL	1893.1	0.50		mg/L			-
LiT	216.1	20		ug/L			90-110
MgC	201.6	2.1		mg/L			90-110
MgT	201.1	0.50		mg/L			90-110
MnT	202.1	10		ug/L			90-110
MoT	219.1	100		ug/L			90-110
NaT	209.1	0.50		mg/L			90-110
NiT	205.1	10		ug/L			90-110
P T	407.1	250		ug/L			90-110
PbT	200.1	50		ug/L			90-110
S T	448.1	200		ug/L			90-110
SbT	188.1	200		ug/L			90-110
SeT	207.1	100		ug/L			90-110
SiT	221.1	500		ug/L			90-110
SnT	218.1	1000		ug/L			90-110
SrT	217.1	50		ug/L			90-110

18:32 20-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KLVM Reviewed by: ____ Benchsheet ID: 289136

Run date: 5-20-02 Entered by: ____

on: ____

Sample: CCB

Verified by: ____ Batch number: ____

on: ____ Batch open dt: ____

Instrument #: 101 Approved by: ____ Batch sequence: ____

Weight/volume: ____ on: ____ QC Batch #: ____

001317

		ODL	Reported Conc.	Unit
AgT	208.1	10		ug/L
AlT	187.1	~~200~~ 100	<100.	~~ug~~/L
AsT	189.1	200		ug/L
AuT	495.1	50		ug/L
B	220.1	100		ug/L
B T	220.3	100		ug/L
BaT	190.1	10		ug/L
BeT	191.1	10		ug/L
CaC	194.7	1.2		mg/L
CaT	194.1	0.50		mg/L
CdT	193.1	10		ug/L
CoT	197.1	10		ug/L
CrT	196.1	50		ug/L
CuT	198.1	10		ug/L
FeT	199.1	100		ug/L
GaT	1735.1	50		ug/L
GeT	1736.1	100		ug/L
HD	1226.1	3.3		mg/L

		ODL	Reported Conc.	Unit
InT	638.1	20000		ug/L
K T	206.1	0.50		mg/L
KL	1893.1	0.50		mg/L
LiT	216.1	20		ug/L
MgC	201.6	2.1		mg/L
MgT	201.1	0.50		mg/L
MnT	202.1	10		ug/L
MoT	219.1	100		ug/L
NaT	209.1	0.50		mg/L
NiT	205.1	10		ug/L
P T	407.1	250		ug/L
PbT	200.1	50		ug/L
S T	448.1	200		ug/L
SbT	188.1	200		ug/L
SeT	207.1	100		ug/L
SiT	221.1	500		ug/L
SnT	218.1	1000		ug/L
SrT	217.1	50		ug/L

20-MAY-02

METALS BENCHSHEET

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101
Benchsheet ID: 289I37
Owner: KVM
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

001318

Comments:

Client / Sample	COC	QC	Anal	Run Date	Reported Conc.	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock #	% spk	% msd	ODL
ICB:									XXXXXXXX	XXXXXXXX			
ICS:									XXXXXXXX	XXXXXXXX			
ICV: Stk													
Stone & Webster Engineering Corp 305330	YES	LV5											
Stone & Webster Engineering Corp 305331	YES	LV5											
Stone & Webster Engineering Corp 305332	YES	LV5											
Stone & Webster Engineering Corp 305333	YES	LV5											
Stone & Webster Engineering Corp 305334	YES	LV5											
Stone & Webster Engineering Corp 305335	YES	LV5											
Stone & Webster Engineering Corp 305336	YES	LV5			7940 ✓								7.8
Stone & Webster Engineering Corp 305337	YES	LV5			5200 ✓								
Stone & Webster Engineering Corp 305338	YES	LV5			5300 ✓								
Stone & Webster Engineering Corp 305339	YES	LV5			5380 ✓								
Stone & Webster Engineering Corp 305340	YES	LV5			3540 ✓								
Stone & Webster Engineering Corp 305341	YES	LV5			2380 ✓								
CCB: Rep									XXXXXXXX	XXXXXXXX			
CCV: Stk Rep													

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101
Benchsheet ID: 289I37
Owner: KWM
Run Date: 5-20-02
Reviewed By: _____
Est anal hrs: 8
Act anal hrs: _____
Samples in batch: 40
Stock std #: _____

Comments:

001319

Client / Sample	COC	QC	Anal Run Date	Reported Conc.	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock #	DUP % spk	% msd	ODL
ICB:								XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			
ICS:												
ICV: Stk												
Stone & Webster Engineering Corp 305342	YES	LV5		1780. ✓	~~3022.~~	~~2872~~		~~2500.~~		1730. ✓		7.8
Stone & Webster Engineering Corp 305343	YES	LV5			→ Q#	70						
Stone & Webster Engineering Corp 305344	YES	LV5										
Stone & Webster Engineering Corp 305345	YES	LV5										
CCB: Rep 2				<100. ✓				XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			
CCV: Stk Mc9.8.8 Rep 2				2500. ✓				2500				

001320

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL MDL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101
Benchsheet ID: 205137
Owner: KWM
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

Comments:

Client / Sample	COC	QC	Anal Run Date	Reported Conc.	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock #	% spk	% esd	MDL
ICB:								XXXXXXXX	XXXXXXXX			
ICS:												
ICV: Stk												
Stone & Webster Engineering Corp 305342	YES	LV5										
Stone & Webster Engineering Corp 305343	YES	LV5		2210 ✓								7.8
Stone & Webster Engineering Corp 305344	YES	LV5		2210 ✓								↓
Stone & Webster Engineering Corp 305345	YES	LV5		1350. ✓								
CCB: Rep								XXXXXXXX	XXXXXXXX			
CCV: Stk Rep												

20-MAY-02 METALS BENCHSHEET *** QC *** PAGE 1

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101
Benchsheet ID: 289137
Owner: KLM
Run Date: 5-20-02
Reviewed By: _____
Est anal hrs: 8
Act anal hrs: _____
Samples in batch: 40
Stock std #: _____

001321

Comments:

		Reported Conc.	Spike Result	Spike Qty.	Spike Stock #	%	ODL
MPB:	185857-117	<7.84	✓	XXXXXXXX XXXXXXXX			7.8
LFB:	Stk ↓	249.2	✓	250. XXXXXXXX XXXXXXXX			↓
BLK:							
LCS:	Stk						
LCS:	Stk						
IEC:	Stk Rep _1_						
IEC:	Stk Rep _2_						
CRL:							

QC Type	Range	Active Lcl	Active Ucl
DUP	1		20
DUP	2		20
LCS	1	90	110
LFB	1	78	123
MSD	1		20
MSD	2		20
SPK	1	76	118

20-MAY-02

METALS BENCHSHEET

001322

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Comments:

Instrument #: 101
Benchsheet ID: 289137
Owner: Kim
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

Client..... Sample	COC	QC	Anal	Run Date	Reported Conc.	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock #	% spk	% msd	ODL
ICB:									XXXXXXXX	XXXXXXXX			
									XXXXXXXX	XXXXXXXX			
ICS:													
ICV: Stk													
Stone & Webster Engineering Corp 305052	YES	LV5											
Stone & Webster Engineering Corp 305053	YES	LV5											
Stone & Webster Engineering Corp 305054	YES	LV5											
Stone & Webster Engineering Corp 305055	YES	LV5											
Stone & Webster Engineering Corp 305056	YES	LV5											
Stone & Webster Engineering Corp 305057	YES	LV5											
Stone & Webster Engineering Corp 305058	YES	LV5											
Stone & Webster Engineering Corp 305059	YES	LV5											
Stone & Webster Engineering Corp 305060	YES	LV5											
Stone & Webster Engineering Corp 305061	YES	LV5											
Stone & Webster Engineering Corp 305316	YES	LV5			9770. ✓								7.8
Stone & Webster Engineering Corp 305317	YES	LV5											
CCB: Rep 3					<100. ✓				XXXXXXXX	XXXXXXXX			100
									XXXXXXXX	XXXXXXXX			
CCV: Stk Meg 8.8 Rep 3					2531 ✓				2500				

20-MAY-02

METALS BENCHSHEET

001323

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 10
Benchsheet ID: 229137
Owner: KVM
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

Comments:

Client..... Sample	COC	QC	Anal	Run Date	Reported Conc.	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock #	% spk	% msd	ODL
ICB:									XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			
ICS:													
ICV: Stk													
Stone & Webster Engineering Corp 305052	YES	LV5											
Stone & Webster Engineering Corp 305053	YES	LV5											
Stone & Webster Engineering Corp 305054	YES	LV5											
Stone & Webster Engineering Corp 305055	YES	LV5											
Stone & Webster Engineering Corp 305056	YES	LV5											
Stone & Webster Engineering Corp 305057	YES	LV5											
Stone & Webster Engineering Corp 305058	YES	LV5											
Stone & Webster Engineering Corp 305059	YES	LV5											
Stone & Webster Engineering Corp 305060	YES	LV5											
Stone & Webster Engineering Corp 305061	YES	LV5											
Stone & Webster Engineering Corp 305316	YES	LV5											
Stone & Webster Engineering Corp 305317	YES	LV5			13 500.	✓							7.8
CCB: Rep									XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			
CCV: Stk Rep													

20-MAY-02

METALS BENCHSHEET

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101
Benchsheet ID: 289137
Owner: KWM
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

Comments:

Client / Sample	COC	QC	Anal Run Date	Reported Conc.	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock #	DUP % spk	% msd	ODL
ICB:								XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			
ICS:												
ICV: Stk												
Stone & Webster Engineering Corp 305318	YES	LV5		7440. ✓								7.5
Stone & Webster Engineering Corp 305319	YES	LV5		10,600. ✓								↓
Stone & Webster Engineering Corp 305320	YES	LV5		12400 ✓								
Stone & Webster Engineering Corp 305321	YES	LV5		13300 ✓								
Stone & Webster Engineering Corp 305322	YES	LV5		10700 ✓								
Stone & Webster Engineering Corp 305323	YES	LV5		17300 ✓								
Stone & Webster Engineering Corp 305324	YES	LV5		2570. ✓								
Stone & Webster Engineering Corp 305325	YES	LV5		2780. ✓ Q #70						2750. ✓		
Stone & Webster Engineering Corp 305326	YES	LV5										
Stone & Webster Engineering Corp 305327	YES	LV5										
Stone & Webster Engineering Corp 305328	YES	LV5										
Stone & Webster Engineering Corp 305329	YES	LV5										
CCB: Rep 4				<100 ✓				XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			100
CCV: Stk ~~Me8~~ Me988 Rep 4				2534 ✓				2500.				

TRIMATRIX LABORATORIES, INC.

001324

001325

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Comments:

Instrument #: 101
Benchsheet ID: 289137
Owner: KLVM
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

Client..... Sample	COC	QC	Anal Run Date	Reported Conc.	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock #	% spk	% msd	ODL
ICB:								XXXXXXXX	XXXXXXXX			
ICS:								XXXXXXXX	XXXXXXXX			
ICV: Stk												
Stone & Webster Engineering Corp 305318	YES	LV5										
Stone & Webster Engineering Corp 305319	YES	LV5										
Stone & Webster Engineering Corp 305320	YES	LV5										
Stone & Webster Engineering Corp 305321	YES	LV5										
Stone & Webster Engineering Corp 305322	YES	LV5										
Stone & Webster Engineering Corp 305323	YES	LV5										
Stone & Webster Engineering Corp 305324	YES	LV5										
Stone & Webster Engineering Corp 305325	YES	LV5										
Stone & Webster Engineering Corp 305326	YES	LV5		2960. ✓								7.8
Stone & Webster Engineering Corp 305327	YES	LV5		1140. ✓								↓
Stone & Webster Engineering Corp 305328	YES	LV5		2160. ✓								
Stone & Webster Engineering Corp 305329	YES	LV5		1940. ✓								
CCB: Rep								XXXXXXXX	XXXXXXXX			
CCV: Stk Rep								XXXXXXXX	XXXXXXXX			

20-MAY-02

METALS BENCHSHEET

Test #: 187, 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Comments:

Instrument #: 101
Benchsheet ID: 289137
Owner: KLVM
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

001326

Client..... Sample	COC	QC	Anal Run Date	Reported Conc.	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock #	% spk	% msd	ODL
ICB:								XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			
ICS:												
ICV: Stk												
Stone & Webster Engineering Corp 305330	YES	LV5		5120 ✓								7.8
Stone & Webster Engineering Corp 305331	YES	LV5		4200 ✓								↓
Stone & Webster Engineering Corp 305332	YES	LV5										
Stone & Webster Engineering Corp 305333	YES	LV5										
Stone & Webster Engineering Corp 305334	YES	LV5										
Stone & Webster Engineering Corp 305335	YES	LV5										
Stone & Webster Engineering Corp 305336	YES	LV5										
Stone & Webster Engineering Corp 305337	YES	LV5										
Stone & Webster Engineering Corp 305338	YES	LV5										
Stone & Webster Engineering Corp 305339	YES	LV5										
Stone & Webster Engineering Corp 305340	YES	LV5										
Stone & Webster Engineering Corp 305341	YES	LV5										
CCB: Rep		S		<100. ✓				XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			100.
CCV: Stk Mc988 Rep		S		2488 ✓				2500				

20-MAY-02

METALS BENCHSHEET

001327

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101
Benchsheet ID: 387137
Owner: KWM
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

Comments:

Client..... Sample	COC	QC	Anal	Run Date	Reported Conc.	DUP ~~SPK-1~~	SPK-2	PDS	Spike Qty.	Spike Stock #	% spk	% med	ODL
ICB:									XXXXXXXX	XXXXXXXX			
ICS:									XXXXXXXX	XXXXXXXX			
ICV: Stk													
Stone & Webster Engineering Corp 305330	YES	LV5											
Stone & Webster Engineering Corp 305331	YES	LV5											
Stone & Webster Engineering Corp 305332	YES	LV5			2200 ✓								7.8
Stone & Webster Engineering Corp 305333	YES	LV5			2620. ✓								7.8
Stone & Webster Engineering Corp 305334	YES	LV5			4590 ✓								
Stone & Webster Engineering Corp 305335	YES	LV5			3480. ✓	3790. ✓	Q #	70.					
Stone & Webster Engineering Corp 305336	YES	LV5											
Stone & Webster Engineering Corp 305337	YES	LV5											
Stone & Webster Engineering Corp 305338	YES	LV5											
Stone & Webster Engineering Corp 305339	YES	LV5											
Stone & Webster Engineering Corp 305340	YES	LV5											
Stone & Webster Engineering Corp 305341	YES	LV5											
CCB: Rep									XXXXXXXX	XXXXXXXX			
CCV: Stk Rep													

20-MAY-02 METALS BENCHSHEET *** QC ***

PAGE 1

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101.
Benchsheet ID: 209137
Owner: KLVM
Run Date: 5-20-02
Reviewed By:
Est anal hrs: 5
Act anal hrs:
Samples in batch: 40
Stock std #:

Comments:

	Reported Conc.	Spike Result	Spike Qty.	Spike Stock #	%	ODL
MPB: 185802-116	<7.8U		XXXXXXXX XXXXXXXX			7.8
LFB: Stk ↓	226.3		250.			↓
BLK:			XXXXXXXX XXXXXXXX			
LCS: Stk						
LCS: Stk						
IEC: Stk Rep 1						
IEC: Stk Rep 2						
CRL:						

QC Type	Range	Active Lcl	Active Ucl
DUP	1		20
DUP	2		20
LCS	1	90	110
LFB	1	78	123
MSD	1		20
MSD	2		20
SPK	1	76	118

TRIMATRIX LABORATORIES, INC.

001328

18:32 20-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KLWH Reviewed by: _____ Benchsheet ID: 289136

Run date: 5-20-02 Entered by: _____

Stock std: MC9.8.8 on: _____

Sample: CCV 6

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 101 Approved by: _____ Batch sequence: _____

Weight/volume: _____ on: _____ QC Batch #: _____

001329

	ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT 208.1	10		ug/L			90-110
AlT 187.1	200	2529.	ug/L	2500.		90-110
AsT 189.1	200		ug/L			90-110
AuT 495.1	50		ug/L			90-110
B 220.1	100		ug/L			90-110
B T 220.3	100		ug/L			90-110
BaT 190.1	10		ug/L			90-110
BeT 191.1	10		ug/L			90-110
CaC 194.7	1.2		mg/L			90-110
CaT 194.1	0.50		mg/L			90-110
CdT 193.1	10		ug/L			90-110
CoT 197.1	10		ug/L			90-110
CrT 196.1	50		ug/L			90-110
CuT 198.1	10		ug/L			90-110
FeT 199.1	100		ug/L			90-110
GaT 1735.1	50		ug/L			-
GeT 1736.1	100		ug/L			-
HD 1226.1	3.3		mg/L			-

	ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
InT 638.1	20000		ug/L			90-110
K T 206.1	0.50		mg/L			90-110
KL 1893.1	0.50		mg/L			-
LiT 216.1	20		ug/L			90-110
MgC 201.6	2.1		mg/L			90-110
MgT 201.1	0.50		mg/L			90-110
MnT 202.1	10		ug/L			90-110
MoT 219.1	100		ug/L			90-110
NaT 209.1	0.50		mg/L			90-110
NiT 205.1	10		ug/L			90-110
P T 407.1	250		ug/L			90-110
PbT 200.1	50		ug/L			90-110
S T 448.1	200		ug/L			90-110
SbT 188.1	200		ug/L			90-110
SeT 207.1	100		ug/L			90-110
SiT 221.1	500		ug/L			90-110
SnT 218.1	1000		ug/L			90-110
SrT 217.1	50		ug/L			90-110

18:32 20-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KLVM Reviewed by: _____ Benchsheet ID: 289136

Run date: 5-20-02 Entered by: _____

on: _____

Sample: CCB 6

Verified by: _____ Batch number: _____

on: _____ Batch open dt: _____

Instrument #: 101 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001330

		ODL	Reported Conc.	Unit
AgT	208.1	10		ug/L
AlT	187.1	~~200~~ 100	<100 ✓	ug/L
AsT	189.1	200		ug/L
AuT	495.1	50		ug/L
B	220.1	100		ug/L
B T	220.3	100		ug/L
BaT	190.1	10		ug/L
BeT	191.1	10		ug/L
CaC	194.7	1.2		mg/L
CaT	194.1	0.50		mg/L
CdT	193.1	10		ug/L
CoT	197.1	10		ug/L
CrT	196.1	50		ug/L
CuT	198.1	10		ug/L
FeT	199.1	100		ug/L
GaT	1735.1	50		ug/L
GeT	1736.1	100		ug/L
HD	1226.1	3.3		mg/L

		ODL	Reported Conc.	Unit
InT	638.1	20000		ug/L
K T	206.1	0.50		mg/L
KL	1093.1	0.50		mg/L
LiT	216.1	20		ug/L
MgC	201.6	2.1		mg/L
MgT	201.1	0.50		mg/L
MnT	202.1	10		ug/L
MoT	219.1	100		ug/L
NaT	209.1	0.50		mg/L
NiT	205.1	10		ug/L
P T	407.1	250		ug/L
PbT	200.1	50		ug/L
S T	448.1	200		ug/L
SbT	188.1	200		ug/L
SeT	207.1	100		ug/L
SiT	221.1	500		ug/L
SnT	218.1	1000		ug/L
SrT	217.1	50		ug/L

20-MAY-02

METALS BENCHSHEET

001331

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101
Benchsheet ID: 289137
Owner: KLM
Run Date: 5.20.02
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

Comments:

Client..... Sample	COC	QC	Anal Run Date	Reported Conc.	~~SPK-1~~ DUP	SPK-2	PDS	Spike Qty.	Spike Stock #	% spk	% msd	ODL
ICB:								XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			
ICS:												
ICV: Stk												
Stone & Webster Engineering Corp 305052	YES	LV5		1820. ✓	1880. ✓	Q#70						7.8
Stone & Webster Engineering Corp 305053	YES	LV5		927. ✓								✓
Stone & Webster Engineering Corp 305054	YES	LV5		1200. ✓								
Stone & Webster Engineering Corp 305055	YES	LV5		1480. ✓								
Stone & Webster Engineering Corp 305056	YES	LV5										
Stone & Webster Engineering Corp 305057	YES	LV5										
Stone & Webster Engineering Corp 305058	YES	LV5										
Stone & Webster Engineering Corp 305059	YES	LV5										
Stone & Webster Engineering Corp 305060	YES	LV5										
Stone & Webster Engineering Corp 305061	YES	LV5										
Stone & Webster Engineering Corp 305316	YES	LV5										
Stone & Webster Engineering Corp 305317	YES	LV5										
CCB: Rep 7				<100. ✓				XXXXXXXX XXXXXXXX	XXXXXXXX XXXXXXXX			100.
CCV: Stk Mc 98.8 Rep 7				2504 ✓				2500.				

20-MAY-02

METALS BENCHSHEET

Test #: 187. 1- 229.33
Parameter: ALUMINUM, TOTAL
Method: ICP/6010/SOL ODL: 10
Ref. Cit.: USEPA-6010B Unit: mg/kg dry

Instrument #: 101
Benchsheet ID: 289137
Owner: KLM
Run Date: 5-20
Reviewed By:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 40
Stock std #:

Comments:

0001332

Client..... Sample	COC	QC	Anal	Run Date	Reported Conc.	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock #	% spk	% msd	ODL
ICB:									XXXXXXXX	XXXXXXXX			
ICS:									XXXXXXXX	XXXXXXXX			
ICV: Stk													
Stone & Webster Engineering Corp 305052	YES	LVS											
Stone & Webster Engineering Corp 305053	YES	LVS											
Stone & Webster Engineering Corp 305054	YES	LVS											
Stone & Webster Engineering Corp 305055	YES	LVS											
Stone & Webster Engineering Corp 305056	YES	LVS			1190. ✓								7.8
Stone & Webster Engineering Corp 305057	YES	LVS			1860 ✓								
Stone & Webster Engineering Corp 305058	YES	LVS			1920 ✓								
Stone & Webster Engineering Corp 305059	YES	LVS			893 ✓								
Stone & Webster Engineering Corp 305060	YES	LVS			967 ✓								
Stone & Webster Engineering Corp 305061	YES	LVS			1280 ✓								
Stone & Webster Engineering Corp 305316	YES	LVS											
Stone & Webster Engineering Corp 305317	YES	LVS											
CCB: Rep									XXXXXXXX	XXXXXXXX			
CCV: Stk Rep									XXXXXXXX	XXXXXXXX			

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METALS BENCHSHEET BY GROUP

001333

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KLVM Reviewed by: _____ Benchsheet ID: 289136

Run date: 5-20-02 Entered by: _____

Stock std: _____ on: _____

Sample: CRL final

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 101 Approved by: _____ Batch sequence: ___

Weight/volume: _____ on: _____ QC Batch #: _____

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	10		ug/L			60-129
AlT	187.1	200	169.	ug/L	200.		32-283
AsT	189.1	200		ug/L			43-175
AuT	495.1	50		ug/L			-
B	220.1	100		ug/L			60-188
B T	220.3	100		ug/L			60-188
BaT	190.1	10		ug/L			95-115
BeT	191.1	10		ug/L			75-137
CaC	194.7	1.2		mg/L			88-138
CaT	194.1	0.50		mg/L			88-138
CdT	193.1	10		ug/L			47-169
CoT	197.1	10		ug/L			17-212
CrT	196.1	50		ug/L			35-192
CuT	198.1	10		ug/L			14-269
FeT	199.1	100		ug/L			29-206
GaT	1735.1	50		ug/L			-
GeT	1736.1	100		ug/L			-
HD	1226.1	3.3		mg/L			-

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
InT	638.1	20000		ug/L			-
K T	206.1	0.50		mg/L			98-191
KL	1893.1	0.50		mg/L			-
LiT	216.1	20		ug/L			-
MgC	201.6	2.1		mg/L			91-117
MgT	201.1	0.50		mg/L			91-117
MnT	202.1	10		ug/L			43-179
MoT	219.1	100		ug/L			38-139
NaT	209.1	0.50		mg/L			82-136
NiT	205.1	10		ug/L			16-214
P T	407.1	250		ug/L			84-117
PbT	200.1	50		ug/L			15-200
S T	448.1	200		ug/L			-
SbT	188.1	200		ug/L			-
SeT	207.1	100		ug/L			62-145
SiT	221.1	500		ug/L			-
SnT	218.1	1000		ug/L			83-168
SrT	217.1	50		ug/L			-

18:32 20-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KLVM Reviewed by: _____ Benchsheet ID: 209126

Run date: 5-20-02 Entered by: _____

Stock std: _____ on: _____

Sample: IEC final

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 101. Approved by: _____ Batch sequence: _____

Weight/volume: _____ on: _____ QC Batch #: _____

001334

	ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT 208.1	10		ug/L			80-120
AlT 187.1	200	1050.	ug/L	1000		80-120
AsT 189.1	200		ug/L			80-120
AuT 495.1	50		ug/L			80-120
B 220.1	100		ug/L			80-120
B T 220.3	100		ug/L			80-120
BaT 190.1	10		ug/L			80-120
BeT 191.1	10		ug/L			80-120
CaC 194.7	1.2		mg/L			80-120
CaT 194.1	0.50		mg/L			80-120
CdT 193.1	10		ug/L			80-120
CoT 197.1	10		ug/L			80-120
CrT 196.1	50		ug/L			80-120
CuT 198.1	10		ug/L			80-120
FeT 199.1	100		ug/L			80-120
GaT 1735.1	50		ug/L			-
GeT 1736.1	100		ug/L			-
HD 1226.1	3.3		mg/L			-

	ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
InT 638.1	20000		ug/L			80-120
K T 206.1	0.50		mg/L			80-120
KL 1893.1	0.50		mg/L			-
LiT 216.1	20		ug/L			80-120
MgC 201.6	2.1		mg/L			80-120
MgT 201.1	0.50		mg/L			80-120
MnT 202.1	10		ug/L			80-120
MoT 219.1	100		ug/L			80-120
NaT 209.1	0.50		mg/L			80-120
NiT 205.1	10		ug/L			80-120
P T 407.1	250		ug/L			80-120
PbT 200.1	50		ug/L			80-120
S T 448.1	200		ug/L			-
SbT 188.1	200		ug/L			80-120
SeT 207.1	100		ug/L			80-120
SiT 221.1	500		ug/L			80-120
SnT 218.1	1000		ug/L			80-120
SrT 217.1	50		ug/L			80-120

18:32 20-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KLWM Reviewed by: _____ Benchsheet ID: 289136

Run date: 5-20-02 Entered by: _____

Stock std: Mc9.8.8 on: _____

Sample: CCV 8 Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 101 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001335

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	10		ug/L			90-110
AlT	187.1	200	2533	ug/L	2500		90-110
AsT	189.1	200		ug/L			90-110
AuT	495.1	50		ug/L			90-110
B	220.1	100		ug/L			90-110
B T	220.3	100		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	10		ug/L			90-110
CaC	194.7	1.2		mg/L			90-110
CaT	194.1	0.50		mg/L			90-110
CdT	193.1	10		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	50		ug/L			90-110
CuT	198.1	10		ug/L			90-110
FeT	199.1	100		ug/L			90-110
GaT	1735.1	50		ug/L			-
GeT	1736.1	100		ug/L			-
HD	1226.1	3.3		mg/L			-

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
InT	638.1	20000		ug/L			90-110
K T	206.1	0.50		mg/L			90-110
KL	1893.1	0.50		mg/L			-
LiT	216.1	20		ug/L			90-110
MgC	201.6	2.1		mg/L			90-110
MgT	201.1	0.50		mg/L			90-110
MnT	202.1	10		ug/L			90-110
MoT	219.1	100		ug/L			90-110
NaT	209.1	0.50		mg/L			90-110
NiT	205.1	10		ug/L			90-110
P T	407.1	250		ug/L			90-110
PbT	200.1	50		ug/L			90-110
S T	448.1	200		ug/L			90-110
SbT	188.1	200		ug/L			90-110
SeT	207.1	100		ug/L			90-110
SiT	221.1	500		ug/L			90-110
SnT	218.1	1000		ug/L			90-110
SrT	217.1	50		ug/L			90-110

18:32 20-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 229.31 ICP/EPA/WT EPA-200.7/6010B

Analyst: KLVM Reviewed by: _____ Benchsheet ID: 289136

Run date: 5-20-02 Entered by: _____

on: _____

Verified by: _____ Batch number: _____

on: _____ Batch open dt: _____

Instrument #: 101 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

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Sample: CCB 9

		ODL	Reported Conc.	Unit
AgT	208.1	10		ug/L
AlT	187.1	~~200~~ 100	<100 ✓	ug/L
AsT	189.1	200		ug/L
AuT	495.1	50		ug/L
B	220.1	100		ug/L
B T	220.3	100		ug/L
BaT	190.1	10		ug/L
BeT	191.1	10		ug/L
CaC	194.7	1.2		mg/L
CaT	194.1	0.50		mg/L
CdT	193.1	10		ug/L
CoT	197.1	10		ug/L
CrT	196.1	50		ug/L
CuT	198.1	10		ug/L
FeT	199.1	100		ug/L
GaT	1735.1	50		ug/L
GeT	1736.1	100		ug/L
HD	1226.1	3.3		mg/L

		ODL	Reported Conc.	Unit
InT	638.1	20000		ug/L
K T	206.1	0.50		mg/L
KL	1893.1	0.50		mg/L
LiT	216.1	20		ug/L
MgC	201.6	2.1		mg/L
MgT	201.1	0.50		mg/L
MnT	202.1	10		ug/L
MoT	219.1	100		ug/L
NaT	209.1	0.50		mg/L
NiT	205.1	10		ug/L
P T	407.1	250		ug/L
PbT	200.1	50		ug/L
S T	448.1	200		ug/L
SbT	188.1	200		ug/L
SeT	207.1	100		ug/L
SiT	221.1	500		ug/L
SnT	218.1	1000		ug/L
SrT	217.1	50		ug/L

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Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
185994	20-MAY-02	KLVM	1	YES	YES	ICP/EPA/WW	WW	EPA-200.7	40	1	1	1	8	8

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc		Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	05/20/02	KLVM		WATER	200		4997		5000	ALUMINUM, TOTAL	ICV- 1	100	90	110				EPA-200.7/6010B
v	2.000	-	-	05/20/02	KLVM		WATER	100		<100			ALUMINUM, TOTAL	ICB- 1	0						EPA-200.7/6010B
v	3.000	-	185858-117	05/20/02	KLVM		SOIL	7.8		<7.8	U		ALUMINUM, TOTAL	MPB- 1	0						USEPA-6010B
v	4.000	-	185858-117	05/20/02	KLVM		SOIL	7.8		241.6		250	ALUMINUM, TOTAL	LFB- 1	97	78	123				USEPA-6010B
v	5.000	-	-	05/20/02	KLVM		WATER	100		<100			ALUMINUM, TOTAL	BLK- 1	0						EPA-200.7/6010B
v	6.000	-	-	05/20/02	KLVM		WATER	200		956		1000	ALUMINUM, TOTAL	LCS- 1	96	90	110				EPA-200.7/6010B
v	7.000	-	-	05/20/02	KLVM		WATER	200		1012		1000	ALUMINUM, TOTAL	IEC- 1	101	80	120				EPA-200.7/6010B
v	8.000	-	-	05/20/02	KLVM		WATER	164		164		200	ALUMINUM, TOTAL	CRL- 1	82	-32	283				EPA-200.7/6010B
v	9.000	-	-	05/20/02	KLVM		WATER	200		2523		2500	ALUMINUM, TOTAL	CCV- 1	101	90	110				EPA-200.7/6010B
v	10.000	-	-	05/20/02	KLVM		WATER	100		<100			ALUMINUM, TOTAL	CCB- 1	0						EPA-200.7/6010B
v	11.000	-	185858-117	05/20/02	KLVM	305336	SOIL	7.8		7940			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	12.000	-	185858-117	05/20/02	KLVM	305337	SOIL	7.8		5200			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	13.000	-	185858-117	05/20/02	KLVM	305338	SOIL	7.8		5300			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	14.000	-	185858-117	05/20/02	KLVM	305339	SOIL	7.8		5380			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	15.000	-	185858-117	05/20/02	KLVM	305340	SOIL	7.8		3540			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	16.000	-	185858-117	05/20/02	KLVM	305341	SOIL	7.8		2380			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	17.000	-	185858-117	05/20/02	KLVM	305342	SOIL	7.8		1780			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	18.000	- 17	185858-117	05/20/02	KLVM	305342	SOIL	7.8	1780	1730			ALUMINUM, TOTAL	DUP- 1	3		20				USEPA-6010B
v	19.000	-	-	05/20/02	KLVM		WATER	100		<100			ALUMINUM, TOTAL	CCB- 2	0						EPA-200.7/6010B
v	20.000	-	-	05/20/02	KLVM		WATER	200		2500		2500	ALUMINUM, TOTAL	CCV- 2	100	90	110				EPA-200.7/6010B
v	21.000	-	185858-117	05/20/02	KLVM	305343	SOIL	7.8		2210			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	22.000	-	185858-117	05/20/02	KLVM	305344	SOIL	7.8		2210			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	23.000	-	185858-117	05/20/02	KLVM	305345	SOIL	7.8		1350			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	24.000	-	185857-117	05/20/02	KLVM		SOIL	7.8		<7.8	U		ALUMINUM, TOTAL	MPB- 1	0						USEPA-6010B
v	25.000	-	185857-117	05/20/02	KLVM		SOIL	7.8		249.2		250	ALUMINUM, TOTAL	LFB- 1	100	78	123				USEPA-6010B
v	26.000	-	185857-117	05/20/02	KLVM	305316	SOIL	7.8		9770			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	27.000	-	-	05/20/02	KLVM		WATER	100		<100			ALUMINUM, TOTAL	CCB- 3	0						EPA-200.7/6010B
v	28.000	-	-	05/20/02	KLVM		WATER	200		2531		2500	ALUMINUM, TOTAL	CCV- 3	101	90	110				EPA-200.7/6010B
v	29.000	-	185857-117	05/20/02	KLVM	305317	SOIL	7.8		13500			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	30.000	-	185857-117	05/20/02	KLVM	305318	SOIL	7.8		7440			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	31.000	-	185857-117	05/20/02	KLVM	305319	SOIL	7.8		10600			ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	32.000	-	185857-117	05/20/02	KLVM	305320	SOIL	7.8		12400			ALUMINUM, TOTAL	REG- 1							USEPA-6010B

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	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	33.000	-	185857-117	05/20/02	KLVM	305321	SOIL	7.8		13300		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	34.000	-	185857-117	05/20/02	KLVM	305322	SOIL	7.8		10700		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	35.000	-	185857-117	05/20/02	KLVM	305323	SOIL	7.8		17300		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	36.000	-	185857-117	05/20/02	KLVM	305324	SOIL	7.8		2570		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	37.000	-	185857-117	05/20/02	KLVM	305325	SOIL	7.8		2780		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	38.000	-	-	05/20/02	KLVM		WATER	100		<100		ALUMINUM, TOTAL	CCB- 4	0						EPA-200.7/6010B
v	39.000	-	-	05/20/02	KLVM		WATER	200		2534	2500	ALUMINUM, TOTAL	CCV- 4	101	90	110				EPA-200.7/6010B
v	40.000	-	185857-117	05/20/02	KLVM	305326	SOIL	7.8		2960		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	41.000	-	185857-117	05/20/02	KLVM	305327	SOIL	7.8		1140		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	42.000	-	185857-117	05/20/02	KLVM	305328	SOIL	7.8		2160		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	43.000	-	185857-117	05/20/02	KLVM	305329	SOIL	7.8		1940		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	44.000	-	185857-117	05/20/02	KLVM	305330	SOIL	7.8		5120		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	45.000	-	185857-117	05/20/02	KLVM	305331	SOIL	7.8		4200		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	46.000	-	-	05/20/02	KLVM		WATER	100		<100		ALUMINUM, TOTAL	CCB- 5	0						EPA-200.7/6010B
v	47.000	-	-	05/20/02	KLVM		WATER	200		2488	2500	ALUMINUM, TOTAL	CCV- 5	100	90	110				EPA-200.7/6010B
v	48.000	-	185857-117	05/20/02	KLVM	305332	SOIL	7.8		2200		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	49.000	-	185857-117	05/20/02	KLVM	305333	SOIL	7.8		2620		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	50.000	-	185857-117	05/20/02	KLVM	305334	SOIL	7.8		4590		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	51.000	-	185857-117	05/20/02	KLVM	305335	SOIL	7.8		3480		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	52.000	- 51	185857-117	05/20/02	KLVM	305335	SOIL	7.8	3480	3790		ALUMINUM, TOTAL	DUP- 1	9		20				USEPA-6010B
v	53.000	-	185802-116	05/20/02	KLVM		SOIL	7.8		<7.8	U	ALUMINUM, TOTAL	MPB- 1	0						USEPA-6010B
v	54.000	-	185802-116	05/20/02	KLVM		SOIL	10		226.3	250	ALUMINUM, TOTAL	LFB- 1	91	78	123				USEPA-6010B
v	55.000	-	-	05/20/02	KLVM		WATER	200		2529	2500	ALUMINUM, TOTAL	CCV- 6	101	90	110				EPA-200.7/6010B
v	56.000	-	-	05/20/02	KLVM		WATER	100		<100		ALUMINUM, TOTAL	CCB- 6	0						EPA-200.7/6010B
v	57.000	-	185802-116	05/20/02	KLVM	305052	SOIL	7.8		1820		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	58.000	- 57	185802-116	05/20/02	KLVM	305052	SOIL	7.8	1820	1880		ALUMINUM, TOTAL	DUP- 1	3		20				USEPA-6010B
v	59.000	-	185802-116	05/20/02	KLVM	305053	SOIL	7.8		927		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	60.000	-	185802-116	05/20/02	KLVM	305054	SOIL	7.8		1200		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	61.000	-	185802-116	05/20/02	KLVM	305055	SOIL	7.8		1480		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	62.000	-	-	05/20/02	KLVM		WATER	100		<100		ALUMINUM, TOTAL	CCB- 7	0						EPA-200.7/6010B
v	63.000	-	-	05/20/02	KLVM		WATER	200		2504	2500	ALUMINUM, TOTAL	CCV- 7	100	90	110				EPA-200.7/6010B
v	64.000	-	185802-116	05/20/02	KLVM	305056	SOIL	7.8		1190		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	65.000	-	185802-116	05/20/02	KLVM	305057	SOIL	7.8		1860		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	66.000	-	185802-116	05/20/02	KLVM	305058	SOIL	7.8		1920		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	67.000	-	185802-116	05/20/02	KLVM	305059	SOIL	7.8		893		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	68.000	-	185802-116	05/20/02	KLVM	305060	SOIL	7.8		967		ALUMINUM, TOTAL	REG- 1							USEPA-6010B
v	69.000	-	185802-116	05/20/02	KLVM	305061	SOIL	7.8		1280		ALUMINUM, TOTAL	REG- 1							USEPA-6010B

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	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	70.000	-	-	05/20/02	KLVM		WATER	169		169	200	ALUMINUM, TOTAL	CRL- 2	85	-32	283				EPA-200.7/6010B
v	71.000	-	-	05/20/02	KLVM		WATER	200		1050	1000	ALUMINUM, TOTAL	IEC- 2	105	80	120				EPA-200.7/6010B
v	72.000	-	-	05/20/02	KLVM		WATER	200		2533	2500	ALUMINUM, TOTAL	CCV- 8	101	90	110				EPA-200.7/6010B
v	73.000	-	-	05/20/02	KLVM		WATER	100		<100		ALUMINUM, TOTAL	CCB- 8	0						EPA-200.7/6010B

Result Qualifiers

70 Matrix QC results (SPK and MSD) for this sample, QC batch, matrix and analysis are unavailable due to high analyte concentrations.

Batch	Sequence	Sample	Common name	Ref cit	Application	Entered	Analyst
185994	17.000	305342	ALUMINUM, TOTAL	USEPA-6010B	SOIL	21-MAY-02	KLVM
185994	37.000	305325	ALUMINUM, TOTAL	USEPA-6010B	SOIL	21-MAY-02	KLVM
185994	51.000	305335	ALUMINUM, TOTAL	USEPA-6010B	SOIL	21-MAY-02	KLVM
185994	57.000	305052	ALUMINUM, TOTAL	USEPA-6010B	SOIL	21-MAY-02	KLVM

TriMatrix Laboratories, Inc.

ICP / ICP-MS

Date: 5-20-02
Data File: Y20502-A1
Analyst: KW
Std#: MC9.8.11
CCV#: MC9.8.3

LCS 1 ID: _____ /Conc.: _____
LCS 2 ID: _____ /Conc.: _____
LCS 3 ID: _____ /Conc.: _____
CCV Conc.: _____
Instrument ID: _____

Restandardized _____ at _____ AM/PM

Std's:

S1 _____ S2 _____ S3 _____ S4 _____
S5 _____ S6 _____ S7 _____ S8 _____

MDL = 2.332

9. _____ x _____
10. _____ x _____
11. _____ x _____
12. _____ x _____
13. _____ x _____
14. _____ x _____
15. _____ x _____
16. _____ x _____

x 3.333 =
7.77

Analysis Number			*Analysis Number*			*Analysis Number*		
1.	17 MPB-185858	x	32.	48. Sd 0.4996	x	63.	79. 305058 0.4996	x
2.	18. LFB	x	33.	49. L	x	64.	80. 59 0.4995	x
3.	19. 305336	x 0.5004	34.	50. PDS	x	65.	81. 60 0.5004	x
4.	20. 305337 0.5005	x	35.	51. 305326 0.4996	x	66.	82. 61 0.5001	x
5.	21. 38 0.5004	x	36.	52. 27 0.5001	x	67.	83.	x
6.	22. 39 0.4998	x	37.	53. 28 0.4996	x	68.	84.	x
7.	23. 40 0.5004	x	38.	54. 29 0.5005	x	69.	85.	x
8.	24. 41 0.4998	x	39.	55. 305330 0.5002	x	70.	86.	x
9.	25. 42 0.4997	x	40.	56. 31 0.5000	x	71.	87.	x
10.	26. d 0.5002	x	41.	57. 32 0.4995	x	72.	88.	x
11.	27. S 0.5004	x	42.	58. 33 0.5001	x	73.	89.	x
12.	28. Sd 0.5005	x	43.	59. 34 0.5001	x	74.	90.	x
13.	29. L	x	44.	60. 35 0.4999	x	75.	91.	x
14.	30. PDS	x	45.	61. d 0.4999	x	76.	92.	x
15.	31. 305343 0.5005	x	46.	62. S 0.5001	x	77.	93.	x
16.	32. 44 0.5004	x	47.	63. Sd 0.5003	x	78.	94.	x
17.	33. 45 0.5004	x	48.	64. L	x	79.	95.	x
18.	34. MPB 185857	x	49.	65. PDS	x	80.	96.	x
19.	35. LFB	x	50.	66. MPB-185862	x	81.	97.	x
20.	36. 305316 0.4998	x	51.	67. LFB	x	82.	98.	x
21.	37. 17 0.5000	x	52.	68. 305052 0.4999	x	83.	99.	x
22.	38. 18 0.5002	x	53.	69. d 0.4996	x	84.	100.	x
23.	39. 19 0.5002	x	54.	70. S 0.5003	x	85.	101.	x
24.	40. 20 0.5001	x	55.	71. SD 0.4997	x	86.	102.	x
25.	41. 21 0.4995	x	56.	72. L	x	87.	103.	x
26.	42. 22 0.5002	x	57.	73. PDS	x	88.	104.	x
27.	43. 23 0.4998	x	58.	74. 305053 0.5002	x	89.	105.	x
28.	44. 24 0.4995	x	59.	75. 54 0.5001	x	90.	106.	x
29.	45. 25 0.5002	x	60.	76. 55 0.4999	x			
30.	46. d 0.5005	x	61.	77. 56 0.5004	x			
31.	47. S 0.4996	x	62.	78. 57 0.4997	x			

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Method - SOL_MULTI_101
SIF File - y20so-a1

Seq #	A/S Loc	ID	Category
1	1	IS Init	IS Init.
2	1	Calib Blank 1	Calib Blank
3	2	STD 1	Calib Std.
4	3	STD 2	Calib Std.
5	4	STD 3	Calib Std.
6	5	STD 4	Calib Std.
7	5	ICV	QC
8	9	LCS	QC
9	1	ICB	QC
10	10	CRDL	QC
11	11	IEC-1A	QC
12	12	IEC-2A	QC
13	13	IEC-1	QC
14	14	IEC-2	QC
15	4	CCV	QC
16	1	CCB	QC
17	17	mpb-185858	Sample
18	18	lfb-185858	Sample
19	19	305336	Sample
20	20	305337	Sample
21	21	305338	Sample
22	22	305339	Sample
23	23	305340	Sample
24	24	305341	Sample
25	25	305342	Sample
26	26	305342d	Sample
27	4	CCV	QC
28	1	CCB	QC
29	27	305342s	Sample
30	28	305342sd	Sample
31	29	3053421	Sample
32	30	305342pds	Sample
33	31	305343	Sample
34	32	305344	Sample
35	33	305345	Sample
36	34	mpb-185857	Sample
37	35	lfb-185857	Sample
38	36	305316	Sample
39	4	CCV	QC
40	1	CCB	QC
41	37	305317	Sample
42	38	305318	Sample
43	39	305319	Sample
44	40	305320	Sample
45	41	305321	Sample
46	42	305322	Sample
47	43	305323	Sample
48	44	305324	Sample
49	45	305325	Sample
50	46	305325d	Sample
51	4	CCV	QC
52	1	CCB	QC
53	47	305325s	Sample
54	48	305325sd	Sample
55	49	3053251	Sample
56	50	305325pds	Sample
57	51	305326	Sample
58	52	305327	Sample
59	53	305328	Sample
60	54	305329	Sample
61	55	305330	Sample
62	56	305331	Sample
63	4	CCV	QC

Calibration Summary
Method: SOL_MULTI_101 Date: 5/20/02 13:52:40

Element	Stds	Equation	Intercept	Slope	Curvature	Corr. Coeff.

Method: SOL_MULTI_101 IEC: IEC-17C.IEC MSF:
Results: y20so-a1 Spectra Stored: Yes Method Stored: Yes
Sample Info: y20so-a1 User: User1 Date: 5/20/02 13:52:40
Method Description: SOIL MULTI POINT CURVE

Replicate Data
ID: IS Init Date: 5/20/02 13:54:06

Repl#	Element	Net Intensity	Corrected Intensity
1	Sc 357.253	520927.1	520927.1
1	Y 360.064	263972.3	263972.3
2	Sc 357.253	525563.6	525563.6
2	Y 360.064	266430.7	266430.7

Mean Data
ID: IS Init Seq. No.: 1 A/S Pos: 1
Data: Original Date: 5/20/02 13:54:06

Element	Mean Corr. Intensity	Std.Dev.	RSD
Sc 357.253	523245.4	3278.50	0.63%
Y 360.064	265201.5	1738.35	0.66%

Replicate Data
ID: Calib Blank 1 Date: 5/20/02 13:54:57

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units
1	Sc 357.253	513778.8	513778.8	98	mg/kg
1	Y 360.064	261953.8	261953.8	99	mg/kg
1	Ag 328.068	113.3	115.4	0	mg/L
1	Al 396.140	-117.0	-119.1	0	mg/L
1	As 188.979	-7.2	-7.3	0	mg/L
1	B 249.773	1096.7	1116.9	0	mg/L
1	Ba 455.403	776.7	791.0	0	mg/L
1	Be 234.861	-8.7	-8.8	0	mg/L
1	Ca 315.887	697.5	710.4	0	mg/L
1	Cd 214.438	-70.2	-71.5	0	mg/L
1	Co 228.616	16.5	16.8	0	mg/L
1	Cr 205.558	19.3	19.6	0	mg/L
1	Cu 324.764	-71.5	-72.8	0	mg/L
1	Fe 238.204	135.5	138.0	0	mg/L
1	K 766.514	-2706.0	-2755.8	0	mg/L
1	Li 670.781	-122.9	-125.2	0	mg/L
1	Mg 279.074	17.3	17.6	0	mg/L
1	Mn 257.610	-51.9	-52.8	0	mg/L
1	Mo 202.031	36.4	37.1	0	mg/L
1	Na 588.995	72778.2	74119.1	0	mg/L
1	Ni 231.603	9.8	9.9	0	mg/L
1	P 178.221	0.5	0.5	0	mg/L
1	Pb 220.353	4.7	4.8	0	mg/L
1	Sb 206.833	-38.1	-38.8	0	mg/L
1	Se 196.026	1.5	1.5	0	mg/L
1	Si 251.611	666.8	679.1	0	mg/L
1	Sn 189.933	73.2	74.6	0	mg/L
1	Sr 407.771	-1918.4	-1953.8	0	mg/L
1	Ti 334.941	663.0	675.2	0	mg/L
1	Tl 190.800	-0.3	-0.3	0	mg/L
1	V 292.402	-31.8	-32.4	0	mg/L

1 Zn 206.200	15.1	15.4	0 mg/L
2 Sc 357.253	522530.8	522530.8	100 mg/kg
2 Y 360.064	266334.4	266334.4	100 mg/kg
2 Ag 328.068	153.8	154.0	0 mg/L
2 Al 396.140	-73.8	-73.9	0 mg/L
2 As 188.979	-1.8	-1.8	0 mg/L
2 B 249.773	1109.7	1111.2	0 mg/L
2 Ba 455.403	784.5	785.6	0 mg/L
2 Be 234.861	-30.4	-30.4	0 mg/L
2 Ca 315.887	787.2	788.3	0 mg/L
2 Cd 214.438	-77.5	-77.6	0 mg/L
2 Co 228.616	3.2	3.3	0 mg/L
2 Cr 205.558	23.9	23.9	0 mg/L
2 Cu 324.764	-58.0	-58.1	0 mg/L
2 Fe 238.204	149.2	149.4	0 mg/L
2 K 766.514	-2813.5	-2817.3	0 mg/L
2 Li 670.781	48.3	48.4	0 mg/L
2 Mg 279.074	30.8	30.8	0 mg/L
2 Mn 257.610	-38.1	-38.2	0 mg/L
2 Mo 202.031	36.1	36.2	0 mg/L
2 Na 588.995	73263.2	73363.4	0 mg/L
2 Ni 231.603	-9.4	-9.4	0 mg/L
2 P 178.221	3.5	3.5	0 mg/L
2 Pb 220.353	-1.0	-1.0	0 mg/L
2 Sb 206.833	-57.7	-57.8	0 mg/L
2 Se 196.026	-1.7	-1.7	0 mg/L
2 Si 251.611	655.0	655.9	0 mg/L
2 Sn 189.933	73.6	73.7	0 mg/L
2 Sr 407.771	-1876.9	-1879.5	0 mg/L
2 Ti 334.941	771.6	772.6	0 mg/L
2 Tl 190.800	-0.7	-0.7	0 mg/L
2 V 292.402	-57.6	-57.7	0 mg/L
2 Zn 206.200	11.5	11.5	0 mg/L

Mean Data ----------

ID: Calib Blank 1 Seq. No.: 2 A/S Pos: 1

Data: Original Date: 5/20/02 13:54:57

Element	Mean Corr. Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 357.253	518154.8	6188.61	1.19%	99	mg/kg
Y 360.064	264144.1	3097.53	1.17%	100	mg/kg
Ag 328.068	134.7	27.26	20.24%	0	mg/L
Al 396.140	-96.5	31.93	33.08%	0	mg/L
As 188.979	-4.5	3.90	86.02%	0	mg/L
B 249.773	1114.1	4.03	0.36%	0	mg/L
Ba 455.403	788.3	3.80	0.48%	0	mg/L
Be 234.861	-19.6	15.25	77.73%	0	mg/L
Ca 315.887	749.3	55.09	7.35%	0	mg/L
Cd 214.438	-74.5	4.27	5.73%	0	mg/L
Co 228.616	10.0	9.57	95.51%	0	mg/L
Cr 205.558	21.8	3.02	13.89%	0	mg/L
Cu 324.764	-65.4	10.37	15.85%	0	mg/L
Fe 238.204	143.7	8.09	5.63%	0	mg/L
K 766.514	-2786.6	43.46	1.56%	0	mg/L
Li 670.781	-38.4	122.71	319.41%	0	mg/L
Mg 279.074	24.2	9.37	38.71%	0	mg/L
Mn 257.610	-45.5	10.39	22.84%	0	mg/L
Mo 202.031	36.6	0.64	1.75%	0	mg/L
Na 588.995	73741.3	534.40	0.72%	0	mg/L
Ni 231.603	0.2	13.62	>999.9%	0	mg/L
P 178.221	2.0	2.11	106.05%	0	mg/L
Pb 220.353	1.9	4.08	211.25%	0	mg/L
Sb 206.833	-48.3	13.45	27.85%	0	mg/L
Se 196.026	-0.1	2.25	>999.9%	0	mg/L
Si 251.611	667.5	16.41	2.46%	0	mg/L
Sn 189.933	74.1	0.64	0.86%	0	mg/L
Sr 407.771	-1916.6	52.54	2.74%	0	mg/L
Ti 334.941	723.9	68.89	9.52%	0	mg/L
Tl 190.800	-0.5	0.32	64.39%	0	mg/L
V 292.402	-45.1	17.85	39.63%	0	mg/L

Zn 206.200	13.5	2.75	20.44%	0 mg/L

Replicate Data
ID: STD 1 Date: 5/20/02 13:59:03

Repl#	Element	Net Intensity	Corrected Intensity	Conc.	Calib Units
1	Sc 357.253	536346.1	536346.1	103	mg/kg
1	Y 360.064	273455.0	273455.0	103	mg/kg
1	Ag 328.068	307.4	299.9	0.010	mg/L
1	Al 396.140	286.4	279.4	0.100	mg/L
1	As 188.979	1.3	1.3	0.100	mg/L
1	Ba 455.403	4804.9	4687.5	0.010	mg/L
1	Be 234.861	76.1	74.2	0.0010	mg/L
1	Ca 315.887	5902.6	5758.5	0.500	mg/L
1	Cd 214.438	-11.1	-10.8	0.010	mg/L
1	Co 228.616	23.4	22.9	0.010	mg/L
1	Cr 205.558	69.5	67.8	0.050	mg/L
1	Cu 324.764	225.3	219.8	0.010	mg/L
1	Fe 238.204	272.1	265.4	0.010	mg/L
1	K 766.514	-2611.1	-2547.3	0.100	mg/L
1	Li 670.781	2244.7	2189.9	0.020	mg/L
1	Mg 279.074	623.9	608.6	0.500	mg/L
1	Mn 257.610	697.4	680.4	0.010	mg/L
1	Na 588.995	83764.7	81718.7	0.500	mg/L
1	Ni 231.603	20.5	19.9	0.010	mg/L
1	P 178.221	5.8	5.7	0.250	mg/L
1	Pb 220.353	3.3	3.3	0.050	mg/L
1	Sb 206.833	-18.6	-18.1	0.100	mg/L
1	Se 196.026	14.2	13.9	0.100	mg/L
1	Si 251.611	1186.9	1157.9	0.100	mg/L
1	Sr 407.771	38781.6	37834.3	0.050	mg/L
1	Tl 190.800	3.3	3.2	0.100	mg/L
1	V 292.402	93.5	91.2	0.010	mg/L
1	Zn 206.200	32.2	31.4	0.010	mg/L
2	Sc 357.253	533058.2	533058.2	102	mg/kg
2	Y 360.064	271878.3	271878.3	103	mg/kg
2	Ag 328.068	353.3	346.8	0.010	mg/L
2	Al 396.140	214.6	210.7	0.100	mg/L
2	As 188.979	5.7	5.6	0.100	mg/L
2	Ba 455.403	4794.8	4706.5	0.010	mg/L
2	Be 234.861	73.8	72.5	0.0010	mg/L
2	Ca 315.887	5941.7	5832.3	0.500	mg/L
2	Cd 214.438	-31.2	-30.6	0.010	mg/L
2	Co 228.616	29.8	29.2	0.010	mg/L
2	Cr 205.558	75.0	73.6	0.050	mg/L
2	Cu 324.764	200.2	196.6	0.010	mg/L
2	Fe 238.204	261.0	256.2	0.010	mg/L
2	K 766.514	-2490.7	-2444.9	0.100	mg/L
2	Li 670.781	2431.7	2386.9	0.020	mg/L
2	Mg 279.074	644.1	632.2	0.500	mg/L
2	Mn 257.610	718.9	705.7	0.010	mg/L
2	Na 588.995	84045.6	82498.4	0.500	mg/L
2	Ni 231.603	8.1	7.9	0.010	mg/L
2	P 178.221	4.4	4.3	0.250	mg/L
2	Pb 220.353	22.2	21.8	0.050	mg/L
2	Sb 206.833	-19.4	-19.0	0.100	mg/L
2	Se 196.026	4.8	4.7	0.100	mg/L
2	Si 251.611	1219.2	1196.7	0.100	mg/L
2	Sr 407.771	38959.7	38242.5	0.050	mg/L
2	Tl 190.800	3.5	3.5	0.100	mg/L
2	V 292.402	104.8	102.9	0.010	mg/L
2	Zn 206.200	35.7	35.0	0.010	mg/L

Mean Data
ID: STD 1 Seq. No.: 3 A/S Pos: 2
Data: Original Date: 5/20/02 13:59:03

Element	Mean Corr. Intensity	Std.Dev.	RSD	Conc.	Calib Units

Sc 357.253	534702.1	2324.91	0.43%	102 mg/kg
Y 360.064	272666.6	1114.93	0.41%	103 mg/kg
Ag 328.068	323.3	33.17	10.26%	0.010 mg/L
Al 396.140	245.1	48.59	19.83%	0.100 mg/L
As 188.979	3.5	3.05	87.82%	0.100 mg/L
Ba 455.403	4697.0	13.46	0.29%	0.010 mg/L
Be 234.861	73.3	1.26	1.72%	0.0010 mg/L
Ca 315.887	5795.4	52.21	0.90%	0.500 mg/L
Cd 214.438	-20.7	14.02	67.73%	0.010 mg/L
Co 228.616	26.0	4.50	17.27%	0.010 mg/L
Cr 205.558	70.7	4.10	5.79%	0.050 mg/L
Cu 324.764	208.2	16.44	7.90%	0.010 mg/L
Fe 238.204	260.8	6.53	2.50%	0.010 mg/L
K 766.514	-2496.1	72.42	2.90%	0.100 mg/L
Li 670.781	2288.4	139.32	6.09%	0.020 mg/L
Mg 279.074	620.4	16.68	2.69%	0.500 mg/L
Mn 257.610	693.0	17.90	2.58%	0.010 mg/L
Na 588.995	82108.6	551.34	0.67%	0.500 mg/L
Ni 231.603	13.9	8.48	60.99%	0.010 mg/L
P 178.221	5.0	0.97	19.47%	0.250 mg/L
Pb 220.353	12.5	13.13	104.65%	0.050 mg/L
Sb 206.833	-18.6	0.64	3.46%	0.100 mg/L
Se 196.026	9.3	6.50	69.86%	0.100 mg/L
Si 251.611	1177.3	27.46	2.33%	0.100 mg/L
Sr 407.771	38038.4	288.63	0.76%	0.050 mg/L
Tl 190.800	3.3	0.17	5.24%	0.100 mg/L
V 292.402	97.1	8.25	8.50%	0.010 mg/L
Zn 206.200	33.2	2.54	7.64%	0.010 mg/L

Replicate Data ---------- Date: 5/20/02 14:03:09
ID: STD 2

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units
1	Sc 357.253	533570.9	533570.9	102	mg/kg
1	Y 360.064	271900.8	271900.8	103	mg/kg
1	Ag 328.068	2062.3	2022.4	0.100	mg/L
1	Al 396.140	1465.3	1437.0	0.500	mg/L
1	As 188.979	65.0	63.7	0.500	mg/L
1	B 249.773	1980.1	1941.8	0.100	mg/L
1	Ba 455.403	37924.2	37190.3	0.100	mg/L
1	Be 234.861	984.8	965.7	0.010	mg/L
1	Ca 315.887	10914.5	10703.3	1.00	mg/L
1	Cd 214.438	483.2	473.9	0.100	mg/L
1	Co 228.616	369.1	361.9	0.100	mg/L
1	Cr 205.558	132.7	130.1	0.100	mg/L
1	Cu 324.764	1549.3	1519.3	0.100	mg/L
1	Fe 238.204	1087.6	1066.6	0.100	mg/L
1	K 766.514	-165.3	-162.1	1.00	mg/L
1	Li 670.781	12001.6	11769.3	0.100	mg/L
1	Mg 279.074	1201.7	1178.5	1.00	mg/L
1	Mn 257.610	7832.7	7681.2	0.100	mg/L
1	Mo 202.031	109.5	107.4	0.100	mg/L
1	Na 588.995	92533.0	90742.3	1.00	mg/L
1	Ni 231.603	206.8	201.7	0.100	mg/L
1	P 178.221	7.4	7.2	0.500	mg/L
1	Pb 220.353	25.9	25.4	0.100	mg/L
1	Sb 206.833	47.3	46.4	0.500	mg/L
1	Se 196.026	43.3	42.5	0.500	mg/L
1	Si 251.611	2681.6	2629.7	0.500	mg/L
1	Sn 189.933	157.2	154.2	0.500	mg/L
1	Sr 407.771	83040.0	81433.1	0.100	mg/L
1	Ti 334.941	10996.4	10783.6	0.100	mg/L
1	Tl 190.800	20.5	20.1	0.500	mg/L
1	V 292.402	1304.4	1279.2	0.100	mg/L
1	Zn 206.200	212.5	208.4	0.100	mg/L
2	Sc 357.253	534897.7	534897.7	102	mg/kg
2	Y 360.064	272726.9	272726.9	103	mg/kg
2	Ag 328.068	2069.1	2024.0	0.100	mg/L
2	Al 396.140	1449.9	1418.3	0.500	mg/L

2 As 188.979	60.7	59.4	0.500 mg/L
2 B 249.773	1966.1	1923.3	0.100 mg/L
2 Ba 455.403	37821.9	36997.9	0.100 mg/L
2 Be 234.861	1005.7	983.8	0.010 mg/L
2 Ca 315.887	10948.2	10709.7	1.00 mg/L
2 Cd 214.438	492.9	482.2	0.100 mg/L
2 Co 228.616	390.7	382.2	0.100 mg/L
2 Cr 205.558	122.8	120.1	0.100 mg/L
2 Cu 324.764	1549.1	1515.3	0.100 mg/L
2 Fe 238.204	1074.2	1050.8	0.100 mg/L
2 K 766.514	-241.3	-236.1	1.00 mg/L
2 Li 670.781	12119.7	11855.7	0.100 mg/L
2 Mg 279.074	1233.6	1206.8	1.00 mg/L
2 Mn 257.610	7843.2	7672.4	0.100 mg/L
2 Mo 202.031	109.9	107.5	0.100 mg/L
2 Na 588.995	92773.2	90752.2	1.00 mg/L
2 Ni 231.603	195.5	190.1	0.100 mg/L
2 P 178.221	13.1	12.8	0.500 mg/L
2 Pb 220.353	36.9	36.1	0.100 mg/L
2 Sb 206.833	41.9	41.0	0.500 mg/L
2 Se 196.026	40.3	39.4	0.500 mg/L
2 Si 251.611	2701.0	2642.1	0.500 mg/L
2 Sn 189.933	161.4	157.9	0.500 mg/L
2 Sr 407.771	83676.0	81853.2	0.100 mg/L
2 Ti 334.941	10911.3	10673.6	0.100 mg/L
2 Tl 190.800	18.9	18.5	0.500 mg/L
2 V 292.402	1330.3	1301.3	0.100 mg/L
2 Zn 206.200	215.5	210.8	0.100 mg/L

Mean Data ----------
ID: STD 2 Seq. No.: 4 Data: Original A/S Pos: 3 Date: 5/20/02 14:03:09

Element	Mean Corr. Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 357.253	534234.3	938.21	0.18%	102	mg/kg
Y 360.064	272313.9	584.13	0.21%	103	mg/kg
Ag 328.068	2023.2	1.16	0.06%	0.100	mg/L
Al 396.140	1427.6	13.20	0.92%	0.500	mg/L
As 188.979	61.6	3.07	4.98%	0.500	mg/L
B 249.773	1932.5	13.06	0.68%	0.100	mg/L
Ba 455.403	37094.1	135.99	0.37%	0.100	mg/L
Be 234.861	974.8	12.79	1.31%	0.010	mg/L
Ca 315.887	10706.5	4.50	0.04%	1.00	mg/L
Cd 214.438	478.0	5.89	1.23%	0.100	mg/L
Co 228.616	372.1	14.32	3.85%	0.100	mg/L
Cr 205.558	125.1	7.09	5.67%	0.100	mg/L
Cu 324.764	1517.3	2.85	0.19%	0.100	mg/L
Fe 238.204	1058.7	11.18	1.06%	0.100	mg/L
K 766.514	-199.1	52.30	26.27%	1.00	mg/L
Li 670.781	11812.5	61.04	0.52%	0.100	mg/L
Mg 279.074	1192.6	20.02	1.68%	1.00	mg/L
Mn 257.610	7676.8	6.21	0.08%	0.100	mg/L
Mo 202.031	107.4	0.09	0.09%	0.100	mg/L
Na 588.995	90747.3	7.01	0.01%	1.00	mg/L
Ni 231.603	195.9	8.21	4.19%	0.100	mg/L
P 178.221	10.0	3.93	39.25%	0.500	mg/L
Pb 220.353	30.8	7.58	24.62%	0.100	mg/L
Sb 206.833	43.7	3.82	8.75%	0.500	mg/L
Se 196.026	41.0	2.16	5.29%	0.500	mg/L
Si 251.611	2635.9	8.75	0.33%	0.500	mg/L
Sn 189.933	156.1	2.63	1.68%	0.500	mg/L
Sr 407.771	81643.1	297.06	0.36%	0.100	mg/L
Ti 334.941	10728.6	77.76	0.72%	0.100	mg/L
Tl 190.800	19.3	1.14	5.91%	0.500	mg/L
V 292.402	1290.2	15.66	1.21%	0.100	mg/L
Zn 206.200	209.6	1.71	0.82%	0.100	mg/L

Replicate Data ---------- Date: 5/20/02 14:07:18
ID: STD 3

	Net	Corrected	Calib

Repl#	Element	Intensity	Intensity	Conc.	Units
1	Sc 357.253	533924.3	533924.3	102	mg/kg
1	Y 360.064	271892.8	271892.8	103	mg/kg
1	Ag 328.068	11628.6	11396.0	0.500	mg/L
1	Al 396.140	7882.5	7724.8	2.500	mg/L
1	As 188.979	323.2	316.8	2.500	mg/L
1	B 249.773	5610.8	5498.6	0.500	mg/L
1	Ba 455.403	190277.2	186471.5	0.500	mg/L
1	Be 234.861	4940.0	4841.2	0.050	mg/L
1	Ca 315.887	51086.1	50064.4	5.00	mg/L
1	Cd 214.438	2716.0	2661.6	0.500	mg/L
1	Co 228.616	1850.9	1813.9	0.500	mg/L
1	Cr 205.558	541.1	530.2	0.500	mg/L
1	Cu 324.764	7918.8	7760.4	0.500	mg/L
1	Fe 238.204	4685.2	4591.5	0.500	mg/L
1	K 766.514	10398.7	10190.7	5.00	mg/L
1	Li 670.781	63231.9	61967.2	0.500	mg/L
1	Mg 279.074	6250.5	6125.5	5.00	mg/L
1	Mn 257.610	38771.2	37995.7	0.500	mg/L
1	Mo 202.031	383.7	376.0	0.500	mg/L
1	Na 588.995	160046.3	156845.2	5.00	mg/L
1	Ni 231.603	992.2	967.8	0.500	mg/L
1	P 178.221	52.0	50.9	2.500	mg/L
1	Pb 220.353	139.8	137.0	0.500	mg/L
1	Sb 206.833	379.5	371.9	2.500	mg/L
1	Se 196.026	183.8	180.1	2.500	mg/L
1	Si 251.611	10957.7	10738.5	2.500	mg/L
1	Sn 189.933	498.7	488.8	2.500	mg/L
1	Sr 407.771	412269.6	404023.8	0.500	mg/L
1	Ti 334.941	51054.3	50033.2	0.500	mg/L
1	Tl 190.800	95.4	93.5	2.500	mg/L
1	V 292.402	6972.4	6833.0	0.500	mg/L
1	Zn 206.200	1033.1	1012.5	0.500	mg/L
2	Sc 357.253	535793.5	535793.5	102	mg/kg
2	Y 360.064	272892.1	272892.1	103	mg/kg
2	Ag 328.068	11589.9	11318.5	0.500	mg/L
2	Al 396.140	7824.0	7640.8	2.500	mg/L
2	As 188.979	315.4	308.0	2.500	mg/L
2	B 249.773	5603.2	5471.9	0.500	mg/L
2	Ba 455.403	191821.3	187328.9	0.500	mg/L
2	Be 234.861	4934.6	4819.0	0.050	mg/L
2	Ca 315.887	50868.9	49677.5	5.00	mg/L
2	Cd 214.438	2701.4	2638.1	0.500	mg/L
2	Co 228.616	1834.4	1791.4	0.500	mg/L
2	Cr 205.558	550.1	537.3	0.500	mg/L
2	Cu 324.764	7900.8	7715.8	0.500	mg/L
2	Fe 238.204	4732.2	4621.4	0.500	mg/L
2	K 766.514	10398.1	10154.6	5.00	mg/L
2	Li 670.781	63856.6	62361.1	0.500	mg/L
2	Mg 279.074	6181.8	6037.1	5.00	mg/L
2	Mn 257.610	38665.1	37759.5	0.500	mg/L
2	Mo 202.031	386.4	377.3	0.500	mg/L
2	Na 588.995	160569.9	156809.4	5.00	mg/L
2	Ni 231.603	1009.3	980.9	0.500	mg/L
2	P 178.221	55.0	53.7	2.500	mg/L
2	Pb 220.353	157.7	154.0	0.500	mg/L
2	Sb 206.833	388.4	379.3	2.500	mg/L
2	Se 196.026	191.4	186.9	2.500	mg/L
2	Si 251.611	11016.3	10758.3	2.500	mg/L
2	Sn 189.933	500.0	488.3	2.500	mg/L
2	Sr 407.771	415542.3	405810.4	0.500	mg/L
2	Ti 334.941	50752.5	49563.9	0.500	mg/L
2	Tl 190.800	99.4	97.1	2.500	mg/L
2	V 292.402	6948.9	6786.1	0.500	mg/L
2	Zn 206.200	1051.4	1026.7	0.500	mg/L

Mean Data ----------
ID: STD 3 Seq. No.: 5 Data: Original A/S Pos: 4 Date: 5/20/02 14:07:18

Element	Mean Corr. Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 357.253	534858.9	1321.68	0.25%	102	mg/kg
Y 360.064	272392.4	706.58	0.26%	103	mg/kg
Ag 328.068	11357.2	54.80	0.48%	0.500	mg/L
Al 396.140	7682.8	59.45	0.77%	2.500	mg/L
As 188.979	312.4	6.22	1.99%	2.500	mg/L
B 249.773	5485.3	18.85	0.34%	0.500	mg/L
Ba 455.403	186900.2	606.28	0.32%	0.500	mg/L
Be 234.861	4830.1	15.68	0.32%	0.050	mg/L
Ca 315.887	49870.9	273.51	0.55%	5.00	mg/L
Cd 214.438	2649.9	16.63	0.63%	0.500	mg/L
Co 228.616	1802.7	15.92	0.88%	0.500	mg/L
Cr 205.558	533.8	4.96	0.93%	0.500	mg/L
Cu 324.764	7738.1	31.55	0.41%	0.500	mg/L
Fe 238.204	4606.4	21.14	0.46%	0.500	mg/L
K 766.514	10172.6	25.51	0.25%	5.00	mg/L
Li 670.781	62164.2	278.51	0.45%	0.500	mg/L
Mg 279.074	6081.3	62.51	1.03%	5.00	mg/L
Mn 257.610	37877.6	166.98	0.44%	0.500	mg/L
Mo 202.031	376.7	0.95	0.25%	0.500	mg/L
Na 588.995	156827.3	25.28	0.02%	5.00	mg/L
Ni 231.603	974.3	9.24	0.95%	0.500	mg/L
P 178.221	52.3	1.99	3.80%	2.500	mg/L
Pb 220.353	145.5	12.06	8.29%	0.500	mg/L
Sb 206.833	375.6	5.24	1.40%	2.500	mg/L
Se 196.026	183.5	4.75	2.59%	2.500	mg/L
Si 251.611	10748.4	13.97	0.13%	2.500	mg/L
Sn 189.933	488.5	0.33	0.07%	2.500	mg/L
Sr 407.771	404917.1	1263.33	0.31%	0.500	mg/L
Ti 334.941	49798.6	331.83	0.67%	0.500	mg/L
Tl 190.800	95.3	2.53	2.65%	2.500	mg/L
V 292.402	6809.5	33.13	0.49%	0.500	mg/L
Zn 206.200	1019.6	10.10	0.99%	0.500	mg/L

Replicate Data ---------- Date: 5/20/02 14:11:30

ID: STD 4

Repl#	Element	Net Intensity	Corrected Intensity	Conc.	Calib Units
1	Sc 357.253	536417.5	536417.5	103	mg/kg
1	Y 360.064	271400.5	271400.5	102	mg/kg
1	Ag 328.068	19039.6	18572.1	1.000	mg/L
1	Al 396.140	15628.0	15244.3	5.000	mg/L
1	As 188.979	643.8	628.0	5.000	mg/L
1	B 249.773	10501.4	10243.5	1.000	mg/L
1	Ba 455.403	380925.7	371571.7	1.000	mg/L
1	Be 234.861	10271.7	10019.5	0.100	mg/L
1	Ca 315.887	100048.7	97591.9	10.00	mg/L
1	Cd 214.438	5430.7	5297.4	1.000	mg/L
1	Co 228.616	3653.9	3564.2	1.000	mg/L
1	Cr 205.558	1062.2	1036.1	1.000	mg/L
1	Cu 324.764	15677.6	15292.6	1.000	mg/L
1	Fe 238.204	9663.7	9426.4	1.000	mg/L
1	K 766.514	23611.4	23031.6	10.00	mg/L
1	Li 670.781	127754.4	124617.3	1.000	mg/L
1	Mg 279.074	12393.5	12089.2	10.00	mg/L
1	Mn 257.610	76211.4	74340.0	1.000	mg/L
1	Mo 202.031	728.1	710.2	1.000	mg/L
1	Na 588.995	247119.5	241051.3	10.00	mg/L
1	Ni 231.603	1982.5	1937.3	1.000	mg/L
1	P 178.221	108.1	105.5	5.000	mg/L
1	Pb 220.353	298.6	291.3	1.000	mg/L
1	Sb 206.833	798.3	778.7	5.000	mg/L
1	Se 196.026	372.5	363.4	5.000	mg/L
1	Si 251.611	20675.7	20168.0	5.000	mg/L
1	Sn 189.933	915.5	893.0	5.000	mg/L
1	Sr 407.771	830367.3	809977.0	1.000	mg/L
1	Ti 334.941	99322.4	96883.4	1.000	mg/L
1	Tl 190.800	191.2	186.5	5.000	mg/L
1	V 292.402	13877.5	13536.7	1.000	mg/L

1 Zn 206.200	2049.6	1999.3	1.000 mg/L
2 Sc 357.253	537586.3	537586.3	103 mg/kg
2 Y 360.064	272051.3	272051.3	103 mg/kg
2 Ag 328.068	19303.1	18788.2	1.000 mg/L
2 Al 396.140	15795.7	15374.3	5.000 mg/L
2 As 188.979	658.6	641.1	5.000 mg/L
2 B 249.773	10697.1	10411.8	1.000 mg/L
2 Ba 455.403	384406.9	374152.2	1.000 mg/L
2 Be 234.861	10390.0	10112.9	0.100 mg/L
2 Ca 315.887	101046.9	98351.3	10.00 mg/L
2 Cd 214.438	5442.9	5297.7	1.000 mg/L
2 Co 228.616	3667.0	3569.2	1.000 mg/L
2 Cr 205.558	1066.0	1037.5	1.000 mg/L
2 Cu 324.764	15780.5	15359.5	1.000 mg/L
2 Fe 238.204	9697.9	9439.2	1.000 mg/L
2 K 766.514	23802.1	23167.2	10.00 mg/L
2 Li 670.781	128706.3	125272.9	1.000 mg/L
2 Mg 279.074	12466.5	12133.9	10.00 mg/L
2 Mn 257.610	77013.6	74959.1	1.000 mg/L
2 Mo 202.031	735.5	715.8	1.000 mg/L
2 Na 588.995	247773.4	241163.6	10.00 mg/L
2 Ni 231.603	1995.1	1944.8	1.000 mg/L
2 P 178.221	106.4	103.6	5.000 mg/L
2 Pb 220.353	284.7	277.1	1.000 mg/L
2 Sb 206.833	802.3	780.9	5.000 mg/L
2 Se 196.026	377.0	366.9	5.000 mg/L
2 Si 251.611	20923.9	20365.7	5.000 mg/L
2 Sn 189.933	921.8	897.3	5.000 mg/L
2 Sr 407.771	837437.5	815097.6	1.000 mg/L
2 Ti 334.941	100521.9	97840.3	1.000 mg/L
2 Tl 190.800	190.9	185.8	5.000 mg/L
2 V 292.402	14032.4	13658.1	1.000 mg/L
2 Zn 206.200	2059.5	2004.6	1.000 mg/L

Mean Data ----------
ID: STD 4
Seq. No.: 6
Data: Original
A/S Pos: 5
Date: 5/20/02 14:11:30

Element	Mean Corr. Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 357.253	537001.9	826.45	0.15%	103	mg/kg
Y 360.064	271725.9	460.24	0.17%	102	mg/kg
Ag 328.068	18680.2	152.79	0.82%	1.000	mg/L
Al 396.140	15309.3	91.99	0.60%	5.000	mg/L
As 188.979	634.5	9.25	1.46%	5.000	mg/L
B 249.773	10327.6	119.00	1.15%	1.000	mg/L
Ba 455.403	372862.0	1824.69	0.49%	1.000	mg/L
Be 234.861	10066.2	66.04	0.66%	0.100	mg/L
Ca 315.887	97971.6	536.98	0.55%	10.00	mg/L
Cd 214.438	5297.6	0.25	0.00%	1.000	mg/L
Co 228.616	3566.7	3.52	0.10%	1.000	mg/L
Cr 205.558	1036.8	1.03	0.10%	1.000	mg/L
Cu 324.764	15326.1	47.32	0.31%	1.000	mg/L
Fe 238.204	9432.8	9.09	0.10%	1.000	mg/L
K 766.514	23099.4	95.84	0.41%	10.00	mg/L
Li 670.781	124945.1	463.56	0.37%	1.000	mg/L
Mg 279.074	12111.5	31.64	0.26%	10.00	mg/L
Mn 257.610	74649.5	437.80	0.59%	1.000	mg/L
Mo 202.031	713.0	4.00	0.56%	1.000	mg/L
Na 588.995	241107.5	79.45	0.03%	10.00	mg/L
Ni 231.603	1941.0	5.36	0.28%	1.000	mg/L
P 178.221	104.5	1.34	1.28%	5.000	mg/L
Pb 220.353	284.2	10.03	3.53%	1.000	mg/L
Sb 206.833	779.8	1.60	0.20%	5.000	mg/L
Se 196.026	365.1	2.51	0.69%	5.000	mg/L
Si 251.611	20266.8	139.78	0.69%	5.000	mg/L
Sn 189.933	895.1	2.97	0.33%	5.000	mg/L
Sr 407.771	812537.3	3620.81	0.45%	1.000	mg/L
Ti 334.941	97361.9	676.64	0.69%	1.000	mg/L
Tl 190.800	186.1	0.48	0.26%	5.000	mg/L
V 292.402	13597.4	85.83	0.63%	1.000	mg/L

Zn 206.200	2001.9	3.71	0.19%	1.000 mg/L

Calibration Summary — Date: 5/20/02 14:12:10
Method: SOL_MULTI_101

Element	Stds	Equation	Intercept	Slope	Curvature	Corr. Coeff.
Ag 328.068	4	Linear	385.1	19001.9	0.00000	0.994705
Al 396.140	4	Linear	-80.9	3083.1	0.00000	0.999985
As 188.979	4	Linear	-5.8	127.9	0.00000	0.999952
B 249.773	3	Linear	1024.7	9225.4	0.00000	0.999646
Ba 455.403	4	Linear	593.4	372282.5	0.00000	0.999996
Be 234.861	4	Linear	-50.2	100470.0	0.00000	0.999818
Ca 315.887	4	Linear	944.1	9719.6	0.00000	0.999987
Cd 214.438	4	Linear	-65.2	5376.7	0.00000	0.999974
Co 228.616	4	Linear	7.1	3566.4	0.00000	0.999970
Cr 205.558	4	Linear	22.3	1016.2	0.00000	0.999986
Cu 324.764	4	Linear	0.9	15354.0	0.00000	0.999965
Fe 238.204	4	Linear	125.4	9239.4	0.00000	0.999794
K 766.514	4	Linear	-2774.3	2587.7	0.00000	0.999999
Li 670.781	4	Linear	-324.9	125182.9	0.00000	0.999989
Mg 279.074	4	Linear	10.8	1210.7	0.00000	0.999994
Mn 257.610	4	Linear	97.2	74761.1	0.00000	0.999969
Mo 202.031	3	Linear	38.4	675.2	0.00000	0.999989
Na 588.995	4	Linear	73750.5	16713.9	0.00000	0.999991
Ni 231.603	4	Linear	-0.8	1943.6	0.00000	0.999992
P 178.221	4	Linear	0.5	20.8	0.00000	0.999773
Pb 220.353	4	Linear	1.3	284.0	0.00000	0.999858
Sb 206.833	4	Linear	-40.0	164.4	0.00000	0.999878
Se 196.026	4	Linear	2.1	72.6	0.00000	0.999941
Si 251.611	4	Linear	743.8	3923.1	0.00000	0.999895
Sn 189.933	3	Linear	74.8	164.3	0.00000	0.999986
Sr 407.771	4	Linear	-1570.5	813982.9	0.00000	0.999995
Ti 334.941	3	Linear	1015.3	96594.9	0.00000	0.999967
Tl 190.800	4	Linear	0.2	37.4	0.00000	0.999908
V 292.402	4	Linear	-47.6	13656.7	0.00000	0.999993
Zn 206.200	4	Linear	14.1	1992.2	0.00000	0.999979

Replicate Data — Date: 5/20/02 14:15:44
ID: ICV

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	534508.1	534508.1	102	mg/kg		
1	Y 360.064	270020.5	270020.5	102	mg/kg		
1	Ag 328.068	19307.1	18900.3	0.974	mg/L	974.4	mg/kg
1	Al 396.140	15876.1	15541.6	5.034	mg/L	5034	mg/kg
1	As 188.979	652.1	638.3	5.034	mg/L	5034	mg/kg
1	B 249.773	10607.3	10383.8	1.014	mg/L	1014	mg/kg
1	Ba 455.403	380867.5	372842.1	1.000	mg/L	999.9	mg/kg
1	Be 234.861	10438.9	10218.9	0.102	mg/L	102.2	mg/kg
1	Ca 315.887	101202.6	99070.1	10.10	mg/L	10100	mg/kg
1	Cd 214.438	5412.3	5298.3	0.995	mg/L	995.0	mg/kg
1	Co 228.616	3654.0	3577.0	1.001	mg/L	1001	mg/kg
1	Cr 205.558	1067.4	1044.9	1.006	mg/L	1006	mg/kg
1	Cu 324.764	15849.8	15515.9	1.010	mg/L	1010	mg/kg
1	Fe 238.204	9762.0	9556.3	1.021	mg/L	1021	mg/kg
1	K 766.514	23960.5	23455.6	10.14	mg/L	10140	mg/kg
1	Li 670.781	127551.9	124864.2	1.000	mg/L	1000	mg/kg
1	Mg 279.074	12546.5	12282.2	10.14	mg/L	10140	mg/kg
1	Mn 257.610	77246.0	75618.3	1.010	mg/L	1010	mg/kg
1	Mo 202.031	726.3	711.0	0.996	mg/L	996.3	mg/kg
1	Na 588.995	246718.1	241519.4	10.04	mg/L	10040	mg/kg
1	Ni 231.603	1975.5	1940.2	0.999	mg/L	998.6	mg/kg
1	P 178.221	107.5	105.3	5.044	mg/L	5044	mg/kg
1	Pb 220.353	295.6	289.4	1.014	mg/L	1014	mg/kg
1	Sb 206.833	789.3	772.7	4.942	mg/L	4942	mg/kg
1	Se 196.026	377.3	369.3	5.056	mg/L	5056	mg/kg
1	Si 251.611	20883.8	20443.8	5.022	mg/L	5022	mg/kg
1	Sn 189.933	912.4	893.1	4.874	mg/L	4874	mg/kg

1 Sr 407.771	830214.1	812720.5	1.000 mg/L	1000 mg/kg
1 Ti 334.941	100794.5	98670.7	1.013 mg/L	1013 mg/kg
1 Tl 190.800	188.2	184.2	4.925 mg/L	4925 mg/kg
1 V 292.402	14088.2	13791.4	1.013 mg/L	1013 mg/kg
1 Zn 206.200	2066.3	2022.8	1.008 mg/L	1008 mg/kg
2 Sc 357.253	537228.3	537228.3	103 mg/kg	
2 Y 360.064	271826.8	271826.8	102 mg/kg	
2 Ag 328.068	19226.5	18726.1	0.965 mg/L	965.2 mg/kg
2 Al 396.140	15720.8	15311.6	4.960 mg/L	4960 mg/kg
2 As 188.979	660.9	643.7	5.076 mg/L	5076 mg/kg
2 B 249.773	10647.4	10370.3	1.013 mg/L	1013 mg/kg
2 Ba 455.403	384378.8	374374.3	1.004 mg/L	1004 mg/kg
2 Be 234.861	10365.9	10096.1	0.101 mg/L	101.0 mg/kg
2 Ca 315.887	100753.2	98130.8	9.999 mg/L	9999 mg/kg
2 Cd 214.438	5415.3	5274.3	0.991 mg/L	990.6 mg/kg
2 Co 228.616	3636.3	3541.7	0.991 mg/L	991.1 mg/kg
2 Cr 205.558	1054.4	1026.9	0.989 mg/L	988.6 mg/kg
2 Cu 324.764	15714.7	15305.6	0.997 mg/L	996.8 mg/kg
2 Fe 238.204	9677.8	9425.9	1.007 mg/L	1007 mg/kg
2 K 766.514	23862.4	23241.3	10.05 mg/L	10050 mg/kg
2 Li 670.781	128553.9	125207.9	1.003 mg/L	1003 mg/kg
2 Mg 279.074	12447.1	12123.2	10.00 mg/L	10000 mg/kg
2 Mn 257.610	76744.3	74746.9	0.999 mg/L	998.5 mg/kg
2 Mo 202.031	729.3	710.3	0.995 mg/L	995.2 mg/kg
2 Na 588.995	247973.2	241519.0	10.04 mg/L	10040 mg/kg
2 Ni 231.603	1983.6	1935.2	0.996 mg/L	996.1 mg/kg
2 P 178.221	109.5	106.7	5.111 mg/L	5111 mg/kg
2 Pb 220.353	288.3	280.8	0.984 mg/L	984.2 mg/kg
2 Sb 206.833	808.6	787.6	5.032 mg/L	5032 mg/kg
2 Se 196.026	375.7	365.9	5.009 mg/L	5009 mg/kg
2 Si 251.611	20890.8	20347.1	4.997 mg/L	4997 mg/kg
2 Sn 189.933	922.7	898.7	4.909 mg/L	4909 mg/kg
2 Sr 407.771	837571.5	815771.3	1.004 mg/L	1004 mg/kg
2 Ti 334.941	100086.3	97481.2	1.001 mg/L	1001 mg/kg
2 Tl 190.800	186.3	181.4	4.851 mg/L	4851 mg/kg
2 V 292.402	14063.7	13697.6	1.006 mg/L	1006 mg/kg
2 Zn 206.200	2057.2	2003.6	0.999 mg/L	998.7 mg/kg

Mean Data ----------

ID: ICV
Sample Qty: 1.0000 g

Seq. No.: 7
Prep. Vol.: 1.0 L
Data: Original

Sample No.: 1

A/S Pos: 5
Dilution: 1.0: 1.0
Date: 5/20/02 14:15:44

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	535868.2	102	0.4	mg/kg				0.36%
Y 360.064	270923.7	102	0.5	mg/kg				0.47%
Ag 328.068	18813.2	0.970	0.0065	mg/L	969.8	6.48	mg/kg	0.67%
Al 396.140	15426.6	4.997	0.0527	mg/L	4997	52.7	mg/kg	1.06%
As 188.979	641.0	5.055	0.0296	mg/L	5055	29.6	mg/kg	0.59%
B 249.773	10377.1	1.014	0.0010	mg/L	1014	1.0	mg/kg	0.10%
Ba 455.403	373608.2	1.002	0.0029	mg/L	1002	2.9	mg/kg	0.29%
Be 234.861	10157.5	0.102	0.0009	mg/L	101.6	0.86	mg/kg	0.85%
Ca 315.887	98600.4	10.05	0.068	mg/L	10050	68.3	mg/kg	0.68%
Cd 214.438	5286.3	0.993	0.0031	mg/L	992.8	3.14	mg/kg	0.32%
Co 228.616	3559.3	0.996	0.0070	mg/L	996.0	7.01	mg/kg	0.70%
Cr 205.558	1035.9	0.997	0.0125	mg/L	997.4	12.49	mg/kg	1.25%
Cu 324.764	15410.8	1.004	0.0097	mg/L	1004	9.7	mg/kg	0.96%
Fe 238.204	9491.1	1.014	0.0100	mg/L	1014	10.0	mg/kg	0.98%
K 766.514	23348.5	10.10	0.059	mg/L	10100	58.6	mg/kg	0.58%
Li 670.781	125036.1	1.001	0.0019	mg/L	1001	1.9	mg/kg	0.19%
Mg 279.074	12202.7	10.07	0.093	mg/L	10070	92.9	mg/kg	0.92%
Mn 257.610	75182.6	1.004	0.0082	mg/L	1004	8.2	mg/kg	0.82%
Mo 202.031	710.7	0.996	0.0007	mg/L	995.8	0.74	mg/kg	0.07%
Na 588.995	241519.2	10.04	0.000	mg/L	10040	0.0	mg/kg	0.00%
Ni 231.603	1937.7	0.997	0.0018	mg/L	997.4	1.80	mg/kg	0.18%
P 178.221	106.0	5.077	0.0475	mg/L	5077	47.5	mg/kg	0.94%
Pb 220.353	285.1	0.999	0.0214	mg/L	999.4	21.38	mg/kg	2.14%
Sb 206.833	780.1	4.987	0.0642	mg/L	4987	64.2	mg/kg	1.29%
Se 196.026	367.6	5.032	0.0331	mg/L	5032	33.1	mg/kg	0.66%
Si 251.611	20395.4	5.009	0.0174	mg/L	5009	17.4	mg/kg	0.35%

Sn 189.933	895.9	4.892	0.0247 mg/L	4892	24.7 mg/kg	0.51%
Sr 407.771	814245.9	1.002	0.0027 mg/L	1002	2.7 mg/kg	0.26%
Ti 334.941	98076.0	1.007	0.0087 mg/L	1007	8.7 mg/kg	0.87%
Tl 190.800	182.8	4.888	0.0527 mg/L	4888	52.7 mg/kg	1.08%
V 292.402	13744.5	1.010	0.0049 mg/L	1010	4.9 mg/kg	0.48%
Zn 206.200	2013.2	1.003	0.0068 mg/L	1003	6.8 mg/kg	0.68%

Replicate Data ---------- Date: 5/20/02 14:19:56

ID: LCS

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	534859.9	534859.9	102	mg/kg		
1	Y 360.064	270497.6	270497.6	102	mg/kg		
1	Ag 328.068	18897.9	18487.5	0.953	mg/L	952.7	mg/kg
1	Al 396.140	3103.8	3036.4	0.946	mg/L	946.0	mg/kg
1	As 188.979	123.2	120.5	0.987	mg/L	987.0	mg/kg
1	B 249.773	10449.5	10222.6	0.997	mg/L	997.0	mg/kg
1	Ba 455.403	378420.0	370202.5	0.993	mg/L	992.8	mg/kg
1	Be 234.861	97538.3	95420.3	0.950	mg/L	950.2	mg/kg
1	Ca 315.887	94606.4	92552.0	9.425	mg/L	9425	mg/kg
1	Cd 214.438	5281.0	5166.3	0.973	mg/L	973.0	mg/kg
1	Co 228.616	3596.1	3518.0	0.984	mg/L	984.4	mg/kg
1	Cr 205.558	1042.1	1019.4	0.981	mg/L	981.3	mg/kg
1	Cu 324.764	14983.6	14658.2	0.955	mg/L	954.6	mg/kg
1	Fe 238.204	10047.5	9829.3	1.050	mg/L	1050	mg/kg
1	K 766.514	23116.6	22614.7	9.811	mg/L	9811	mg/kg
1	Li 670.781	124148.7	121452.8	0.973	mg/L	972.8	mg/kg
1	Mg 279.074	11670.2	11416.8	9.421	mg/L	9421	mg/kg
1	Mn 257.610	73675.0	72075.2	0.963	mg/L	962.8	mg/kg
1	Mo 202.031	1402.9	1372.4	1.976	mg/L	1976	mg/kg
1	Na 588.995	241443.0	236200.0	9.719	mg/L	9719	mg/kg
1	Ni 231.603	1937.7	1899.8	0.978	mg/L	977.8	mg/kg
1	P 178.221	23.2	22.7	1.067	mg/L	1067	mg/kg
1	Pb 220.353	292.9	286.5	1.004	mg/L	1004	mg/kg
1	Sb 206.833	308.6	301.9	2.079	mg/L	2079	mg/kg
1	Se 196.026	67.4	66.0	0.880	mg/L	879.8	mg/kg
1	Si 251.611	9530.6	9323.6	2.187	mg/L	2187	mg/kg
1	Sn 189.933	409.1	400.2	1.882	mg/L	1882	mg/kg
1	Sr 407.771	819518.4	801722.4	0.987	mg/L	986.9	mg/kg
1	Ti 334.941	206162.9	201686.0	2.080	mg/L	2080	mg/kg
1	Tl 190.800	37.7	36.8	0.981	mg/L	981.0	mg/kg
1	V 292.402	13387.9	13097.2	0.963	mg/L	962.5	mg/kg
1	Zn 206.200	2025.5	1981.6	0.988	mg/L	987.6	mg/kg
2	Sc 357.253	536871.6	536871.6	103	mg/kg		
2	Y 360.064	271725.4	271725.4	102	mg/kg		
2	Ag 328.068	18906.9	18427.0	0.949	mg/L	949.5	mg/kg
2	Al 396.140	3178.5	3097.8	0.966	mg/L	966.1	mg/kg
2	As 188.979	123.6	120.5	0.987	mg/L	986.9	mg/kg
2	B 249.773	10544.3	10276.7	1.003	mg/L	1003	mg/kg
2	Ba 455.403	382413.4	372707.4	1.000	mg/L	999.5	mg/kg
2	Be 234.861	97933.2	95447.5	0.951	mg/L	950.5	mg/kg
2	Ca 315.887	95050.6	92638.2	9.434	mg/L	9434	mg/kg
2	Cd 214.438	5278.2	5144.3	0.969	mg/L	968.9	mg/kg
2	Co 228.616	3561.4	3471.0	0.971	mg/L	971.2	mg/kg
2	Cr 205.558	1038.9	1012.6	0.974	mg/L	974.5	mg/kg
2	Cu 324.764	14997.2	14616.6	0.952	mg/L	951.9	mg/kg
2	Fe 238.204	10149.8	9892.1	1.057	mg/L	1057	mg/kg
2	K 766.514	23232.5	22642.8	9.822	mg/L	9822	mg/kg
2	Li 670.781	125549.2	122362.7	0.980	mg/L	980.1	mg/kg
2	Mg 279.074	11728.2	11430.5	9.433	mg/L	9433	mg/kg
2	Mn 257.610	74134.4	72252.8	0.965	mg/L	965.1	mg/kg
2	Mo 202.031	1404.6	1369.0	1.971	mg/L	1971	mg/kg
2	Na 588.995	242648.1	236489.5	9.737	mg/L	9737	mg/kg
2	Ni 231.603	1927.1	1880.8	0.968	mg/L	968.1	mg/kg
2	P 178.221	20.3	19.8	0.930	mg/L	929.9	mg/kg
2	Pb 220.353	282.7	275.5	0.966	mg/L	965.7	mg/kg
2	Sb 206.833	293.3	285.9	1.982	mg/L	1982	mg/kg
2	Se 196.026	81.1	79.0	1.060	mg/L	1060	mg/kg
2	Si 251.611	9618.8	9374.6	2.200	mg/L	2200	mg/kg

2 Sn 189.933	410.2	399.8	1.880 mg/L	1880 mg/kg
2 Sr 407.771	827271.1	806274.4	0.992 mg/L	992.5 mg/kg
2 Ti 334.941	208191.6	202907.6	2.093 mg/L	2093 mg/kg
2 Tl 190.800	38.7	37.7	1.005 mg/L	1005 mg/kg
2 V 292.402	13451.2	13109.8	0.963 mg/L	963.4 mg/kg
2 Zn 206.200	2004.9	1954.0	0.974 mg/L	973.8 mg/kg

Mean Data

ID: LCS
Sample Qty: 1.0000 g

Seq. No.: 8 Sample No.: 2
Prep. Vol.: 1.0 L
Data: Original

A/S Pos: 9
Dilution: 1.0: 1.0
Date: 5/20/02 14:19:56

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	535865.7	102	0.3	mg/kg				0.27%
Y 360.064	271111.5	102	0.3	mg/kg				0.32%
Ag 328.068	18457.3	0.951	0.0023	mg/L	951.1	2.25	mg/kg	0.24%
Al 396.140	3067.1	0.956	0.0142	mg/L	956.0	14.22	mg/kg	1.49%
As 188.979	120.5	0.987	0.0001	mg/L	987.0	0.09	mg/kg	0.01%
B 249.773	10249.6	1.000	0.0041	mg/L	999.9	4.15	mg/kg	0.41%
Ba 455.403	371455.0	0.996	0.0048	mg/L	996.2	4.76	mg/kg	0.48%
Be 234.861	95433.9	0.950	0.0002	mg/L	950.4	0.19	mg/kg	0.02%
Ca 315.887	92595.1	9.430	0.0063	mg/L	9430	6.3	mg/kg	0.07%
Cd 214.438	5155.3	0.971	0.0029	mg/L	971.0	2.90	mg/kg	0.30%
Co 228.616	3494.5	0.978	0.0093	mg/L	977.8	9.32	mg/kg	0.95%
Cr 205.558	1016.0	0.978	0.0048	mg/L	977.9	4.79	mg/kg	0.49%
Cu 324.764	14637.4	0.953	0.0019	mg/L	953.3	1.92	mg/kg	0.20%
Fe 238.204	9860.7	1.054	0.0048	mg/L	1054	4.8	mg/kg	0.46%
K 766.514	22628.7	9.817	0.0077	mg/L	9817	7.7	mg/kg	0.08%
Li 670.781	121907.7	0.976	0.0051	mg/L	976.4	5.14	mg/kg	0.53%
Mg 279.074	11423.7	9.427	0.0080	mg/L	9427	8.0	mg/kg	0.09%
Mn 257.610	72164.0	0.964	0.0017	mg/L	964.0	1.68	mg/kg	0.17%
Mo 202.031	1370.7	1.973	0.0036	mg/L	1973	3.6	mg/kg	0.18%
Na 588.995	236344.7	9.728	0.0122	mg/L	9728	12.2	mg/kg	0.13%
Ni 231.603	1890.3	0.973	0.0069	mg/L	972.9	6.91	mg/kg	0.71%
P 178.221	21.2	0.999	0.0971	mg/L	998.6	97.11	mg/kg	9.72%
Pb 220.353	281.0	0.985	0.0274	mg/L	985.1	27.41	mg/kg	2.78%
Sb 206.833	293.9	2.030	0.0689	mg/L	2030	68.9	mg/kg	3.39%
Se 196.026	72.5	0.970	0.1271	mg/L	969.6	127.10	mg/kg	13.11%
Si 251.611	9349.1	2.194	0.0092	mg/L	2194	9.2	mg/kg	0.42%
Sn 189.933	400.0	1.881	0.0018	mg/L	1881	1.8	mg/kg	0.10%
Sr 407.771	803998.4	0.990	0.0040	mg/L	989.7	3.95	mg/kg	0.40%
Ti 334.941	202296.8	2.086	0.0089	mg/L	2086	8.9	mg/kg	0.43%
Tl 190.800	37.3	0.993	0.0168	mg/L	992.9	16.79	mg/kg	1.69%
V 292.402	13103.5	0.963	0.0007	mg/L	963.0	0.65	mg/kg	0.07%
Zn 206.200	1967.8	0.981	0.0098	mg/L	980.7	9.78	mg/kg	1.00%

Replicate Data

ID: ICB

Date: 5/20/02 14:24:04

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	529939.9	529939.9	101	mg/kg		
1	Y 360.064	270224.1	270224.1	102	mg/kg		
1	Ag 328.068	168.6	166.5	-0.012	mg/L	-11.50	mg/kg
1	Al 396.140	-173.0	-170.8	-0.029	mg/L	-29.16	mg/kg
1	As 188.979	-5.8	-5.7	0.001	mg/L	0.794	mg/kg
1	B 249.773	915.0	903.4	-0.013	mg/L	-13.15	mg/kg
1	Ba 455.403	864.3	853.3	0.001	mg/L	0.698	mg/kg
1	Be 234.861	-4.1	-4.1	0.000	mg/L	0.459	mg/kg
1	Ca 315.887	819.8	809.5	-0.014	mg/L	-13.85	mg/kg
1	Cd 214.438	-76.3	-75.3	-0.002	mg/L	-1.876	mg/kg
1	Co 228.616	-0.1	-0.1	-0.002	mg/L	-2.016	mg/kg
1	Cr 205.558	24.4	24.1	0.002	mg/L	1.807	mg/kg
1	Cu 324.764	-68.1	-67.2	-0.004	mg/L	-4.433	mg/kg
1	Fe 238.204	154.0	152.0	0.003	mg/L	2.883	mg/kg
1	K 766.514	-2975.0	-2937.4	-0.063	mg/L	-63.03	mg/kg
1	Li 670.781	-72.5	-71.6	0.002	mg/L	2.024	mg/kg
1	Mg 279.074	-25.0	-24.7	-0.029	mg/L	-29.32	mg/kg
1	Mn 257.610	-41.2	-40.7	-0.002	mg/L	-1.844	mg/kg
1	Mo 202.031	34.3	33.9	-0.007	mg/L	-6.606	mg/kg

1 Na 588.995	76188.4	75226.0	0.088 mg/L	88.28 mg/kg
1 Ni 231.603	4.6	4.6	0.003 mg/L	2.740 mg/kg
1 P 178.221	0.0	0.0	-0.023 mg/L	-23.12 mg/kg
1 Pb 220.353	13.9	13.7	0.044 mg/L	43.70 mg/kg
1 Sb 206.833	-53.0	-52.4	-0.075 mg/L	-75.35 mg/kg
1 Se 196.026	3.1	3.1	0.014 mg/L	13.73 mg/kg
1 Si 251.611	741.1	731.7	-0.003 mg/L	-3.089 mg/kg
1 Sn 189.933	76.2	75.2	0.003 mg/L	2.881 mg/kg
1 Sr 407.771	-1854.5	-1831.1	0.000 mg/L	-0.320 mg/kg
1 Ti 334.941	749.8	740.3	-0.003 mg/L	-2.846 mg/kg
1 Tl 190.800	3.1	3.0	0.077 mg/L	76.53 mg/kg
1 V 292.402	-5.9	-5.9	0.003 mg/L	3.058 mg/kg
1 Zn 206.200	18.3	18.1	0.002 mg/L	2.027 mg/kg
2 Sc 357.253	524143.3	524143.3	100 mg/kg	
2 Y 360.064	267054.9	267054.9	101 mg/kg	
2 Ag 328.068	168.6	168.3	-0.011 mg/L	-11.41 mg/kg
2 Al 396.140	-129.2	-129.0	-0.016 mg/L	-15.60 mg/kg
2 As 188.979	-0.5	-0.5	0.041 mg/L	41.46 mg/kg
2 B 249.773	912.2	910.7	-0.012 mg/L	-12.36 mg/kg
2 Ba 455.403	916.8	915.3	0.001 mg/L	0.865 mg/kg
2 Be 234.861	10.8	10.8	0.001 mg/L	0.607 mg/kg
2 Ca 315.887	819.4	818.0	-0.013 mg/L	-12.97 mg/kg
2 Cd 214.438	-71.9	-71.8	-0.001 mg/L	-1.221 mg/kg
2 Co 228.616	0.9	0.9	-0.002 mg/L	-1.735 mg/kg
2 Cr 205.558	25.3	25.2	0.003 mg/L	2.893 mg/kg
2 Cu 324.764	-86.1	-86.0	-0.006 mg/L	-5.658 mg/kg
2 Fe 238.204	148.6	148.3	0.002 mg/L	2.481 mg/kg
2 K 766.514	-2981.9	-2976.8	-0.078 mg/L	-78.26 mg/kg
2 Li 670.781	-142.2	-141.9	0.001 mg/L	1.462 mg/kg
2 Mg 279.074	27.3	27.2	0.014 mg/L	13.54 mg/kg
2 Mn 257.610	-53.9	-53.8	-0.002 mg/L	-2.020 mg/kg
2 Mo 202.031	42.8	42.7	0.006 mg/L	6.419 mg/kg
2 Na 588.995	76208.5	76077.9	0.139 mg/L	139.2 mg/kg
2 Ni 231.603	7.9	7.9	0.004 mg/L	4.437 mg/kg
2 P 178.221	-5.6	-5.6	-0.292 mg/L	-291.5 mg/kg
2 Pb 220.353	4.8	4.8	0.013 mg/L	12.56 mg/kg
2 Sb 206.833	-47.0	-46.9	-0.042 mg/L	-42.19 mg/kg
2 Se 196.026	2.0	2.0	-0.001 mg/L	-0.775 mg/kg
2 Si 251.611	713.2	712.0	-0.008 mg/L	-8.112 mg/kg
2 Sn 189.933	78.2	78.0	0.020 mg/L	19.75 mg/kg
2 Sr 407.771	-1869.8	-1866.6	0.000 mg/L	-0.364 mg/kg
2 Ti 334.941	763.7	762.4	-0.003 mg/L	-2.617 mg/kg
2 Tl 190.800	0.5	0.5	0.008 mg/L	7.797 mg/kg
2 V 292.402	-16.2	-16.2	0.002 mg/L	2.300 mg/kg
2 Zn 206.200	19.2	19.1	0.003 mg/L	2.543 mg/kg

Mean Data

ID: ICB
Sample Qty: 1.0000 g

Seq. No.: 9
Prep. Vol.:
Data: Original

Sample No.: 3
1.0 L

A/S Pos: 1
Dilution: 1.0: 1.0
Date: 5/20/02 14:24:04

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	527041.6	101	0.8	mg/kg				0.78%
Y 360.064	268639.5	101	0.8	mg/kg				0.83%
Ag 328.068	167.4	-0.011	0.0001	mg/L	-11.46	0.069	mg/kg	0.60%
*QC exceeds lower limit for Ag 328.068		Action = Continue						
Al 396.140	-149.9	-0.022	0.0096	mg/L	-22.38	9.587	mg/kg	42.83%
As 188.979	-3.1	0.021	0.0288	mg/L	21.13	28.753	mg/kg	136.11%
B 249.773	907.0	-0.013	0.0006	mg/L	-12.76	0.559	mg/kg	4.38%
Ba 455.403	884.3	0.001	0.0001	mg/L	0.782	0.1176	mg/kg	15.05%
Be 234.861	3.4	0.001	0.0001	mg/L	0.533	0.1047	mg/kg	19.64%
Ca 315.887	813.8	-0.013	0.0006	mg/L	-13.41	0.623	mg/kg	4.65%
Cd 214.438	-73.6	-0.002	0.0005	mg/L	-1.548	0.4629	mg/kg	29.90%
Co 228.616	0.4	-0.002	0.0002	mg/L	-1.875	0.1988	mg/kg	10.60%
Cr 205.558	24.7	0.002	0.0008	mg/L	2.350	0.7678	mg/kg	32.67%
Cu 324.764	-76.6	-0.005	0.0009	mg/L	-5.045	0.8662	mg/kg	17.17%
Fe 238.204	150.2	0.003	0.0003	mg/L	2.682	0.2836	mg/kg	10.57%
K 766.514	-2957.1	-0.071	0.0108	mg/L	-70.64	10.767	mg/kg	15.24%
Li 670.781	-106.7	0.002	0.0004	mg/L	1.743	0.3975	mg/kg	22.81%
Mg 279.074	1.3	-0.008	0.0303	mg/L	-7.886	30.3081	mg/kg	384.32%

Mn 257.610	-47.2	-0.002	0.0001 mg/L	-1.932	0.1242 mg/kg	6.43%
Mo 202.031	38.3	0.000	0.0092 mg/L	-0.094	9.2102 mg/kg	>999.9%
Na 588.995	75651.9	0.114	0.0360 mg/L	113.8	36.04 mg/kg	31.68%
Ni 231.603	6.2	0.004	0.0012 mg/L	3.588	1.1999 mg/kg	33.44%
P 178.221	-2.8	-0.157	0.1898 mg/L	-157.3	189.77 mg/kg	120.63%
Pb 220.353	9.3	0.028	0.0220 mg/L	28.13	22.021 mg/kg	78.28%
Sb 206.833	-49.6	-0.059	0.0235 mg/L	-58.77	23.453 mg/kg	39.90%
Se 196.026	2.5	0.006	0.0103 mg/L	6.476	10.2543 mg/kg	158.36%
Si 251.611	721.8	-0.006	0.0036 mg/L	-5.600	3.5522 mg/kg	63.43%
Sn 189.933	76.6	0.011	0.0119 mg/L	11.32	11.931 mg/kg	105.42%
Sr 407.771	-1848.8	0.000	0.0000 mg/L	-0.342	0.0308 mg/kg	9.01%
Ti 334.941	751.4	-0.003	0.0002 mg/L	-2.732	0.1620 mg/kg	5.93%
Tl 190.800	1.8	0.042	0.0486 mg/L	42.16	48.601 mg/kg	115.27%
V 292.402	-11.0	0.003	0.0005 mg/L	2.679	0.5361 mg/kg	20.01%
Zn 206.200	18.6	0.002	0.0004 mg/L	2.285	0.3645 mg/kg	15.95%

Replicate Data ---------- Date: 5/20/02 14:28:10

ID: CRDL

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	526908.0	526908.0	101	mg/kg		
1	Y 360.064	268104.8	268104.8	101	mg/kg		
1	Ag 328.068	442.6	439.5	0.003	mg/L	2.861	mg/kg
1	Al 396.140	431.9	428.9	0.165	mg/L	165.4	mg/kg
1	As 188.979	25.4	25.2	0.242	mg/L	242.2	mg/kg
1	B 249.773	2594.5	2576.5	0.168	mg/L	168.2	mg/kg
1	Ba 455.403	8337.0	8279.0	0.021	mg/L	20.64	mg/kg
1	Be 234.861	203.1	201.6	0.003	mg/L	2.506	mg/kg
1	Ca 315.887	9803.5	9735.4	0.904	mg/L	904.5	mg/kg
1	Cd 214.438	35.5	35.3	0.019	mg/L	18.70	mg/kg
1	Co 228.616	84.8	84.2	0.022	mg/L	21.62	mg/kg
1	Cr 205.558	127.6	126.7	0.103	mg/L	102.8	mg/kg
1	Cu 324.764	242.1	240.4	0.016	mg/L	15.60	mg/kg
1	Fe 238.204	373.3	370.7	0.027	mg/L	26.55	mg/kg
1	K 766.514	-2382.8	-2366.2	0.158	mg/L	157.7	mg/kg
1	Li 670.781	4557.0	4525.3	0.039	mg/L	38.75	mg/kg
1	Mg 279.074	1068.5	1061.1	0.867	mg/L	867.5	mg/kg
1	Mn 257.610	1417.4	1407.6	0.018	mg/L	17.53	mg/kg
1	Mo 202.031	179.0	177.8	0.207	mg/L	206.5	mg/kg
1	Na 588.995	92737.4	92092.8	1.097	mg/L	1097	mg/kg
1	Ni 231.603	26.4	26.1	0.014	mg/L	13.82	mg/kg
1	P 178.221	7.5	7.5	0.336	mg/L	336.2	mg/kg
1	Pb 220.353	23.0	22.8	0.076	mg/L	75.92	mg/kg
1	Sb 206.833	-7.5	-7.4	0.198	mg/L	197.9	mg/kg
1	Se 196.026	19.0	18.9	0.232	mg/L	231.5	mg/kg
1	Si 251.611	1502.3	1491.9	0.191	mg/L	190.7	mg/kg
1	Sn 189.933	407.9	405.0	2.010	mg/L	2010	mg/kg
1	Sr 407.771	78508.0	77962.3	0.098	mg/L	97.71	mg/kg
1	Ti 334.941	20882.5	20737.3	0.204	mg/L	204.2	mg/kg
1	Tl 190.800	7.0	6.9	0.180	mg/L	179.9	mg/kg
1	V 292.402	201.3	199.9	0.018	mg/L	18.12	mg/kg
1	Zn 206.200	54.6	54.2	0.020	mg/L	20.15	mg/kg
2	Sc 357.253	527293.5	527293.5	101	mg/kg		
2	Y 360.064	268317.3	268317.3	101	mg/kg		
2	Ag 328.068	423.4	420.2	0.002	mg/L	1.846	mg/kg
2	Al 396.140	421.5	418.3	0.162	mg/L	161.9	mg/kg
2	As 188.979	16.5	16.4	0.173	mg/L	173.1	mg/kg
2	B 249.773	2626.6	2606.4	0.171	mg/L	171.5	mg/kg
2	Ba 455.403	8345.2	8281.1	0.021	mg/L	20.65	mg/kg
2	Be 234.861	193.5	192.0	0.002	mg/L	2.410	mg/kg
2	Ca 315.887	9774.1	9699.1	0.901	mg/L	900.8	mg/kg
2	Cd 214.438	37.4	37.1	0.019	mg/L	19.03	mg/kg
2	Co 228.616	74.7	74.2	0.019	mg/L	18.80	mg/kg
2	Cr 205.558	121.8	120.9	0.097	mg/L	97.00	mg/kg
2	Cu 324.764	269.8	267.7	0.017	mg/L	17.38	mg/kg
2	Fe 238.204	375.4	372.5	0.027	mg/L	26.75	mg/kg
2	K 766.514	-2373.5	-2355.3	0.162	mg/L	161.9	mg/kg
2	Li 670.781	4632.9	4597.3	0.039	mg/L	39.32	mg/kg
2	Mg 279.074	1091.4	1083.0	0.886	mg/L	885.6	mg/kg

2 Mn 257.610	1394.8	1384.1	0.017 mg/L	17.21 mg/kg	
2 Mo 202.031	170.7	169.4	0.194 mg/L	194.0 mg/kg	
2 Na 588.995	92616.6	91905.5	1.086 mg/L	1086 mg/kg	
2 Ni 231.603	43.5	43.0	0.023 mg/L	22.52 mg/kg	
2 P 178.221	9.5	9.4	0.430 mg/L	430.2 mg/kg	
2 Pb 220.353	39.3	39.0	0.133 mg/L	132.8 mg/kg	
2 Sb 206.833	-13.1	-13.0	0.164 mg/L	164.0 mg/kg	
2 Se 196.026	16.0	15.9	0.190 mg/L	190.2 mg/kg	
2 Si 251.611	1516.9	1505.3	0.194 mg/L	194.1 mg/kg	
2 Sn 189.933	398.4	395.4	1.951 mg/L	1951 mg/kg	
2 Sr 407.771	79049.8	78442.9	0.098 mg/L	98.30 mg/kg	
2 Ti 334.941	20951.5	20790.6	0.205 mg/L	204.7 mg/kg	
2 Tl 190.800	5.7	5.7	0.148 mg/L	147.6 mg/kg	
2 V 292.402	202.0	200.4	0.018 mg/L	18.16 mg/kg	
2 Zn 206.200	54.8	54.3	0.020 mg/L	20.22 mg/kg	

Mean Data ----------

ID: CRDL Seq. No.: 10 Sample No.: 4 A/S Pos: 10
Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 14:28:10

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	527100.7	101	0.1	mg/kg				0.05%
Y 360.064	268211.0	101	0.1	mg/kg				0.06%
Ag 328.068	429.8	0.002	0.0007	mg/L	2.353	0.7177	mg/kg	30.50%
*QC exceeds lower limit for Ag 328.068			Recovery = 11.77%		Action = Continue			
Al 396.140	423.6	0.164	0.0024	mg/L	163.6	2.44	mg/kg	1.49%
As 188.979	20.8	0.208	0.0489	mg/L	207.7	48.87	mg/kg	23.53%
B 249.773	2591.4	0.170	0.0023	mg/L	169.8	2.30	mg/kg	1.35%
Ba 455.403	8280.1	0.021	0.0000	mg/L	20.65	0.004	mg/kg	0.02%
Be 234.861	196.8	0.002	0.0001	mg/L	2.458	0.0679	mg/kg	2.76%
*QC exceeds upper limit for Be 234.861			Recovery = 122.92%		Action = Continue			
Ca 315.887	9717.2	0.903	0.0026	mg/L	902.6	2.64	mg/kg	0.29%
Cd 214.438	36.2	0.019	0.0002	mg/L	18.86	0.235	mg/kg	1.25%
Co 228.616	79.2	0.020	0.0020	mg/L	20.21	1.995	mg/kg	9.87%
Cr 205.558	123.8	0.100	0.0041	mg/L	99.89	4.092	mg/kg	4.10%
Cu 324.764	254.1	0.016	0.0013	mg/L	16.49	1.257	mg/kg	7.62%
Fe 238.204	371.6	0.027	0.0001	mg/L	26.65	0.136	mg/kg	0.51%
*QC exceeds upper limit for Fe 238.204			Recovery = 133.25%		Action = Continue			
K 766.514	-2360.8	0.160	0.0030	mg/L	159.8	2.98	mg/kg	1.86%
*QC exceeds lower limit for K 766.514			Recovery = 79.91%		Action = Continue			
Li 670.781	4561.3	0.039	0.0004	mg/L	39.03	0.407	mg/kg	1.04%
Mg 279.074	1072.0	0.877	0.0128	mg/L	876.5	12.81	mg/kg	1.46%
Mn 257.610	1395.9	0.017	0.0002	mg/L	17.37	0.222	mg/kg	1.28%
Mo 202.031	173.6	0.200	0.0088	mg/L	200.3	8.82	mg/kg	4.41%
Na 588.995	91999.2	1.092	0.0079	mg/L	1092	7.9	mg/kg	0.73%
Ni 231.603	34.6	0.018	0.0062	mg/L	18.17	6.154	mg/kg	33.87%
P 178.221	8.5	0.383	0.0665	mg/L	383.2	66.49	mg/kg	17.35%
*QC exceeds lower limit for P 178.221			Recovery = 76.64%		Action = Continue			
Pb 220.353	30.9	0.104	0.0402	mg/L	104.3	40.19	mg/kg	38.52%
Sb 206.833	-10.2	0.181	0.0240	mg/L	181.0	24.02	mg/kg	13.27%
Se 196.026	17.4	0.211	0.0293	mg/L	210.9	29.27	mg/kg	13.88%
Si 251.611	1498.6	0.192	0.0024	mg/L	192.4	2.41	mg/kg	1.25%
Sn 189.933	400.2	1.980	0.0415	mg/L	1980	41.5	mg/kg	2.10%
Sr 407.771	78202.6	0.098	0.0004	mg/L	98.00	0.417	mg/kg	0.43%
Ti 334.941	20764.0	0.204	0.0004	mg/L	204.4	0.39	mg/kg	0.19%
Tl 190.800	6.3	0.164	0.0228	mg/L	163.8	22.78	mg/kg	13.91%
V 292.402	200.1	0.018	0.0000	mg/L	18.14	0.030	mg/kg	0.16%
Zn 206.200	54.3	0.020	0.0000	mg/L	20.18	0.045	mg/kg	0.22%

Replicate Data ----------

ID: IEC-1A Date: 5/20/02 14:32:18

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	518208.9	518208.9	99	mg/kg		
1 Y 360.064	264221.1	264221.1	100	mg/kg		
1 Ag 328.068	18.5	18.7	-0.019	mg/L	-19.28	mg/kg
1 Al 396.140	302767.4	305710.0	99.19	mg/L	99190	mg/kg
1 As 188.979	6.7	6.8	0.098	mg/L	98.29	mg/kg

1	B 249.773	1941.5	1960.3	0.046 mg/L	46.19 mg/kg
1	Ba 455.403	882.8	891.3	0.012 mg/L	12.24 mg/kg
1	Be 234.861	457.5	462.0	0.000 mg/L	0.179 mg/kg
1	Ca 315.887	936435.8	945537.0	97.18 mg/L	97180 mg/kg
1	Cd 214.438	3.8	3.8	-0.004 mg/L	-3.877 mg/kg
1	Co 228.616	8.7	8.7	-0.005 mg/L	-4.573 mg/kg
1	Cr 205.558	29.1	29.4	0.043 mg/L	42.60 mg/kg
1	Cu 324.764	-78.4	-79.1	-0.015 mg/L	-15.16 mg/kg
1	Fe 238.204	380170.6	383865.4	41.53 mg/L	41530 mg/kg
1	K 766.514	-2860.4	-2888.2	-0.044 mg/L	-44.01 mg/kg
1	Li 670.781	-80.1	-80.8	0.002 mg/L	1.950 mg/kg
1	Mg 279.074	111512.1	112595.9	92.99 mg/L	92990 mg/kg
1	Mn 257.610	199.4	201.4	0.001 mg/L	1.393 mg/kg
1	Mo 202.031	40.3	40.7	0.003 mg/L	3.481 mg/kg
1	Na 588.995	76591.3	77335.7	0.215 mg/L	214.5 mg/kg
1	Ni 231.603	-19.9	-20.0	-0.010 mg/L	-9.884 mg/kg
1	P 178.221	-1.4	-1.4	-0.093 mg/L	-93.32 mg/kg
1	Pb 220.353	-0.7	-0.7	-0.007 mg/L	-6.837 mg/kg
1	Sb 206.833	-52.5	-53.0	-0.079 mg/L	-79.42 mg/kg
1	Se 196.026	7.1	7.2	0.070 mg/L	70.33 mg/kg
1	Si 251.611	2801.4	2828.7	0.099 mg/L	98.77 mg/kg
1	Sn 189.933	68.0	68.6	-0.753 mg/L	-752.6 mg/kg
1	Sr 407.771	540.9	546.2	0.003 mg/L	2.600 mg/kg
1	Ti 334.941	602.8	608.7	0.018 mg/L	17.96 mg/kg
1	Tl 190.800	0.0	0.0	0.027 mg/L	27.01 mg/kg
1	V 292.402	22.9	23.1	0.005 mg/L	5.182 mg/kg
1	Zn 206.200	17.4	17.6	0.002 mg/L	1.778 mg/kg
2	Sc 357.253	512922.8	512922.8	98 mg/kg	
2	Y 360.064	261355.6	261355.6	99 mg/kg	
2	Ag 328.068	127.4	129.9	-0.013 mg/L	-13.43 mg/kg
2	Al 396.140	302759.2	308852.2	100.2 mg/L	100200 mg/kg
2	As 188.979	-2.5	-2.6	0.025 mg/L	25.19 mg/kg
2	B 249.773	1914.5	1953.0	0.045 mg/L	44.97 mg/kg
2	Ba 455.403	917.2	935.6	0.012 mg/L	12.49 mg/kg
2	Be 234.861	442.0	450.9	0.000 mg/L	0.028 mg/kg
2	Ca 315.887	935142.1	953961.7	98.05 mg/L	98050 mg/kg
2	Cd 214.438	4.0	4.0	-0.004 mg/L	-4.028 mg/kg
2	Co 228.616	10.1	10.3	-0.004 mg/L	-4.177 mg/kg
2	Cr 205.558	23.9	24.4	0.038 mg/L	37.98 mg/kg
2	Cu 324.764	-51.5	-52.5	-0.014 mg/L	-13.60 mg/kg
2	Fe 238.204	379217.7	386849.5	41.86 mg/L	41860 mg/kg
2	K 766.514	-2974.4	-3034.3	-0.100 mg/L	-100.5 mg/kg
2	Li 670.781	-114.3	-116.6	0.002 mg/L	1.664 mg/kg
2	Mg 279.074	112259.4	114518.6	94.58 mg/L	94580 mg/kg
2	Mn 257.610	221.7	226.2	0.002 mg/L	1.725 mg/kg
2	Mo 202.031	48.5	49.5	0.017 mg/L	16.51 mg/kg
2	Na 588.995	76852.3	78398.9	0.278 mg/L	278.1 mg/kg
2	Ni 231.603	-27.0	-27.4	-0.014 mg/L	-13.73 mg/kg
2	P 178.221	-2.9	-3.0	-0.168 mg/L	-167.5 mg/kg
2	Pb 220.353	9.2	9.4	0.028 mg/L	28.48 mg/kg
2	Sb 206.833	-57.6	-58.8	-0.114 mg/L	-114.3 mg/kg
2	Se 196.026	6.8	6.9	0.067 mg/L	66.50 mg/kg
2	Si 251.611	2788.7	2844.8	0.095 mg/L	95.49 mg/kg
2	Sn 189.933	54.0	55.0	-0.849 mg/L	-849.5 mg/kg
2	Sr 407.771	579.7	591.4	0.003 mg/L	2.656 mg/kg
2	Ti 334.941	571.2	582.7	0.018 mg/L	17.93 mg/kg
2	Tl 190.800	-0.2	-0.2	0.021 mg/L	20.56 mg/kg
2	V 292.402	21.4	21.8	0.005 mg/L	5.086 mg/kg
2	Zn 206.200	0.8	0.8	-0.007 mg/L	-6.668 mg/kg

Mean Data ----------

ID: IEC-1A Seq. No.: 11 Sample No.: 5 A/S Pos: 11

Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 14:32:18

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Sample Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	515565.9	99	0.7	mg/kg				0.72%
Y 360.064	262788.4	99	0.8	mg/kg				0.77%
Ag 328.068	74.3	-0.016	0.0041	mg/L	-16.36	4.139	mg/kg	25.31%
Al 396.140	307281.1	99.70	0.721	mg/L	99700	720.8	mg/kg	0.72%

As 188.979	2.1	0.062	0.0517 mg/L	61.74	51.688 mg/kg	83.72%
B 249.773	1956.7	0.046	0.0009 mg/L	45.58	0.864 mg/kg	1.90%
Ba 455.403	913.5	0.012	0.0002 mg/L	12.36	0.176 mg/kg	1.43%
Be 234.861	456.4	0.000	0.0001 mg/L	0.103	0.1065 mg/kg	103.01%
Ca 315.887	949749.4	97.62	0.613 mg/L	97620	612.9 mg/kg	0.63%
Cd 214.438	3.9	-0.004	0.0001 mg/L	-3.953	0.1067 mg/kg	2.70%
Co 228.616	9.5	-0.004	0.0003 mg/L	-4.375	0.2796 mg/kg	6.39%
Cr 205.558	26.9	0.040	0.0033 mg/L	40.29	3.269 mg/kg	8.11%
Cu 324.764	-65.8	-0.014	0.0011 mg/L	-14.38	1.104 mg/kg	7.68%
Fe 238.204	385357.5	41.69	0.228 mg/L	41690	228.4 mg/kg	0.55%
K 766.514	-2961.2	-0.072	0.0399 mg/L	-72.24	39.931 mg/kg	55.28%
Li 670.781	-98.7	0.002	0.0002 mg/L	1.807	0.2018 mg/kg	11.17%
Mg 279.074	113557.2	93.79	1.123 mg/L	93790	1123.0 mg/kg	1.20%
Mn 257.610	213.8	0.002	0.0002 mg/L	1.559	0.2349 mg/kg	15.07%
Mo 202.031	45.1	0.010	0.0092 mg/L	9.993	9.2105 mg/kg	92.17%
Na 588.995	77867.3	0.246	0.0450 mg/L	246.3	44.98 mg/kg	18.26%
Ni 231.603	-23.7	-0.012	0.0027 mg/L	-11.81	2.719 mg/kg	23.03%
P 178.221	-2.2	-0.130	0.0525 mg/L	-130.4	52.48 mg/kg	40.24%
Pb 220.353	4.3	0.011	0.0250 mg/L	10.82	24.972 mg/kg	230.77%
Sb 206.833	-55.9	-0.097	0.0246 mg/L	-96.84	24.643 mg/kg	25.45%
Se 196.026	7.0	0.068	0.0027 mg/L	68.42	2.702 mg/kg	3.95%
Si 251.611	2836.7	0.097	0.0023 mg/L	97.13	2.319 mg/kg	2.39%
Sn 189.933	61.8	-0.801	0.0685 mg/L	-801.0	68.51 mg/kg	8.55%
Sr 407.771	568.8	0.003	0.0000 mg/L	2.628	0.0393 mg/kg	1.49%
Ti 334.941	595.7	0.018	0.0000 mg/L	17.94	0.025 mg/kg	0.14%
Tl 190.800	-0.1	0.024	0.0046 mg/L	23.78	4.563 mg/kg	19.19%
V 292.402	22.5	0.005	0.0001 mg/L	5.134	0.0677 mg/kg	1.32%
Zn 206.200	9.2	-0.002	0.0060 mg/L	-2.445	5.9719 mg/kg	244.23%

Replicate Data ----------

ID: IEC-2A Date: 5/20/02 14:36:28

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	532897.3	532897.3	102	mg/kg		
1	Y 360.064	269516.9	269516.9	102	mg/kg		
1	Ag 328.068	247.6	243.1	-0.007	mg/L	-7.471	mg/kg
1	Al 396.140	-17.1	-16.8	0.037	mg/L	37.14	mg/kg
1	As 188.979	12.3	12.0	0.086	mg/L	85.99	mg/kg
1	B 249.773	1090.0	1070.3	0.005	mg/L	4.936	mg/kg
1	Ba 455.403	-500.3	-491.2	0.002	mg/L	1.879	mg/kg
1	Be 234.861	-55.1	-54.1	0.000	mg/L	-0.039	mg/kg
1	Ca 315.887	1762.7	1730.7	0.081	mg/L	80.93	mg/kg
1	Cd 214.438	-22.2	-21.8	-0.004	mg/L	-3.823	mg/kg
1	Co 228.616	143.1	140.5	-0.001	mg/L	-0.619	mg/kg
1	Cr 205.558	20350.0	19981.4	19.64	mg/L	19640	mg/kg
1	Cu 324.764	303238.0	297745.7	19.39	mg/L	19390	mg/kg
1	Fe 238.204	296.3	290.9	0.023	mg/L	23.02	mg/kg
1	K 766.514	-2814.1	-2763.1	0.004	mg/L	4.323	mg/kg
1	Li 670.781	-132.0	-129.6	0.002	mg/L	1.560	mg/kg
1	Mg 279.074	109.1	107.2	0.080	mg/L	79.56	mg/kg
1	Mn 257.610	1469366.4	1442752.9	19.30	mg/L	19300	mg/kg
1	Mo 202.031	46.8	46.0	0.011	mg/L	11.27	mg/kg
1	Na 588.995	77593.6	76188.2	0.146	mg/L	145.8	mg/kg
1	Ni 231.603	38993.1	38368.7	19.74	mg/L	19740	mg/kg
1	P 178.221	2.4	2.3	0.089	mg/L	88.54	mg/kg
1	Pb 220.353	7.1	7.0	-0.011	mg/L	-10.84	mg/kg
1	Sb 206.833	12.0	11.8	0.315	mg/L	314.8	mg/kg
1	Se 196.026	2.9	2.9	0.011	mg/L	10.68	mg/kg
1	Si 251.611	2455.2	2410.7	0.264	mg/L	264.2	mg/kg
1	Sn 189.933	72.4	71.1	-0.022	mg/L	-22.40	mg/kg
1	Sr 407.771	-1724.1	-1692.9	0.000	mg/L	-0.150	mg/kg
1	Ti 334.941	1966559.3	1930940.6	19.98	mg/L	19980	mg/kg
1	Tl 190.800	13.9	13.6	0.269	mg/L	269.1	mg/kg
1	V 292.402	272118.6	267189.9	19.57	mg/L	19570	mg/kg
1	Zn 206.200	37.5	36.8	0.011	mg/L	11.42	mg/kg
2	Sc 357.253	532392.4	532392.4	102	mg/kg		
2	Y 360.064	269216.6	269216.6	102	mg/kg		
2	Ag 328.068	198.9	195.5	-0.010	mg/L	-9.979	mg/kg
2	Al 396.140	29.1	28.6	0.052	mg/L	51.81	mg/kg

2 As 188.979	17.4	17.1	0.125 mg/L	125.4 mg/kg	
2 B 249.773	1077.3	1058.8	0.004 mg/L	3.690 mg/kg	
2 Ba 455.403	-521.3	-512.3	0.002 mg/L	1.822 mg/kg	
2 Be 234.861	-62.3	-61.3	0.000 mg/L	-0.110 mg/kg	
2 Ca 315.887	1767.0	1736.7	0.082 mg/L	81.54 mg/kg	
2 Cd 214.438	-25.3	-24.8	-0.004 mg/L	-4.433 mg/kg	
2 Co 228.616	149.4	146.8	0.001 mg/L	1.198 mg/kg	
2 Cr 205.558	20427.7	20076.7	19.74 mg/L	19740 mg/kg	
2 Cu 324.764	301954.9	296767.0	19.33 mg/L	19330 mg/kg	
2 Fe 238.204	307.1	301.8	0.024 mg/L	24.18 mg/kg	
2 K 766.514	-2841.4	-2792.6	-0.007 mg/L	-7.069 mg/kg	
2 Li 670.781	-91.7	-90.1	0.002 mg/L	1.875 mg/kg	
2 Mg 279.074	110.0	108.1	0.080 mg/L	80.34 mg/kg	
2 Mn 257.610	1465693.2	1440511.0	19.27 mg/L	19270 mg/kg	
2 Mo 202.031	60.1	59.0	0.031 mg/L	30.64 mg/kg	
2 Na 588.995	77844.1	76506.7	0.165 mg/L	164.9 mg/kg	
2 Ni 231.603	39198.7	38614.1	19.87 mg/L	19870 mg/kg	
2 P 178.221	-5.1	-5.0	-0.265 mg/L	-264.5 mg/kg	
2 Pb 220.353	7.9	7.7	-0.008 mg/L	-8.227 mg/kg	
2 Sb 206.833	5.0	4.9	0.273 mg/L	272.6 mg/kg	
2 Se 196.026	-7.0	-6.9	-0.124 mg/L	-123.7 mg/kg	
2 Si 251.611	2682.3	2636.2	0.322 mg/L	322.1 mg/kg	
2 Sn 189.933	76.1	74.8	0.000 mg/L	0.054 mg/kg	
2 Sr 407.771	-1763.1	-1732.8	0.000 mg/L	-0.199 mg/kg	
2 Ti 334.941	1960542.9	1926858.6	19.94 mg/L	19940 mg/kg	
2 Tl 190.800	12.0	11.8	0.220 mg/L	219.6 mg/kg	
2 V 292.402	271209.9	266550.3	19.52 mg/L	19520 mg/kg	
2 Zn 206.200	65.0	63.9	0.025 mg/L	25.01 mg/kg	

Mean Data ----------

ID: IEC-2A Seq. No.: 12 Sample No.: 6 A/S Pos: 12
Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 14:36:28

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Sample Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	532644.9	102	0.1	mg/kg				0.07%
Y 360.064	269366.8	102	0.1	mg/kg				0.08%
Ag 328.068	219.3	-0.009	0.0018	mg/L	-8.725	1.7730	mg/kg	20.32%
Al 396.140	5.9	0.044	0.0104	mg/L	44.48	10.377	mg/kg	23.33%
As 188.979	14.6	0.106	0.0279	mg/L	105.7	27.87	mg/kg	26.37%
B 249.773	1064.5	0.004	0.0009	mg/L	4.313	0.8816	mg/kg	20.44%
Ba 455.403	-501.8	0.002	0.0000	mg/L	1.851	0.0405	mg/kg	2.19%
Be 234.861	-57.7	0.000	0.0001	mg/L	-0.075	0.0506	mg/kg	67.86%
Ca 315.887	1733.7	0.081	0.0004	mg/L	81.23	0.432	mg/kg	0.53%
Cd 214.438	-23.3	-0.004	0.0004	mg/L	-4.128	0.4311	mg/kg	10.44%
Co 228.616	143.7	0.000	0.0013	mg/L	0.289	1.2850	mg/kg	444.40%
Cr 205.558	20029.1	19.69	0.066	mg/L	19690	66.2	mg/kg	0.34%
Cu 324.764	297256.3	19.36	0.045	mg/L	19360	45.1	mg/kg	0.23%
Fe 238.204	296.4	0.024	0.0008	mg/L	23.60	0.825	mg/kg	3.49%
*QC exceeds upper limit for Fe 238.204 Action = Continue								
K 766.514	-2777.9	-0.001	0.0081	mg/L	-1.373	8.0556	mg/kg	586.84%
Li 670.781	-109.9	0.002	0.0002	mg/L	1.718	0.2227	mg/kg	12.97%
Mg 279.074	107.6	0.080	0.0006	mg/L	79.95	0.551	mg/kg	0.69%
Mn 257.610	1441632.0	19.28	0.021	mg/L	19280	21.2	mg/kg	0.11%
Mo 202.031	52.5	0.021	0.0137	mg/L	20.95	13.690	mg/kg	65.33%
Na 588.995	76347.4	0.155	0.0135	mg/L	155.4	13.47	mg/kg	8.67%
Ni 231.603	38491.4	19.80	0.089	mg/L	19800	89.3	mg/kg	0.45%
P 178.221	-1.3	-0.088	0.2497	mg/L	-88.00	249.660	mg/kg	283.71%
Pb 220.353	7.4	-0.010	0.0018	mg/L	-9.534	1.8488	mg/kg	19.39%
Sb 206.833	8.3	0.294	0.0298	mg/L	293.7	29.84	mg/kg	10.16%
*QC exceeds upper limit for Sb 206.833 Action = Continue								
Se 196.026	-2.0	-0.056	0.0950	mg/L	-56.48	94.990	mg/kg	168.17%
Si 251.611	2523.5	0.293	0.0409	mg/L	293.2	40.88	mg/kg	13.94%
Sn 189.933	72.9	-0.011	0.0159	mg/L	-11.17	15.874	mg/kg	142.10%
Sr 407.771	-1712.9	0.000	0.0000	mg/L	-0.175	0.0346	mg/kg	19.80%
Ti 334.941	1928899.6	19.96	0.030	mg/L	19960	29.9	mg/kg	0.15%
Tl 190.800	12.7	0.244	0.0350	mg/L	244.4	34.98	mg/kg	14.31%
*QC exceeds upper limit for Tl 190.800 Action = Continue								
V 292.402	266870.1	19.54	0.033	mg/L	19540	33.1	mg/kg	0.17%
Zn 206.200	50.4	0.018	0.0096	mg/L	18.22	9.610	mg/kg	52.75%

Replicate Data

ID: IEC-1 Date: 5/20/02 14:40:38

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	518740.7	518740.7	99	mg/kg		
1	Y 360.064	264321.7	264321.7	100	mg/kg		
1	Ag 328.068	18475.0	18635.5	0.960	mg/L	960.4	mg/kg
1	Al 396.140	302973.6	305604.6	99.16	mg/L	99160	mg/kg
1	As 188.979	-7.9	-8.0	-0.017	mg/L	-17.06	mg/kg
1	B 249.773	1820.4	1836.2	0.033	mg/L	32.75	mg/kg
1	Ba 455.403	191366.0	193027.8	0.528	mg/L	528.4	mg/kg
1	Be 234.861	53541.2	54006.2	0.533	mg/L	533.1	mg/kg
1	Ca 315.887	937857.5	946001.6	97.23	mg/L	97230	mg/kg
1	Cd 214.438	5215.0	5260.3	0.974	mg/L	973.7	mg/kg
1	Co 228.616	1746.9	1762.1	0.487	mg/L	487.1	mg/kg
1	Cr 205.558	538.6	543.2	0.548	mg/L	548.2	mg/kg
1	Cu 324.764	7517.5	7582.8	0.484	mg/L	483.8	mg/kg
1	Fe 238.204	380454.4	383758.2	41.52	mg/L	41520	mg/kg
1	K 766.514	-2886.4	-2911.5	-0.053	mg/L	-53.01	mg/kg
1	Li 670.781	-120.0	-121.0	0.002	mg/L	1.629	mg/kg
1	Mg 279.074	112706.4	113685.2	93.89	mg/L	93890	mg/kg
1	Mn 257.610	39426.9	39769.3	0.531	mg/L	530.7	mg/kg
1	Mo 202.031	38.9	39.2	0.001	mg/L	1.231	mg/kg
1	Na 588.995	76449.9	77113.8	0.201	mg/L	201.2	mg/kg
1	Ni 231.603	1845.6	1851.7	0.953	mg/L	953.1	mg/kg
1	P 178.221	3.8	3.9	0.163	mg/L	162.6	mg/kg
1	Pb 220.353	276.5	278.9	0.978	mg/L	977.5	mg/kg
1	Sb 206.833	-63.9	-64.5	-0.149	mg/L	-149.2	mg/kg
1	Se 196.026	14.0	14.1	0.166	mg/L	165.6	mg/kg
1	Si 251.611	2805.2	2829.5	0.095	mg/L	94.81	mg/kg
1	Sn 189.933	64.2	64.8	-0.785	mg/L	-785.1	mg/kg
1	Sr 407.771	392.1	395.5	0.002	mg/L	2.415	mg/kg
1	Ti 334.941	921.8	929.8	0.022	mg/L	21.86	mg/kg
1	Tl 190.800	3.6	3.7	0.124	mg/L	124.4	mg/kg
1	V 292.402	7005.5	7066.3	0.521	mg/L	520.9	mg/kg
1	Zn 206.200	1965.8	1982.9	0.988	mg/L	988.3	mg/kg
2	Sc 357.253	517659.5	517659.5	99	mg/kg		
2	Y 360.064	263909.3	263909.3	100	mg/kg		
2	Ag 328.068	18500.4	18700.1	0.964	mg/L	963.8	mg/kg
2	Al 396.140	305337.2	308632.0	100.1	mg/L	100100	mg/kg
2	As 188.979	1.7	1.7	0.058	mg/L	58.36	mg/kg
2	B 249.773	1822.2	1841.9	0.033	mg/L	32.95	mg/kg
2	Ba 455.403	192583.7	194661.9	0.533	mg/L	532.8	mg/kg
2	Be 234.861	53683.9	54263.2	0.536	mg/L	535.6	mg/kg
2	Ca 315.887	943486.1	953666.9	98.02	mg/L	98020	mg/kg
2	Cd 214.438	5255.8	5312.5	0.983	mg/L	983.3	mg/kg
2	Co 228.616	1752.4	1771.3	0.490	mg/L	489.6	mg/kg
2	Cr 205.558	530.7	536.4	0.542	mg/L	541.8	mg/kg
2	Cu 324.764	7501.6	7582.6	0.484	mg/L	483.7	mg/kg
2	Fe 238.204	382520.6	386648.3	41.83	mg/L	41830	mg/kg
2	K 766.514	-2870.6	-2901.6	-0.049	mg/L	-49.20	mg/kg
2	Li 670.781	-100.1	-101.2	0.002	mg/L	1.787	mg/kg
2	Mg 279.074	112691.1	113907.1	94.08	mg/L	94080	mg/kg
2	Mn 257.610	39534.3	39960.9	0.533	mg/L	533.2	mg/kg
2	Mo 202.031	50.9	51.5	0.019	mg/L	19.45	mg/kg
2	Na 588.995	76148.0	76969.7	0.193	mg/L	192.6	mg/kg
2	Ni 231.603	1860.4	1869.5	0.962	mg/L	962.3	mg/kg
2	P 178.221	3.6	3.7	0.154	mg/L	153.6	mg/kg
2	Pb 220.353	282.5	285.5	1.001	mg/L	1001	mg/kg
2	Sb 206.833	-66.9	-67.7	-0.168	mg/L	-168.5	mg/kg
2	Se 196.026	11.2	11.3	0.127	mg/L	127.1	mg/kg
2	Si 251.611	2796.0	2826.1	0.093	mg/L	93.09	mg/kg
2	Sn 189.933	68.8	69.6	-0.756	mg/L	-755.9	mg/kg
2	Sr 407.771	410.2	414.6	0.002	mg/L	2.439	mg/kg
2	Ti 334.941	1031.2	1042.3	0.023	mg/L	23.20	mg/kg
2	Tl 190.800	2.4	2.5	0.092	mg/L	92.11	mg/kg
2	V 292.402	6943.0	7018.0	0.517	mg/L	517.4	mg/kg
2	Zn 206.200	1961.4	1982.6	0.988	mg/L	988.1	mg/kg

001360

Mean Data

ID: IEC-1 Seq. No.: 13 Sample No.: 7 A/S Pos: 13
Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 14:40:38

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	518200.1	99	0.1	mg/kg				0.15%
Y 360.064	264115.5	100	0.1	mg/kg				0.11%
Ag 328.068	18667.8	0.962	0.0024	mg/L	962.1	2.40	mg/kg	0.25%
Al 396.140	307118.3	99.65	0.694	mg/L	99650	694.3	mg/kg	0.70%
As 188.979	-3.1	0.021	0.0533	mg/L	20.65	53.325	mg/kg	258.24%
B 249.773	1839.0	0.033	0.0001	mg/L	32.85	0.143	mg/kg	0.44%
Ba 455.403	193844.8	0.531	0.0032	mg/L	530.6	3.16	mg/kg	0.60%
Be 234.861	54134.7	0.534	0.0018	mg/L	534.4	1.78	mg/kg	0.33%
Ca 315.887	949834.3	97.63	0.558	mg/L	97630	557.7	mg/kg	0.57%
Cd 214.438	5286.4	0.979	0.0068	mg/L	978.5	6.78	mg/kg	0.69%
Co 228.616	1766.7	0.488	0.0018	mg/L	488.3	1.78	mg/kg	0.37%
Cr 205.558	539.8	0.545	0.0046	mg/L	545.0	4.55	mg/kg	0.84%
Cu 324.764	7582.7	0.484	0.0000	mg/L	483.7	0.02	mg/kg	0.00%
Fe 238.204	385203.2	41.68	0.221	mg/L	41680	221.2	mg/kg	0.53%
K 766.514	-2906.5	-0.051	0.0027	mg/L	-51.11	2.691	mg/kg	5.27%
Li 670.781	-111.1	0.002	0.0001	mg/L	1.708	0.1118	mg/kg	6.55%
Mg 279.074	113796.1	93.99	0.130	mg/L	93990	129.6	mg/kg	0.14%
Mn 257.610	39865.1	0.532	0.0018	mg/L	531.9	1.81	mg/kg	0.34%
Mo 202.031	45.3	0.010	0.0129	mg/L	10.34	12.881	mg/kg	124.59%
Na 588.995	77041.7	0.197	0.0061	mg/L	196.9	6.10	mg/kg	3.10%
Ni 231.603	1860.6	0.958	0.0065	mg/L	957.7	6.49	mg/kg	0.68%
P 178.221	3.8	0.158	0.0064	mg/L	158.1	6.42	mg/kg	4.06%
Pb 220.353	282.2	0.989	0.0166	mg/L	989.3	16.61	mg/kg	1.68%
Sb 206.833	-66.1	-0.159	0.0136	mg/L	-158.8	13.63	mg/kg	8.58%
Se 196.026	12.7	0.146	0.0272	mg/L	146.3	27.24	mg/kg	18.61%
Si 251.611	2827.8	0.094	0.0012	mg/L	93.95	1.215	mg/kg	1.29%
Sn 189.933	67.2	-0.771	0.0207	mg/L	-770.5	20.65	mg/kg	2.68%
Sr 407.771	405.1	0.002	0.0000	mg/L	2.427	0.0166	mg/kg	0.69%
Ti 334.941	986.1	0.023	0.0009	mg/L	22.53	0.943	mg/kg	4.19%
Tl 190.800	3.1	0.108	0.0228	mg/L	108.2	22.81	mg/kg	21.08%
V 292.402	7042.1	0.519	0.0025	mg/L	519.1	2.50	mg/kg	0.48%
Zn 206.200	1982.7	0.988	0.0001	mg/L	988.2	0.10	mg/kg	0.01%

Replicate Data

ID: IEC-2 Date: 5/20/02 14:44:50

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	533501.1	533501.1	102	mg/kg		
1	Y 360.064	269690.7	269690.7	102	mg/kg		
1	Ag 328.068	308.0	302.0	-0.004	mg/L	-4.372	mg/kg
1	Al 396.140	3134.0	3073.8	1.006	mg/L	1006	mg/kg
1	As 188.979	134.0	131.4	1.020	mg/L	1020	mg/kg
1	B 249.773	10322.7	10124.2	0.986	mg/L	986.4	mg/kg
1	Ba 455.403	-398.3	-390.7	0.002	mg/L	2.085	mg/kg
1	Be 234.861	-25.0	-24.5	0.000	mg/L	0.255	mg/kg
1	Ca 315.887	49925.2	48965.5	4.941	mg/L	4941	mg/kg
1	Cd 214.438	-25.7	-25.2	-0.004	mg/L	-4.345	mg/kg
1	Co 228.616	143.8	141.1	0.000	mg/L	-0.040	mg/kg
1	Cr 205.558	20175.9	19788.0	19.45	mg/L	19450	mg/kg
1	Cu 324.764	297666.5	291944.3	19.01	mg/L	19010	mg/kg
1	Fe 238.204	308.2	302.2	0.024	mg/L	24.18	mg/kg
1	K 766.514	-2909.8	-2853.9	-0.031	mg/L	-30.75	mg/kg
1	Li 670.781	-147.8	-144.9	0.001	mg/L	1.438	mg/kg
1	Mg 279.074	6201.1	6081.9	5.015	mg/L	5015	mg/kg
1	Mn 257.610	1449443.2	1421579.9	19.01	mg/L	19010	mg/kg
1	Mo 202.031	738.2	724.0	1.016	mg/L	1016	mg/kg
1	Na 588.995	160666.0	157577.5	5.015	mg/L	5015	mg/kg
1	Ni 231.603	38766.2	38120.9	19.61	mg/L	19610	mg/kg
1	P 178.221	-2.1	-2.1	-0.123	mg/L	-123.0	mg/kg
1	Pb 220.353	-1.2	-1.1	-0.039	mg/L	-38.91	mg/kg
1	Sb 206.833	182.1	178.6	1.329	mg/L	1329	mg/kg
1	Se 196.026	72.2	70.8	0.946	mg/L	946.1	mg/kg
1	Si 251.611	2146.9	2105.7	0.188	mg/L	188.3	mg/kg

1	Sn 189.933	79.4	77.9	-0.033 mg/L	-32.98 mg/kg
1	Sr 407.771	-1574.8	-1544.5	0.000 mg/L	0.032 mg/kg
1	Ti 334.941	1946221.3	1908808.2	19.75 mg/L	19750 mg/kg
1	Tl 190.800	47.9	47.0	1.163 mg/L	1163 mg/kg
1	V 292.402	268797.2	263630.0	19.31 mg/L	19310 mg/kg
1	Zn 206.200	36.8	36.1	0.011 mg/L	11.04 mg/kg
2	Sc 357.253	532191.2	532191.2	102 mg/kg	
2	Y 360.064	269364.2	269364.2	102 mg/kg	
2	Ag 328.068	287.1	282.3	-0.005 mg/L	-5.413 mg/kg
2	Al 396.140	3166.4	3113.2	1.018 mg/L	1018 mg/kg
2	As 188.979	131.3	129.1	1.001 mg/L	1001 mg/kg
2	B 249.773	10427.7	10252.4	1.000 mg/L	1000 mg/kg
2	Ba 455.403	-449.4	-441.8	0.002 mg/L	1.984 mg/kg
2	Be 234.861	-50.9	-50.0	0.000 mg/L	0.001 mg/kg
2	Ca 315.887	50145.5	49302.6	4.975 mg/L	4975 mg/kg
2	Cd 214.438	-37.4	-36.8	-0.007 mg/L	-6.573 mg/kg
2	Co 228.616	140.2	137.8	-0.001 mg/L	-1.259 mg/kg
2	Cr 205.558	20345.9	20003.9	19.67 mg/L	19670 mg/kg
2	Cu 324.764	298625.0	293605.3	19.12 mg/L	19120 mg/kg
2	Fe 238.204	349.4	343.6	0.029 mg/L	28.71 mg/kg
2	K 766.514	-2767.6	-2721.0	0.021 mg/L	20.58 mg/kg
2	Li 670.781	-130.3	-128.1	0.002 mg/L	1.572 mg/kg
2	Mg 279.074	6240.1	6135.2	5.059 mg/L	5059 mg/kg
2	Mn 257.610	1456107.5	1431631.2	19.15 mg/L	19150 mg/kg
2	Mo 202.031	741.7	729.2	1.023 mg/L	1023 mg/kg
2	Na 588.995	160916.8	158211.8	5.053 mg/L	5053 mg/kg
2	Ni 231.603	39024.8	38421.8	19.77 mg/L	19770 mg/kg
2	P 178.221	-3.7	-3.7	-0.201 mg/L	-200.8 mg/kg
2	Pb 220.353	-5.5	-5.4	-0.054 mg/L	-54.17 mg/kg
2	Sb 206.833	192.7	189.5	1.395 mg/L	1395 mg/kg
2	Se 196.026	78.5	77.2	1.034 mg/L	1034 mg/kg
2	Si 251.611	2385.0	2344.9	0.248 mg/L	248.0 mg/kg
2	Sn 189.933	79.7	78.3	-0.031 mg/L	-30.73 mg/kg
2	Sr 407.771	-1538.3	-1512.4	0.000 mg/L	0.071 mg/kg
2	Ti 334.941	1957644.4	1924737.6	19.92 mg/L	19920 mg/kg
2	Tl 190.800	50.5	49.7	1.234 mg/L	1234 mg/kg
2	V 292.402	270648.8	266099.3	19.49 mg/L	19490 mg/kg
2	Zn 206.200	49.8	48.9	0.017 mg/L	17.50 mg/kg

Mean Data ----------

ID: IEC-2 Seq. No.: 14 Sample No.: 8 A/S Pos: 14

Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 14:44:50

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	532846.1	102	0.2	mg/kg				0.17%
Y 360.064	269527.4	102	0.1	mg/kg				0.09%
Ag 328.068	292.1	-0.005	0.0007	mg/L	-4.892	0.7359	mg/kg	15.04%
Al 396.140	3093.5	1.012	0.0089	mg/L	1012	8.9	mg/kg	0.88%
As 188.979	130.3	1.010	0.0134	mg/L	1010	13.4	mg/kg	1.32%
B 249.773	10188.3	0.993	0.0098	mg/L	993.3	9.83	mg/kg	0.99%
Ba 455.403	-416.3	0.002	0.0001	mg/L	2.035	0.0708	mg/kg	3.48%
Be 234.861	-37.3	0.000	0.0002	mg/L	0.128	0.1795	mg/kg	139.82%
Ca 315.887	49134.0	4.958	0.0245	mg/L	4958	24.5	mg/kg	0.49%
Cd 214.438	-31.0	-0.005	0.0016	mg/L	-5.459	1.5757	mg/kg	28.86%
Co 228.616	139.5	-0.001	0.0009	mg/L	-0.649	0.8619	mg/kg	132.77%
Cr 205.558	19896.0	19.56	0.150	mg/L	19560	150.2	mg/kg	0.77%
Cu 324.764	292774.8	19.07	0.076	mg/L	19070	76.5	mg/kg	0.40%
Fe 238.204	322.9	0.026	0.0032	mg/L	26.44	3.201	mg/kg	12.11%
K 766.514	-2787.5	-0.005	0.0363	mg/L	-5.084	36.2948	mg/kg	713.85%
Li 670.781	-136.5	0.002	0.0001	mg/L	1.505	0.0950	mg/kg	6.31%
Mg 279.074	6108.5	5.037	0.0311	mg/L	5037	31.1	mg/kg	0.62%
Mn 257.610	1426605.6	19.08	0.095	mg/L	19080	95.1	mg/kg	0.50%
Mo 202.031	726.6	1.019	0.0055	mg/L	1019	5.5	mg/kg	0.54%
Na 588.995	157894.7	5.034	0.0268	mg/L	5034	26.8	mg/kg	0.53%
Ni 231.603	38271.3	19.69	0.109	mg/L	19690	109.5	mg/kg	0.56%
P 178.221	-2.9	-0.162	0.0550	mg/L	-161.9	54.99	mg/kg	33.97%
Pb 220.353	-3.3	-0.047	0.0108	mg/L	-46.54	10.790	mg/kg	23.18%
Sb 206.833	184.0	1.362	0.0469	mg/L	1362	46.9	mg/kg	3.44%

*QC exceeds upper limit for Sb 206.833 Recovery = 136.21% Action = Continue

Se 196.026	74.0	0.990	0.0618 mg/L	989.8	61.83 mg/kg	6.25%
Si 251.611	2225.3	0.218	0.0422 mg/L	218.2	42.19 mg/kg	19.34%
Sn 189.933	78.1	-0.032	0.0016 mg/L	-31.86	1.590 mg/kg	4.99%
Sr 407.771	-1528.5	0.000	0.0000 mg/L	0.052	0.0279 mg/kg	54.05%
Ti 334.941	1916772.9	19.83	0.117 mg/L	19830	116.6 mg/kg	0.59%
Tl 190.800	48.3	1.199	0.0501 mg/L	1199	50.1 mg/kg	4.18%
V 292.402	264864.7	19.40	0.128 mg/L	19400	127.9 mg/kg	0.66%
Zn 206.200	42.5	0.014	0.0046 mg/L	14.27	4.565 mg/kg	31.99%

Replicate Data

ID: CCV Date: 5/20/02 14:49:01

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	535805.4	535805.4	102	mg/kg		
1	Y 360.064	272746.7	272746.7	103	mg/kg		
1	Ag 328.068	11596.2	11324.4	0.576	mg/L	575.7	mg/kg
1	Al 396.140	7871.9	7687.4	2.503	mg/L	2503	mg/kg
1	As 188.979	330.1	322.3	2.565	mg/L	2565	mg/kg
1	B 249.773	5355.6	5230.1	0.456	mg/L	455.8	mg/kg
1	Ba 455.403	192268.8	187761.7	0.503	mg/L	502.8	mg/kg
1	Be 234.861	4918.0	4802.7	0.048	mg/L	48.30	mg/kg
1	Ca 315.887	51162.5	49963.2	5.043	mg/L	5043	mg/kg
1	Cd 214.438	2695.4	2632.2	0.502	mg/L	501.7	mg/kg
1	Co 228.616	1845.2	1801.9	0.503	mg/L	503.3	mg/kg
1	Cr 205.558	565.7	552.5	0.522	mg/L	521.7	mg/kg
1	Cu 324.764	7877.3	7692.7	0.501	mg/L	501.0	mg/kg
1	Fe 238.204	4709.7	4599.3	0.484	mg/L	484.2	mg/kg
1	K 766.514	10390.4	10146.8	4.993	mg/L	4993	mg/kg
1	Li 670.781	64095.9	62593.4	0.503	mg/L	502.6	mg/kg
1	Mg 279.074	6195.4	6050.2	4.989	mg/L	4989	mg/kg
1	Mn 257.610	38960.4	38047.1	0.508	mg/L	507.6	mg/kg
1	Mo 202.031	389.3	380.2	0.506	mg/L	506.3	mg/kg
1	Na 588.995	161013.0	157238.7	4.995	mg/L	4995	mg/kg
1	Ni 231.603	1026.9	998.5	0.514	mg/L	514.1	mg/kg
1	P 178.221	50.5	49.3	2.350	mg/L	2350	mg/kg
1	Pb 220.353	154.5	150.9	0.527	mg/L	526.7	mg/kg
1	Sb 206.833	380.0	371.1	2.500	mg/L	2500	mg/kg
1	Se 196.026	187.4	183.0	2.490	mg/L	2490	mg/kg
1	Si 251.611	10791.9	10538.9	2.497	mg/L	2497	mg/kg
1	Sn 189.933	498.4	486.7	2.455	mg/L	2455	mg/kg
1	Sr 407.771	416630.9	406864.5	0.502	mg/L	501.8	mg/kg
1	Ti 334.941	51399.6	50194.7	0.509	mg/L	509.1	mg/kg
1	Tl 190.800	92.7	90.5	2.418	mg/L	2418	mg/kg
1	V 292.402	7045.3	6880.2	0.507	mg/L	507.3	mg/kg
1	Zn 206.200	1031.8	1007.6	0.499	mg/L	498.7	mg/kg
2	Sc 357.253	532085.9	532085.9	102	mg/kg		
2	Y 360.064	270757.0	270757.0	102	mg/kg		
2	Ag 328.068	11765.4	11569.9	0.589	mg/L	588.6	mg/kg
2	Al 396.140	7942.8	7810.8	2.543	mg/L	2543	mg/kg
2	As 188.979	325.9	320.5	2.550	mg/L	2550	mg/kg
2	B 249.773	5374.4	5285.1	0.462	mg/L	461.8	mg/kg
2	Ba 455.403	191804.3	188617.5	0.505	mg/L	505.1	mg/kg
2	Be 234.861	4953.4	4871.1	0.049	mg/L	48.98	mg/kg
2	Ca 315.887	51537.2	50681.0	5.117	mg/L	5117	mg/kg
2	Cd 214.438	2707.5	2662.5	0.507	mg/L	507.3	mg/kg
2	Co 228.616	1857.0	1826.2	0.510	mg/L	510.1	mg/kg
2	Cr 205.558	549.4	540.3	0.510	mg/L	509.7	mg/kg
2	Cu 324.764	7959.6	7827.3	0.510	mg/L	509.7	mg/kg
2	Fe 238.204	4703.5	4625.4	0.487	mg/L	487.0	mg/kg
2	K 766.514	10603.3	10427.2	5.102	mg/L	5102	mg/kg
2	Li 670.781	63814.1	62753.8	0.504	mg/L	503.9	mg/kg
2	Mg 279.074	6224.8	6121.3	5.047	mg/L	5047	mg/kg
2	Mn 257.610	39306.6	38653.6	0.516	mg/L	515.7	mg/kg
2	Mo 202.031	379.3	373.0	0.496	mg/L	495.6	mg/kg
2	Na 588.995	161174.2	158496.3	5.070	mg/L	5070	mg/kg
2	Ni 231.603	1020.7	999.8	0.515	mg/L	514.8	mg/kg
2	P 178.221	49.1	48.3	2.303	mg/L	2303	mg/kg
2	Pb 220.353	148.0	145.5	0.508	mg/L	507.9	mg/kg
2	Sb 206.833	373.7	367.5	2.478	mg/L	2478	mg/kg

2 Se 196.026	189.2	186.1	2.533 mg/L	2533 mg/kg
2 Si 251.611	10892.9	10711.9	2.541 mg/L	2541 mg/kg
2 Sn 189.933	506.8	498.4	2.525 mg/L	2525 mg/kg
2 Sr 407.771	415854.2	408944.8	0.504 mg/L	504.3 mg/kg
2 Ti 334.941	52086.2	51220.8	0.520 mg/L	519.8 mg/kg
2 Tl 190.800	95.1	93.5	2.497 mg/L	2497 mg/kg
2 V 292.402	7095.4	6977.6	0.514 mg/L	514.4 mg/kg
2 Zn 206.200	1045.7	1028.3	0.509 mg/L	509.1 mg/kg

Mean Data

ID: CCV Seq. No.: 15 Sample No.: 9 A/S Pos: 4

Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 14:49:01

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	533945.6	102	0.5	mg/kg				0.49%
Y 360.064	271751.8	102	0.5	mg/kg				0.52%
Ag 328.068	11447.1	0.582	0.0091	mg/L	582.2	9.14	mg/kg	1.57%
*QC exceeds upper limit for Ag 328.068 Recovery = 116.43% Action = Continue								
Al 396.140	7749.1	2.523	0.0286	mg/L	2523	28.6	mg/kg	1.13%
As 188.979	321.4	2.557	0.0103	mg/L	2557	10.3	mg/kg	0.40%
B 249.773	5257.6	0.459	0.0042	mg/L	458.8	4.22	mg/kg	0.92%
Ba 455.403	188189.6	0.504	0.0016	mg/L	503.9	1.63	mg/kg	0.32%
Be 234.861	4836.9	0.049	0.0005	mg/L	48.64	0.481	mg/kg	0.99%
Ca 315.887	50322.1	5.080	0.0522	mg/L	5080	52.2	mg/kg	1.03%
Cd 214.438	2647.3	0.505	0.0040	mg/L	504.5	3.98	mg/kg	0.79%
Co 228.616	1814.1	0.507	0.0048	mg/L	506.7	4.81	mg/kg	0.95%
Cr 205.558	546.4	0.516	0.0085	mg/L	515.7	8.49	mg/kg	1.65%
Cu 324.764	7760.0	0.505	0.0062	mg/L	505.3	6.20	mg/kg	1.23%
Fe 238.204	4612.3	0.486	0.0020	mg/L	485.6	2.00	mg/kg	0.41%
K 766.514	10287.0	5.047	0.0766	mg/L	5047	76.6	mg/kg	1.52%
Li 670.781	62673.6	0.503	0.0009	mg/L	503.3	0.91	mg/kg	0.18%
Mg 279.074	6085.8	5.018	0.0415	mg/L	5018	41.5	mg/kg	0.83%
Mn 257.610	38350.4	0.512	0.0057	mg/L	511.7	5.74	mg/kg	1.12%
Mo 202.031	376.6	0.501	0.0075	mg/L	501.0	7.54	mg/kg	1.51%
Na 588.995	157867.5	5.033	0.0532	mg/L	5033	53.2	mg/kg	1.06%
Ni 231.603	999.1	0.514	0.0005	mg/L	514.4	0.47	mg/kg	0.09%
P 178.221	48.8	2.326	0.0332	mg/L	2326	33.2	mg/kg	1.43%
Pb 220.353	148.2	0.517	0.0133	mg/L	517.3	13.32	mg/kg	2.58%
Sb 206.833	369.3	2.489	0.0152	mg/L	2489	15.2	mg/kg	0.61%
Se 196.026	184.5	2.512	0.0305	mg/L	2512	30.5	mg/kg	1.22%
Si 251.611	10625.4	2.519	0.0312	mg/L	2519	31.2	mg/kg	1.24%
Sn 189.933	492.6	2.490	0.0499	mg/L	2490	49.9	mg/kg	2.00%
Sr 407.771	407904.7	0.503	0.0018	mg/L	503.1	1.81	mg/kg	0.36%
Ti 334.941	50707.7	0.514	0.0075	mg/L	514.4	7.51	mg/kg	1.46%
Tl 190.800	92.0	2.457	0.0555	mg/L	2457	55.5	mg/kg	2.26%
V 292.402	6928.9	0.511	0.0050	mg/L	510.8	5.04	mg/kg	0.99%
Zn 206.200	1018.0	0.504	0.0073	mg/L	503.9	7.34	mg/kg	1.46%

Replicate Data

ID: CCB Date: 5/20/02 14:53:08

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	526588.6	526588.6	101	mg/kg		
1	Y 360.064	268424.8	268424.8	101	mg/kg		
1	Ag 328.068	50.9	50.5	-0.018	mg/L	-17.61	mg/kg
1	Al 396.140	-171.6	-170.5	-0.029	mg/L	-29.08	mg/kg
1	As 188.979	-6.2	-6.2	-0.003	mg/L	-3.261	mg/kg
1	B 249.773	780.0	775.1	-0.027	mg/L	-27.06	mg/kg
1	Ba 455.403	819.8	814.6	0.001	mg/L	0.594	mg/kg
1	Be 234.861	-25.2	-25.0	0.000	mg/L	0.250	mg/kg
1	Ca 315.887	760.7	755.8	-0.019	mg/L	-19.37	mg/kg
1	Cd 214.438	-82.6	-82.1	-0.003	mg/L	-3.137	mg/kg
1	Co 228.616	-5.9	-5.8	-0.004	mg/L	-3.626	mg/kg
1	Cr 205.558	28.1	27.9	0.006	mg/L	5.566	mg/kg
1	Cu 324.764	-76.9	-76.5	-0.005	mg/L	-5.036	mg/kg
1	Fe 238.204	179.9	178.8	0.006	mg/L	5.777	mg/kg
1	K 766.514	-2961.3	-2942.5	-0.065	mg/L	-65.00	mg/kg
1	Li 670.781	-159.8	-158.8	0.001	mg/L	1.327	mg/kg

1	Mg 279.074	-6.0	-6.0	-0.014 mg/L	-13.89 mg/kg
1	Mn 257.610	-34.8	-34.6	-0.002 mg/L	-1.763 mg/kg
1	Mo 202.031	48.6	48.3	0.015 mg/L	14.75 mg/kg
1	Na 588.995	75905.9	75423.9	0.100 mg/L	100.1 mg/kg
1	Ni 231.603	-3.8	-3.7	-0.002 mg/L	-1.515 mg/kg
1	P 178.221	-1.3	-1.3	-0.086 mg/L	-85.67 mg/kg
1	Pb 220.353	12.5	12.5	0.039 mg/L	39.42 mg/kg
1	Sb 206.833	-42.2	-42.0	-0.012 mg/L	-12.20 mg/kg
1	Se 196.026	6.0	6.0	0.054 mg/L	53.52 mg/kg
1	Si 251.611	642.1	638.0	-0.027 mg/L	-26.96 mg/kg
1	Sn 189.933	78.5	78.0	0.019 mg/L	19.48 mg/kg
1	Sr 407.771	-1917.4	-1905.2	0.000 mg/L	-0.411 mg/kg
1	Ti 334.941	757.3	752.5	-0.003 mg/L	-2.721 mg/kg
1	Tl 190.800	-1.1	-1.1	-0.035 mg/L	-34.51 mg/kg
1	V 292.402	-13.1	-13.0	0.003 mg/L	2.537 mg/kg
1	Zn 206.200	8.6	8.6	-0.003 mg/L	-2.750 mg/kg
2	Sc 357.253	525401.8	525401.8	100 mg/kg	
2	Y 360.064	267919.7	267919.7	101 mg/kg	
2	Ag 328.068	125.2	124.7	-0.014 mg/L	-13.70 mg/kg
2	Al 396.140	-150.8	-150.1	-0.022 mg/L	-22.46 mg/kg
2	As 188.979	-7.4	-7.3	-0.012 mg/L	-12.19 mg/kg
2	B 249.773	761.2	758.1	-0.029 mg/L	-28.90 mg/kg
2	Ba 455.403	825.6	822.2	0.001 mg/L	0.615 mg/kg
2	Be 234.861	-22.2	-22.1	0.000 mg/L	0.279 mg/kg
2	Ca 315.887	767.9	764.7	-0.018 mg/L	-18.46 mg/kg
2	Cd 214.438	-69.9	-69.6	-0.001 mg/L	-0.813 mg/kg
2	Co 228.616	0.9	0.9	-0.002 mg/L	-1.743 mg/kg
2	Cr 205.558	23.3	23.2	0.001 mg/L	0.886 mg/kg
2	Cu 324.764	-31.3	-31.2	-0.002 mg/L	-2.089 mg/kg
2	Fe 238.204	168.0	167.3	0.005 mg/L	4.539 mg/kg
2	K 766.514	-2864.6	-2852.8	-0.030 mg/L	-30.34 mg/kg
2	Li 670.781	-155.4	-154.8	0.001 mg/L	1.359 mg/kg
2	Mg 279.074	32.3	32.2	0.018 mg/L	17.63 mg/kg
2	Mn 257.610	15.1	15.0	-0.001 mg/L	-1.100 mg/kg
2	Mo 202.031	35.9	35.7	-0.004 mg/L	-3.935 mg/kg
2	Na 588.995	75824.8	75513.6	0.105 mg/L	105.5 mg/kg
2	Ni 231.603	16.6	16.5	0.009 mg/L	8.858 mg/kg
2	P 178.221	-2.3	-2.3	-0.134 mg/L	-133.8 mg/kg
2	Pb 220.353	-1.8	-1.8	-0.011 mg/L	-10.78 mg/kg
2	Sb 206.833	-45.7	-45.5	-0.034 mg/L	-33.57 mg/kg
2	Se 196.026	3.0	2.9	0.012 mg/L	11.99 mg/kg
2	Si 251.611	638.9	636.3	-0.027 mg/L	-27.41 mg/kg
2	Sn 189.933	78.2	77.9	0.019 mg/L	18.84 mg/kg
2	Sr 407.771	-1947.6	-1939.7	0.000 mg/L	-0.454 mg/kg
2	Ti 334.941	764.9	761.7	-0.003 mg/L	-2.624 mg/kg
2	Tl 190.800	2.2	2.2	0.053 mg/L	52.65 mg/kg
2	V 292.402	-42.6	-42.4	0.000 mg/L	0.381 mg/kg
2	Zn 206.200	10.7	10.6	-0.002 mg/L	-1.728 mg/kg

Mean Data ----------

ID: CCB Seq. No.: 16 Sample No.: 10 A/S Pos: 1

Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 14:53:08

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	525995.2	101	0.2	mg/kg				0.16%
Y 360.064	268172.3	101	0.1	mg/kg				0.13%
Ag 328.068	87.6	-0.016	0.0028	mg/L	-15.66	2.760	mg/kg	17.63%
*QC exceeds lower limit for Ag 328.068 Action = Continue								
Al 396.140	-160.3	-0.026	0.0047	mg/L	-25.77	4.681	mg/kg	18.17%
As 188.979	-6.8	-0.008	0.0063	mg/L	-7.723	6.3110	mg/kg	81.72%
B 249.773	766.6	-0.028	0.0013	mg/L	-27.98	1.302	mg/kg	4.65%
Ba 455.403	818.4	0.001	0.0000	mg/L	0.605	0.0143	mg/kg	2.37%
Be 234.861	-23.6	0.000	0.0000	mg/L	0.265	0.0205	mg/kg	7.74%
Ca 315.887	760.3	-0.019	0.0006	mg/L	-18.92	0.646	mg/kg	3.42%
Cd 214.438	-75.9	-0.002	0.0016	mg/L	-1.975	1.6433	mg/kg	83.19%
Co 228.616	-2.5	-0.003	0.0013	mg/L	-2.685	1.3316	mg/kg	49.60%
Cr 205.558	25.6	0.003	0.0033	mg/L	3.226	3.3096	mg/kg	102.59%
Cu 324.764	-53.8	-0.004	0.0021	mg/L	-3.563	2.0838	mg/kg	58.49%
Fe 238.204	173.1	0.005	0.0009	mg/L	5.158	0.8750	mg/kg	16.97%

K 766.514	-2897.7	-0.048	0.0245 mg/L	-47.67	24.514 mg/kg	51.42%
Li 670.781	-156.8	0.001	0.0000 mg/L	1.343	0.0228 mg/kg	1.70%
Mg 279.074	13.1	0.002	0.0223 mg/L	1.874	22.2880 mg/kg	>999.9%
Mn 257.610	-9.8	-0.001	0.0005 mg/L	-1.431	0.4689 mg/kg	32.76%
Mo 202.031	42.0	0.005	0.0132 mg/L	5.408	13.2117 mg/kg	244.32%
Na 588.995	75468.7	0.103	0.0038 mg/L	102.8	3.79 mg/kg	3.69%
Ni 231.603	6.4	0.004	0.0073 mg/L	3.671	7.3354 mg/kg	199.80%
P 178.221	-1.8	-0.110	0.0341 mg/L	-109.7	34.05 mg/kg	31.03%
Pb 220.353	5.3	0.014	0.0355 mg/L	14.32	35.498 mg/kg	247.86%
Sb 206.833	-43.7	-0.023	0.0151 mg/L	-22.89	15.108 mg/kg	66.01%
Se 196.026	4.5	0.033	0.0294 mg/L	32.75	29.363 mg/kg	89.65%
Si 251.611	637.2	-0.027	0.0003 mg/L	-27.19	0.317 mg/kg	1.16%
Sn 189.933	77.9	0.019	0.0004 mg/L	19.16	0.450 mg/kg	2.35%
Sr 407.771	-1922.4	0.000	0.0000 mg/L	-0.432	0.0299 mg/kg	6.92%
Ti 334.941	757.1	-0.003	0.0001 mg/L	-2.672	0.0679 mg/kg	2.54%
Tl 190.800	0.5	0.009	0.0616 mg/L	9.069	61.6357 mg/kg	679.62%
V 292.402	-27.7	0.001	0.0015 mg/L	1.459	1.5244 mg/kg	104.49%
Zn 206.200	9.6	-0.002	0.0007 mg/L	-2.239	0.7232 mg/kg	32.30%

Replicate Data

ID: mpb-185858 Date: 5/20/02 14:57:15

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	528917.8	528917.8	101	mg/kg		
1	Y 360.064	269504.2	269504.2	102	mg/kg		
1	Ag 328.068	85.8	84.9	-0.016	mg/L	-1.580	mg/kg
1	Al 396.140	-174.8	-172.9	-0.030	mg/L	-2.984	mg/kg
1	As 188.979	-12.3	-12.1	-0.050	mg/L	-4.955	mg/kg
1	B 249.773	686.4	679.0	-0.037	mg/L	-3.747	mg/kg
1	Ba 455.403	860.9	851.7	0.001	mg/L	0.069	mg/kg
1	Be 234.861	-25.1	-24.8	0.000	mg/L	0.025	mg/kg
1	Ca 315.887	1477.5	1461.7	0.053	mg/L	5.325	mg/kg
1	Cd 214.438	-69.6	-68.9	-0.001	mg/L	-0.067	mg/kg
1	Co 228.616	15.0	14.8	0.002	mg/L	0.216	mg/kg
1	Cr 205.558	29.3	29.0	0.007	mg/L	0.661	mg/kg
1	Cu 324.764	-75.0	-74.2	-0.005	mg/L	-0.489	mg/kg
1	Fe 238.204	190.5	188.5	0.007	mg/L	0.683	mg/kg
1	K 766.514	-2924.7	-2893.4	-0.046	mg/L	-4.602	mg/kg
1	Li 670.781	-145.0	-143.5	0.001	mg/L	0.145	mg/kg
1	Mg 279.074	10.4	10.3	0.000	mg/L	-0.046	mg/kg
1	Mn 257.610	-12.9	-12.8	-0.001	mg/L	-0.147	mg/kg
1	Mo 202.031	41.2	40.8	0.004	mg/L	0.355	mg/kg
1	Na 588.995	75584.0	74773.4	0.061	mg/L	6.120	mg/kg
1	Ni 231.603	6.8	6.7	0.004	mg/L	0.382	mg/kg
1	P 178.221	1.4	1.4	0.041	mg/L	4.140	mg/kg
1	Pb 220.353	2.4	2.4	0.004	mg/L	0.399	mg/kg
1	Sb 206.833	-54.1	-53.6	-0.083	mg/L	-8.268	mg/kg
1	Se 196.026	3.8	3.8	0.023	mg/L	2.310	mg/kg
1	Si 251.611	592.3	586.0	-0.040	mg/L	-4.024	mg/kg
1	Sn 189.933	75.7	74.9	0.001	mg/L	0.073	mg/kg
1	Sr 407.771	-2145.3	-2122.3	-0.001	mg/L	-0.068	mg/kg
1	Ti 334.941	742.9	735.0	-0.003	mg/L	-0.290	mg/kg
1	Tl 190.800	-1.2	-1.2	-0.036	mg/L	-3.622	mg/kg
1	V 292.402	-31.2	-30.9	0.001	mg/L	0.123	mg/kg
1	Zn 206.200	36.1	35.7	0.011	mg/L	1.085	mg/kg
2	Sc 357.253	530327.1	530327.1	101	mg/kg		
2	Y 360.064	270362.4	270362.4	102	mg/kg		
2	Ag 328.068	133.0	131.2	-0.013	mg/L	-1.336	mg/kg
2	Al 396.140	-210.1	-207.3	-0.041	mg/L	-4.101	mg/kg
2	As 188.979	3.8	3.7	0.074	mg/L	7.421	mg/kg
2	B 249.773	700.3	690.9	-0.036	mg/L	-3.618	mg/kg
2	Ba 455.403	779.8	769.3	0.000	mg/L	0.047	mg/kg
2	Be 234.861	-31.5	-31.0	0.000	mg/L	0.019	mg/kg
2	Ca 315.887	1531.8	1511.4	0.058	mg/L	5.836	mg/kg
2	Cd 214.438	-67.5	-66.6	0.000	mg/L	-0.025	mg/kg
2	Co 228.616	4.7	4.6	-0.001	mg/L	-0.070	mg/kg
2	Cr 205.558	24.4	24.1	0.002	mg/L	0.175	mg/kg
2	Cu 324.764	-42.2	-41.6	-0.003	mg/L	-0.277	mg/kg
2	Fe 238.204	157.6	155.5	0.003	mg/L	0.325	mg/kg

2 K 766.514	-2926.1	-2887.0	-0.044 mg/L	-4.355 mg/kg
2 Li 670.781	-101.1	-99.8	0.002 mg/L	0.180 mg/kg
2 Mg 279.074	2.8	2.8	-0.007 mg/L	-0.665 mg/kg
2 Mn 257.610	4.7	4.6	-0.001 mg/L	-0.124 mg/kg
2 Mo 202.031	38.7	38.2	0.000 mg/L	-0.023 mg/kg
2 Na 588.995	75663.4	74653.1	0.054 mg/L	5.400 mg/kg
2 Ni 231.603	-3.3	-3.2	-0.001 mg/L	-0.125 mg/kg
2 P 178.221	-6.9	-6.8	-0.350 mg/L	-34.97 mg/kg
2 Pb 220.353	9.1	9.0	0.027 mg/L	2.711 mg/kg
2 Sb 206.833	-51.0	-50.3	-0.063 mg/L	-6.309 mg/kg
2 Se 196.026	2.0	1.9	-0.002 mg/L	-0.172 mg/kg
2 Si 251.611	601.8	593.7	-0.038 mg/L	-3.826 mg/kg
2 Sn 189.933	79.2	78.2	0.021 mg/L	2.072 mg/kg
2 Sr 407.771	-2098.9	-2070.9	-0.001 mg/L	-0.061 mg/kg
2 Ti 334.941	682.8	673.7	-0.004 mg/L	-0.354 mg/kg
2 Tl 190.800	-1.5	-1.5	-0.044 mg/L	-4.423 mg/kg
2 V 292.402	-36.4	-35.9	0.001 mg/L	0.086 mg/kg
2 Zn 206.200	39.2	38.7	0.012 mg/L	1.235 mg/kg

Mean Data ----------

ID: mpb-185858 Seq. No.: 17 Sample No.: 1 A/S Pos: 17
Sample Qty: 0.5000 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 14:57:15

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	529622.5	101	0.2	mg/kg				0.19%
Y 360.064	269933.3	102	0.2	mg/kg				0.22%
Ag 328.068	108.0	-0.015	0.0017	mg/L	-1.458	0.1724	mg/kg	11.82%
Al 396.140	-190.1	-0.035	0.0079	mg/L	-3.543	0.7895	mg/kg	22.28%
As 188.979	-4.2	0.012	0.0875	mg/L	1.233	8.7514	mg/kg	709.64%
B 249.773	685.0	-0.037	0.0009	mg/L	-3.683	0.0909	mg/kg	2.47%
Ba 455.403	810.5	0.001	0.0002	mg/L	0.058	0.0156	mg/kg	26.81%
Be 234.861	-27.9	0.000	0.0000	mg/L	0.022	0.0044	mg/kg	19.77%
Ca 315.887	1486.5	0.056	0.0036	mg/L	5.580	0.3615	mg/kg	6.48%
Cd 214.438	-67.7	0.000	0.0003	mg/L	-0.046	0.0299	mg/kg	64.73%
Co 228.616	9.7	0.001	0.0020	mg/L	0.073	0.2026	mg/kg	277.33%
Cr 205.558	26.5	0.004	0.0034	mg/L	0.418	0.3433	mg/kg	82.14%
Cu 324.764	-57.9	-0.004	0.0015	mg/L	-0.383	0.1500	mg/kg	39.19%
Fe 238.204	172.0	0.005	0.0025	mg/L	0.504	0.2526	mg/kg	50.13%
K 766.514	-2890.2	-0.045	0.0017	mg/L	-4.478	0.1743	mg/kg	3.89%
Li 670.781	-121.6	0.002	0.0002	mg/L	0.162	0.0247	mg/kg	15.20%
Mg 279.074	6.5	-0.004	0.0044	mg/L	-0.356	0.4373	mg/kg	123.00%
Mn 257.610	-4.1	-0.001	0.0002	mg/L	-0.135	0.0165	mg/kg	12.14%
Mo 202.031	39.5	0.002	0.0027	mg/L	0.166	0.2673	mg/kg	160.90%
Na 588.995	74713.2	0.058	0.0051	mg/L	5.760	0.5091	mg/kg	8.84%
Ni 231.603	1.7	0.001	0.0036	mg/L	0.129	0.3586	mg/kg	278.68%
P 178.221	-2.7	-0.154	0.2765	mg/L	-15.41	27.653	mg/kg	179.41%
Pb 220.353	5.7	0.016	0.0163	mg/L	1.555	1.6349	mg/kg	105.13%
Sb 206.833	-51.9	-0.073	0.0139	mg/L	-7.288	1.3854	mg/kg	19.01%
Se 196.026	2.9	0.011	0.0175	mg/L	1.069	1.7549	mg/kg	164.22%
Si 251.611	589.9	-0.039	0.0014	mg/L	-3.925	0.1400	mg/kg	3.57%
Sn 189.933	76.5	0.011	0.0141	mg/L	1.073	1.4137	mg/kg	131.77%
Sr 407.771	-2096.6	-0.001	0.0000	mg/L	-0.065	0.0045	mg/kg	6.90%
Ti 334.941	704.3	-0.003	0.0004	mg/L	-0.322	0.0449	mg/kg	13.93%
Tl 190.800	-1.3	-0.040	0.0057	mg/L	-4.022	0.5663	mg/kg	14.08%
V 292.402	-33.4	0.001	0.0003	mg/L	0.104	0.0259	mg/kg	24.88%
Zn 206.200	37.2	0.012	0.0011	mg/L	1.160	0.1055	mg/kg	9.10%

Replicate Data ----------

ID: lfb-185858 Date: 5/20/02 15:01:24

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	533066.1	533066.1	102	mg/kg		
1	Y 360.064	271026.1	271026.1	102	mg/kg		
1	Ag 328.068	9534.9	9359.3	0.472	mg/L	47.23	mg/kg
1	Al 396.140	7584.7	7445.0	2.408	mg/L	240.8	mg/kg
1	As 188.979	307.4	301.7	2.404	mg/L	240.4	mg/kg
1	B 249.773	5277.0	5179.8	0.450	mg/L	45.04	mg/kg
1	Ba 455.403	191051.0	187531.2	0.505	mg/L	50.52	mg/kg

1 Be 234.861	4800.2	4711.7	0.047	mg/L	4.740 mg/kg
1 Ca 315.887	243013.5	238536.4	24.44	mg/L	2444 mg/kg
1 Cd 214.438	2636.2	2587.6	0.491	mg/L	49.09 mg/kg
1 Co 228.616	1770.3	1737.7	0.485	mg/L	48.53 mg/kg
1 Cr 205.558	532.1	522.3	0.492	mg/L	49.20 mg/kg
1 Cu 324.764	7405.9	7269.5	0.471	mg/L	47.09 mg/kg
1 Fe 238.204	5002.1	4909.9	0.518	mg/L	51.78 mg/kg
1 K 766.514	65251.5	64049.4	25.82	mg/L	2582 mg/kg
1 Li 670.781	61628.0	60492.6	0.486	mg/L	48.58 mg/kg
1 Mg 279.074	28987.3	28453.3	23.49	mg/L	2349 mg/kg
1 Mn 257.610	37250.8	36564.5	0.488	mg/L	48.78 mg/kg
1 Mo 202.031	730.1	716.7	1.005	mg/L	100.5 mg/kg
1 Na 588.995	476829.6	468044.9	23.59	mg/L	2359 mg/kg
1 Ni 231.603	952.3	931.8	0.480	mg/L	47.98 mg/kg
1 P 178.221	46.1	45.3	2.157	mg/L	215.7 mg/kg
1 Pb 220.353	150.1	147.3	0.514	mg/L	51.42 mg/kg
1 Sb 206.833	801.4	786.6	5.026	mg/L	502.6 mg/kg
1 Se 196.026	184.0	180.6	2.458	mg/L	245.8 mg/kg
1 Si 251.611	20484.4	20107.0	4.826	mg/L	482.6 mg/kg
1 Sn 189.933	897.4	880.9	4.724	mg/L	472.4 mg/kg
1 Sr 407.771	406592.2	399101.5	0.492	mg/L	49.22 mg/kg
1 Ti 334.941	100737.3	98881.4	1.020	mg/L	102.0 mg/kg
1 Tl 190.800	90.6	88.9	2.374	mg/L	237.4 mg/kg
1 V 292.402	6729.7	6605.7	0.487	mg/L	48.72 mg/kg
1 Zn 206.200	1029.3	1010.3	0.500	mg/L	50.01 mg/kg
2 Sc 357.253	528414.2	528414.2	101	mg/kg	
2 Y 360.064	268666.2	268666.2	101	mg/kg	
2 Ag 328.068	9496.8	9403.9	0.475	mg/L	47.46 mg/kg
2 Al 396.140	7565.0	7491.0	2.423	mg/L	242.3 mg/kg
2 As 188.979	311.8	308.8	2.458	mg/L	245.8 mg/kg
2 B 249.773	5224.1	5173.0	0.450	mg/L	44.97 mg/kg
2 Ba 455.403	190926.9	189059.3	0.509	mg/L	50.94 mg/kg
2 Be 234.861	4763.0	4716.4	0.047	mg/L	4.744 mg/kg
2 Ca 315.887	243303.0	240923.1	24.69	mg/L	2469 mg/kg
2 Cd 214.438	2626.6	2600.9	0.493	mg/L	49.34 mg/kg
2 Co 228.616	1747.3	1730.2	0.483	mg/L	48.31 mg/kg
2 Cr 205.558	531.9	526.7	0.496	mg/L	49.63 mg/kg
2 Cu 324.764	7428.7	7356.1	0.477	mg/L	47.65 mg/kg
2 Fe 238.204	4939.2	4890.9	0.516	mg/L	51.58 mg/kg
2 K 766.514	65138.5	64501.3	26.00	mg/L	2600 mg/kg
2 Li 670.781	61605.5	61002.9	0.490	mg/L	48.99 mg/kg
2 Mg 279.074	28835.6	28553.5	23.58	mg/L	2358 mg/kg
2 Mn 257.610	37198.1	36834.3	0.491	mg/L	49.14 mg/kg
2 Mo 202.031	715.7	708.7	0.993	mg/L	99.28 mg/kg
2 Na 588.995	476808.2	472144.1	23.84	mg/L	2384 mg/kg
2 Ni 231.603	962.0	949.5	0.489	mg/L	48.89 mg/kg
2 P 178.221	46.7	46.2	2.202	mg/L	220.2 mg/kg
2 Pb 220.353	143.1	141.7	0.494	mg/L	49.45 mg/kg
2 Sb 206.833	803.1	795.2	5.079	mg/L	507.9 mg/kg
2 Se 196.026	183.6	181.8	2.474	mg/L	247.4 mg/kg
2 Si 251.611	20442.5	20242.5	4.861	mg/L	486.1 mg/kg
2 Sn 189.933	901.1	892.3	4.793	mg/L	479.3 mg/kg
2 Sr 407.771	406329.4	402354.7	0.496	mg/L	49.62 mg/kg
2 Ti 334.941	100414.9	99432.7	1.025	mg/L	102.5 mg/kg
2 Tl 190.800	91.5	90.6	2.419	mg/L	241.9 mg/kg
2 V 292.402	6656.2	6591.1	0.486	mg/L	48.61 mg/kg
2 Zn 206.200	1015.9	1006.0	0.498	mg/L	49.79 mg/kg

Mean Data ----------

ID: lfb-185858 Seq. No.: 18 Sample No.: 2 A/S Pos: 18
Sample Qty: 0.5000 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 15:01:24

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	530740.1	101	0.6	mg/kg				0.62%
Y 360.064	269846.2	102	0.6	mg/kg				0.62%
Ag 328.068	9381.6	0.473	0.0017	mg/L	47.35	0.166	mg/kg	0.35%
Al 396.140	7468.0	2.416	0.0108	mg/L	241.6	1.08	mg/kg	0.45%
As 188.979	305.2	2.431	0.0388	mg/L	243.1	3.88	mg/kg	1.60%
B 249.773	5176.4	0.450	0.0005	mg/L	45.00	0.052	mg/kg	0.12%

Ba 455.403	188295.2	0.507	0.0029 mg/L	50.73	0.292 mg/kg	0.58%
Be 234.861	4714.1	0.047	0.0000 mg/L	4.742	0.0033 mg/kg	0.07%
Ca 315.887	239729.8	24.57	0.174 mg/L	2457	17.4 mg/kg	0.71%
Cd 214.438	2594.3	0.492	0.0017 mg/L	49.22	0.173 mg/kg	0.35%
Co 228.616	1734.0	0.484	0.0015 mg/L	48.42	0.149 mg/kg	0.31%
Cr 205.558	524.5	0.494	0.0030 mg/L	49.42	0.305 mg/kg	0.62%
Cu 324.764	7312.8	0.474	0.0040 mg/L	47.37	0.398 mg/kg	0.84%
Fe 238.204	4900.4	0.517	0.0015 mg/L	51.68	0.146 mg/kg	0.28%
K 766.514	64275.3	25.91	0.123 mg/L	2591	12.3 mg/kg	0.48%
Li 670.781	60747.8	0.488	0.0029 mg/L	48.79	0.288 mg/kg	0.59%
Mg 279.074	28503.4	23.53	0.059 mg/L	2353	5.9 mg/kg	0.25%
Mn 257.610	36699.4	0.490	0.0026 mg/L	48.96	0.255 mg/kg	0.52%
Mo 202.031	712.7	0.999	0.0084 mg/L	99.87	0.839 mg/kg	0.84%
Na 588.995	470094.5	23.71	0.173 mg/L	2371	17.3 mg/kg	0.73%
Ni 231.603	940.7	0.484	0.0064 mg/L	48.44	0.645 mg/kg	1.33%
P 178.221	45.8	2.179	0.0323 mg/L	217.9	3.23 mg/kg	1.48%
Pb 220.353	144.5	0.504	0.0139 mg/L	50.43	1.393 mg/kg	2.76%
Sb 206.833	790.9	5.053	0.0371 mg/L	505.3	3.71 mg/kg	0.73%
Se 196.026	181.2	2.466	0.0117 mg/L	246.6	1.17 mg/kg	0.47%
Si 251.611	20174.8	4.843	0.0242 mg/L	484.3	2.42 mg/kg	0.50%
Sn 189.933	886.6	4.759	0.0489 mg/L	475.9	4.89 mg/kg	1.03%
Sr 407.771	400728.1	0.494	0.0028 mg/L	49.42	0.283 mg/kg	0.57%
Ti 334.941	99157.0	1.022	0.0041 mg/L	102.2	0.41 mg/kg	0.40%
Tl 190.800	89.7	2.396	0.0319 mg/L	239.6	3.19 mg/kg	1.33%
V 292.402	6598.4	0.487	0.0008 mg/L	48.67	0.076 mg/kg	0.16%
Zn 206.200	1008.2	0.499	0.0016 mg/L	49.90	0.155 mg/kg	0.31%

Replicate Data ----------

ID: 305336 Date: 5/20/02 15:05:41

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	512249.0	512249.0	98	mg/kg		
1	Y 360.064	261517.8	261517.8	99	mg/kg		
1	Ag 328.068	-71.8	-73.3	-0.024	mg/L	-2.411	mg/kg
1	Al 396.140	238735.3	243860.2	79.12	mg/L	7905	mg/kg
1	As 188.979	10.6	10.8	0.130	mg/L	12.97	mg/kg
1	B 249.773	3739.9	3820.2	0.151	mg/L	15.13	mg/kg
1	Ba 455.403	231018.0	235977.3	0.659	mg/L	65.87	mg/kg
1	Be 234.861	1551.4	1584.7	0.003	mg/L	0.301	mg/kg
1	Ca 315.887	3398973.9	3471938.9	357.1	mg/L	35680	mg/kg
1	Cd 214.438	113.2	115.6	-0.005	mg/L	-0.483	mg/kg
1	Co 228.616	240.1	245.3	0.067	mg/L	6.673	mg/kg
1	Cr 205.558	143.5	146.6	0.214	mg/L	21.41	mg/kg
1	Cu 324.764	1698.8	1735.3	0.090	mg/L	9.021	mg/kg
1	Fe 238.204	1105089.6	1128812.3	122.2	mg/L	12210	mg/kg
1	K 766.514	25000.5	25537.2	10.94	mg/L	1093	mg/kg
1	Li 670.781	5627.3	5748.1	0.049	mg/L	4.847	mg/kg
1	Mg 279.074	251217.1	256609.9	211.9	mg/L	21180	mg/kg
1	Mn 257.610	401972.5	410601.6	5.491	mg/L	548.6	mg/kg
1	Mo 202.031	61.1	62.4	0.036	mg/L	3.561	mg/kg
1	Na 588.995	100441.7	102597.9	1.726	mg/L	172.5	mg/kg
1	Ni 231.603	177.3	179.8	0.093	mg/L	9.284	mg/kg
1	P 178.221	70.8	72.3	3.459	mg/L	345.6	mg/kg
1	Pb 220.353	32.9	33.6	0.114	mg/L	11.38	mg/kg
1	Sb 206.833	-54.8	-56.0	-0.097	mg/L	-9.732	mg/kg
1	Se 196.026	9.0	9.2	0.098	mg/L	9.837	mg/kg
1	Si 251.611	73919.5	75506.3	18.07	mg/L	1806	mg/kg
1	Sn 189.933	51.6	52.7	-1.416	mg/L	-141.5	mg/kg
1	Sr 407.771	191492.0	195602.7	0.242	mg/L	24.20	mg/kg
1	Ti 334.941	249282.4	254633.7	2.683	mg/L	268.1	mg/kg
1	Tl 190.800	6.2	6.3	0.283	mg/L	28.33	mg/kg
1	V 292.402	3736.3	3816.5	0.283	mg/L	28.27	mg/kg
1	Zn 206.200	644.6	658.5	0.323	mg/L	32.32	mg/kg
2	Sc 357.253	509972.8	509972.8	97	mg/kg		
2	Y 360.064	260339.4	260339.4	98	mg/kg		
2	Ag 328.068	-138.6	-142.2	-0.028	mg/L	-2.773	mg/kg
2	Al 396.140	239588.1	245823.6	79.75	mg/L	7969	mg/kg
2	As 188.979	9.9	10.1	0.124	mg/L	12.42	mg/kg
2	B 249.773	3767.0	3865.0	0.155	mg/L	15.51	mg/kg

2 Ba 455.403	231317.8	237338.0	0.663 mg/L	66.25 mg/kg
2 Be 234.861	1558.6	1599.2	0.003 mg/L	0.306 mg/kg
2 Ca 315.887	3405623.5	3494258.1	359.4 mg/L	35910 mg/kg
2 Cd 214.438	104.8	107.5	-0.007 mg/L	-0.655 mg/kg
2 Co 228.616	249.1	255.5	0.070 mg/L	6.961 mg/kg
2 Cr 205.558	134.6	138.1	0.206 mg/L	20.63 mg/kg
2 Cu 324.764	1716.3	1761.0	0.092 mg/L	9.175 mg/kg
2 Fe 238.204	1107727.8	1136557.4	123.0 mg/L	12290 mg/kg
2 K 766.514	24923.9	25572.6	10.95 mg/L	1095 mg/kg
2 Li 670.781	5601.3	5747.0	0.049 mg/L	4.847 mg/kg
2 Mg 279.074	251634.4	258183.4	213.2 mg/L	21310 mg/kg
2 Mn 257.610	402677.3	413157.4	5.525 mg/L	552.1 mg/kg
2 Mo 202.031	45.6	46.8	0.013 mg/L	1.250 mg/kg
2 Na 588.995	100441.6	103055.6	1.753 mg/L	175.2 mg/kg
2 Ni 231.603	191.9	195.5	0.101 mg/L	10.09 mg/kg
2 P 178.221	71.0	72.8	3.483 mg/L	348.1 mg/kg
2 Pb 220.353	35.2	36.1	0.123 mg/L	12.26 mg/kg
2 Sb 206.833	-56.2	-57.7	-0.108 mg/L	-10.77 mg/kg
2 Se 196.026	9.9	10.2	0.111 mg/L	11.11 mg/kg
2 Si 251.611	73704.8	75623.0	18.09 mg/L	1808 mg/kg
2 Sn 189.933	60.0	61.6	-1.370 mg/L	-136.9 mg/kg
2 Sr 407.771	192093.4	197092.8	0.244 mg/L	24.39 mg/kg
2 Ti 334.941	249912.6	256416.8	2.702 mg/L	270.0 mg/kg
2 Tl 190.800	3.3	3.4	0.206 mg/L	20.55 mg/kg
2 V 292.402	3750.1	3847.7	0.285 mg/L	28.50 mg/kg
2 Zn 206.200	647.6	664.4	0.326 mg/L	32.62 mg/kg

Mean Data ----------

ID: 305336 Seq. No.: 19 Sample No.: 3 A/S Pos: 19
Sample Qty: 0.5004 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 15:05:41

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	511110.9	98	0.3	mg/kg				0.31%
Y 360.064	260928.6	98	0.3	mg/kg				0.32%
Ag 328.068	-107.8	-0.026	0.0026	mg/L	-2.592	0.2561	mg/kg	9.88%
Al 396.140	244841.9	79.44	0.450	mg/L	7937	45.0	mg/kg	0.57%
As 188.979	10.5	0.127	0.0039	mg/L	12.70	0.394	mg/kg	3.10%
B 249.773	3842.6	0.153	0.0027	mg/L	15.32	0.269	mg/kg	1.76%
Ba 455.403	236657.6	0.661	0.0027	mg/L	66.06	0.271	mg/kg	0.41%
Be 234.861	1592.0	0.003	0.0000	mg/L	0.304	0.0038	mg/kg	1.25%
Ca 315.887	3483098.5	358.3	1.62	mg/L	35800	162.2	mg/kg	0.45%
Cd 214.438	111.6	-0.006	0.0012	mg/L	-0.569	0.1218	mg/kg	21.41%
Co 228.616	250.4	0.068	0.0020	mg/L	6.817	0.2032	mg/kg	2.98%
Cr 205.558	142.3	0.210	0.0055	mg/L	21.02	0.552	mg/kg	2.62%
Cu 324.764	1748.2	0.091	0.0011	mg/L	9.098	0.1083	mg/kg	1.19%
Fe 238.204	1132684.9	122.6	0.59	mg/L	12250	59.2	mg/kg	0.48%
K 766.514	25554.9	10.95	0.010	mg/L	1094	1.0	mg/kg	0.09%
Li 670.781	5747.6	0.049	0.0000	mg/L	4.847	0.0006	mg/kg	0.01%
Mg 279.074	257396.7	212.6	0.92	mg/L	21240	91.8	mg/kg	0.43%
Mn 257.610	411879.5	5.508	0.0242	mg/L	550.4	2.42	mg/kg	0.44%
Mo 202.031	54.6	0.024	0.0164	mg/L	2.405	1.6341	mg/kg	67.93%
Na 588.995	102826.8	1.740	0.0194	mg/L	173.8	1.94	mg/kg	1.11%
Ni 231.603	187.7	0.097	0.0057	mg/L	9.686	0.5684	mg/kg	5.87%
P 178.221	72.6	3.471	0.0172	mg/L	346.8	1.72	mg/kg	0.50%
Pb 220.353	34.9	0.118	0.0063	mg/L	11.82	0.625	mg/kg	5.28%
Sb 206.833	-56.8	-0.103	0.0074	mg/L	-10.25	0.737	mg/kg	7.19%
Se 196.026	9.7	0.105	0.0090	mg/L	10.47	0.901	mg/kg	8.60%
Si 251.611	75564.6	18.08	0.017	mg/L	1807	1.7	mg/kg	0.09%
Sn 189.933	57.2	-1.393	0.0326	mg/L	-139.2	3.26	mg/kg	2.34%
Sr 407.771	196347.8	0.243	0.0013	mg/L	24.30	0.129	mg/kg	0.53%
Ti 334.941	255525.3	2.693	0.0133	mg/L	269.1	1.33	mg/kg	0.49%
Tl 190.800	4.9	0.245	0.0551	mg/L	24.44	5.501	mg/kg	22.51%
V 292.402	3832.1	0.284	0.0016	mg/L	28.39	0.162	mg/kg	0.57%
Zn 206.200	661.4	0.325	0.0021	mg/L	32.47	0.211	mg/kg	0.65%

Replicate Data ----------

ID: 305337 Date: 5/20/02 15:09:58

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units

1	Sc 357.253	514154.8	514154.8	98	mg/kg	
1	Y 360.064	261491.6	261491.6	99	mg/kg	
1	Ag 328.068	-64.6	-65.8	-0.024	mg/L	-2.370 mg/kg
1	Al 396.140	157100.8	159878.5	51.87	mg/L	5182 mg/kg
1	As 188.979	10.1	10.3	0.126	mg/L	12.55 mg/kg
1	B 249.773	3080.1	3134.6	0.111	mg/L	11.04 mg/kg
1	Ba 455.403	153751.9	156470.4	0.441	mg/L	44.10 mg/kg
1	Be 234.861	1203.9	1225.2	0.002	mg/L	0.201 mg/kg
1	Ca 315.887	3034364.1	3088013.4	317.6	mg/L	31730 mg/kg
1	Cd 214.438	82.5	83.9	-0.005	mg/L	-0.502 mg/kg
1	Co 228.616	192.6	196.0	0.053	mg/L	5.290 mg/kg
1	Cr 205.558	116.3	118.3	0.164	mg/L	16.43 mg/kg
1	Cu 324.764	1447.5	1473.1	0.076	mg/L	7.608 mg/kg
1	Fe 238.204	871122.3	886524.2	95.94	mg/L	9584 mg/kg
1	K 766.514	19589.5	19935.9	8.776	mg/L	876.7 mg/kg
1	Li 670.781	4012.8	4083.8	0.035	mg/L	3.518 mg/kg
1	Mg 279.074	219402.9	223282.0	184.4	mg/L	18420 mg/kg
1	Mn 257.610	286378.6	291441.9	3.897	mg/L	389.3 mg/kg
1	Mo 202.031	48.4	49.3	0.016	mg/L	1.612 mg/kg
1	Na 588.995	102797.3	104614.8	1.847	mg/L	184.5 mg/kg
1	Ni 231.603	140.7	142.7	0.074	mg/L	7.376 mg/kg
1	P 178.221	53.6	54.5	2.601	mg/L	259.8 mg/kg
1	Pb 220.353	23.4	23.8	0.079	mg/L	7.929 mg/kg
1	Sb 206.833	-54.1	-55.0	-0.092	mg/L	-9.164 mg/kg
1	Se 196.026	1.5	1.5	-0.007	mg/L	-0.743 mg/kg
1	Si 251.611	77696.0	79069.7	19.11	mg/L	1909 mg/kg
1	Sn 189.933	59.3	60.3	-1.186	mg/L	-118.5 mg/kg
1	Sr 407.771	190981.9	194358.6	0.241	mg/L	24.05 mg/kg
1	Ti 334.941	228076.0	232108.5	2.441	mg/L	243.9 mg/kg
1	Tl 190.800	-6.3	-6.5	-0.078	mg/L	-7.810 mg/kg
1	V 292.402	3156.2	3212.0	0.239	mg/L	23.84 mg/kg
1	Zn 206.200	458.0	466.1	0.227	mg/L	22.67 mg/kg
2	Sc 357.253	510526.5	510526.5	98	mg/kg	
2	Y 360.064	259585.7	259585.7	98	mg/kg	
2	Ag 328.068	-70.7	-72.4	-0.024	mg/L	-2.405 mg/kg
2	Al 396.140	157101.0	161014.9	52.24	mg/L	5219 mg/kg
2	As 188.979	6.6	6.7	0.098	mg/L	9.780 mg/kg
2	B 249.773	3075.1	3151.7	0.111	mg/L	11.13 mg/kg
2	Ba 455.403	153768.8	157599.7	0.445	mg/L	44.42 mg/kg
2	Be 234.861	1187.4	1217.0	0.002	mg/L	0.184 mg/kg
2	Ca 315.887	3037220.7	3112887.5	320.2	mg/L	31990 mg/kg
2	Cd 214.438	86.1	88.2	-0.004	mg/L	-0.447 mg/kg
2	Co 228.616	189.8	194.5	0.053	mg/L	5.249 mg/kg
2	Cr 205.558	123.3	126.4	0.173	mg/L	17.29 mg/kg
2	Cu 324.764	1461.0	1497.4	0.078	mg/L	7.752 mg/kg
2	Fe 238.204	871882.3	893603.7	96.70	mg/L	9661 mg/kg
2	K 766.514	19655.9	20145.6	8.857	mg/L	884.8 mg/kg
2	Li 670.781	4006.8	4106.6	0.035	mg/L	3.537 mg/kg
2	Mg 279.074	219382.2	224847.7	185.7	mg/L	18550 mg/kg
2	Mn 257.610	286383.2	293517.9	3.925	mg/L	392.1 mg/kg
2	Mo 202.031	54.6	56.0	0.026	mg/L	2.609 mg/kg
2	Na 588.995	103047.9	105615.1	1.906	mg/L	190.5 mg/kg
2	Ni 231.603	139.7	142.7	0.074	mg/L	7.376 mg/kg
2	P 178.221	55.2	56.5	2.698	mg/L	269.5 mg/kg
2	Pb 220.353	26.7	27.3	0.092	mg/L	9.162 mg/kg
2	Sb 206.833	-55.5	-56.9	-0.103	mg/L	-10.27 mg/kg
2	Se 196.026	6.2	6.3	0.059	mg/L	5.866 mg/kg
2	Si 251.611	77749.0	79685.9	19.26	mg/L	1924 mg/kg
2	Sn 189.933	56.6	58.0	-1.207	mg/L	-120.6 mg/kg
2	Sr 407.771	190831.4	195585.6	0.242	mg/L	24.20 mg/kg
2	Ti 334.941	228147.6	233831.4	2.459	mg/L	245.7 mg/kg
2	Tl 190.800	1.5	1.5	0.136	mg/L	13.58 mg/kg
2	V 292.402	3208.0	3287.9	0.244	mg/L	24.40 mg/kg
2	Zn 206.200	461.8	473.3	0.231	mg/L	23.03 mg/kg

Mean Data

ID: 305337 Seq. No.: 20 Sample No.: 4 A/S Pos: 20

Sample Qty: 0.5005 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 15:09:58

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	512340.7	98	0.5	mg/kg				0.50%
Y 360.064	260538.6	98	0.5	mg/kg				0.52%
Ag 328.068	-69.1	-0.024	0.0002	mg/L	-2.388	0.0247	mg/kg	1.04%
Al 396.140	160446.7	52.06	0.261	mg/L	5200	26.0	mg/kg	0.50%
As 188.979	8.5	0.112	0.0196	mg/L	11.16	1.956	mg/kg	17.52%
B 249.773	3143.2	0.111	0.0006	mg/L	11.09	0.064	mg/kg	0.58%
Ba 455.403	157035.0	0.443	0.0023	mg/L	44.26	0.227	mg/kg	0.51%
Be 234.861	1221.1	0.002	0.0001	mg/L	0.193	0.0118	mg/kg	6.11%
Ca 315.887	3100450.4	318.9	1.81	mg/L	31860	180.8	mg/kg	0.57%
Cd 214.438	86.1	-0.005	0.0004	mg/L	-0.475	0.0389	mg/kg	8.19%
Co 228.616	195.2	0.053	0.0003	mg/L	5.269	0.0289	mg/kg	0.55%
Cr 205.558	122.4	0.169	0.0060	mg/L	16.86	0.604	mg/kg	3.58%
Cu 324.764	1485.2	0.077	0.0010	mg/L	7.680	0.1017	mg/kg	1.32%
Fe 238.204	890064.0	96.32	0.542	mg/L	9622	54.1	mg/kg	0.56%
K 766.514	20040.7	8.817	0.0573	mg/L	880.8	5.73	mg/kg	0.65%
Li 670.781	4095.2	0.035	0.0001	mg/L	3.527	0.0129	mg/kg	0.37%
Mg 279.074	224064.9	185.1	0.91	mg/L	18490	91.4	mg/kg	0.49%
Mn 257.610	292479.9	3.911	0.0196	mg/L	390.7	1.96	mg/kg	0.50%
Mo 202.031	52.6	0.021	0.0071	mg/L	2.110	0.7055	mg/kg	33.43%
Na 588.995	105114.9	1.877	0.0423	mg/L	187.5	4.23	mg/kg	2.26%
Ni 231.603	142.7	0.074	0.0000	mg/L	7.376	0.0001	mg/kg	0.00%
P 178.221	55.5	2.649	0.0685	mg/L	264.7	6.85	mg/kg	2.59%
Pb 220.353	25.6	0.086	0.0087	mg/L	8.545	0.8713	mg/kg	10.20%
Sb 206.833	-56.0	-0.097	0.0078	mg/L	-9.717	0.7827	mg/kg	8.06%
Se 196.026	3.9	0.026	0.0468	mg/L	2.561	4.6736	mg/kg	182.46%
Si 251.611	79377.8	19.18	0.107	mg/L	1916	10.7	mg/kg	0.56%
Sn 189.933	59.2	-1.196	0.0148	mg/L	-119.5	1.47	mg/kg	1.23%
Sr 407.771	194972.1	0.241	0.0011	mg/L	24.12	0.106	mg/kg	0.44%
Ti 334.941	232970.0	2.450	0.0129	mg/L	244.8	1.29	mg/kg	0.53%
Tl 190.800	-2.5	0.029	0.1514	mg/L	2.885	15.1257	mg/kg	524.29%
V 292.402	3249.9	0.241	0.0039	mg/L	24.12	0.393	mg/kg	1.63%
Zn 206.200	469.7	0.229	0.0026	mg/L	22.85	0.256	mg/kg	1.12%

Replicate Data ----------

ID: 305338 Date: 5/20/02 15:14:16

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	527614.8	527614.8	101	mg/kg		
1	Y 360.064	268633.5	268633.5	101	mg/kg		
1	Ag 328.068	-84.2	-83.5	-0.025	mg/L	-2.464	mg/kg
1	Al 396.140	164118.0	162758.8	52.82	mg/L	5278	mg/kg
1	As 188.979	6.4	6.3	0.095	mg/L	9.460	mg/kg
1	B 249.773	2885.7	2861.8	0.087	mg/L	8.700	mg/kg
1	Ba 455.403	168377.1	166982.7	0.465	mg/L	46.43	mg/kg
1	Be 234.861	1133.9	1124.5	0.002	mg/L	0.228	mg/kg
1	Ca 315.887	2174574.9	2156566.2	221.8	mg/L	22160	mg/kg
1	Cd 214.438	65.0	64.4	-0.005	mg/L	-0.469	mg/kg
1	Co 228.616	164.3	163.0	0.044	mg/L	4.366	mg/kg
1	Cr 205.558	107.7	106.8	0.141	mg/L	14.10	mg/kg
1	Cu 324.764	1472.9	1460.7	0.081	mg/L	8.085	mg/kg
1	Fe 238.204	832614.6	825719.3	89.36	mg/L	8928	mg/kg
1	K 766.514	18898.5	18742.0	8.315	mg/L	830.8	mg/kg
1	Li 670.781	3924.9	3892.4	0.034	mg/L	3.366	mg/kg
1	Mg 279.074	161572.1	160234.1	132.3	mg/L	13220	mg/kg
1	Mn 257.610	272468.3	270211.9	3.613	mg/L	361.0	mg/kg
1	Mo 202.031	49.0	48.6	0.015	mg/L	1.514	mg/kg
1	Na 588.995	98887.7	98068.7	1.455	mg/L	145.4	mg/kg
1	Ni 231.603	132.5	130.8	0.068	mg/L	6.762	mg/kg
1	P 178.221	43.0	42.7	2.031	mg/L	203.0	mg/kg
1	Pb 220.353	16.0	15.8	0.051	mg/L	5.119	mg/kg
1	Sb 206.833	-56.4	-56.0	-0.097	mg/L	-9.732	mg/kg
1	Se 196.026	2.0	1.9	-0.002	mg/L	-0.194	mg/kg
1	Si 251.611	73304.3	72697.2	17.73	mg/L	1771	mg/kg
1	Sn 189.933	66.1	65.5	-0.860	mg/L	-85.93	mg/kg
1	Sr 407.771	128166.5	127105.1	0.158	mg/L	15.80	mg/kg
1	Ti 334.941	209205.8	207473.3	2.174	mg/L	217.3	mg/kg
1	Tl 190.800	1.3	1.3	0.109	mg/L	10.93	mg/kg
1	V 292.402	3031.9	3006.8	0.224	mg/L	22.35	mg/kg

1	Zn 206.200	415.5	412.0	0.200 mg/L	19.96 mg/kg
2	Sc 357.253	522118.7	522118.7	100 mg/kg	
2	Y 360.064	265824.7	265824.7	100 mg/kg	
2	Ag 328.068	-40.2	-40.3	-0.022 mg/L	-2.237 mg/kg
2	Al 396.140	163802.1	164155.6	53.27 mg/L	5323 mg/kg
2	As 188.979	10.3	10.3	0.126 mg/L	12.55 mg/kg
2	B 249.773	2904.5	2910.7	0.091 mg/L	9.137 mg/kg
2	Ba 455.403	167853.9	168216.1	0.468 mg/L	46.77 mg/kg
2	Be 234.861	1118.9	1121.4	0.002 mg/L	0.216 mg/kg
2	Ca 315.887	2171124.6	2175809.6	223.8 mg/L	22360 mg/kg
2	Cd 214.438	77.1	77.2	-0.003 mg/L	-0.256 mg/kg
2	Co 228.616	155.3	155.7	0.042 mg/L	4.162 mg/kg
2	Cr 205.558	114.6	114.8	0.149 mg/L	14.94 mg/kg
2	Cu 324.764	1488.3	1491.6	0.083 mg/L	8.275 mg/kg
2	Fe 238.204	830844.5	832637.3	90.10 mg/L	9003 mg/kg
2	K 766.514	18904.8	18945.6	8.394 mg/L	838.7 mg/kg
2	Li 670.781	3938.1	3946.6	0.034 mg/L	3.409 mg/kg
2	Mg 279.074	161200.6	161548.5	133.4 mg/L	13330 mg/kg
2	Mn 257.610	271815.4	272402.0	3.642 mg/L	363.9 mg/kg
2	Mo 202.031	54.1	54.2	0.023 mg/L	2.339 mg/kg
2	Na 588.995	99188.4	99402.5	1.535 mg/L	153.4 mg/kg
2	Ni 231.603	132.8	132.5	0.069 mg/L	6.849 mg/kg
2	P 178.221	46.6	46.7	2.224 mg/L	222.2 mg/kg
2	Pb 220.353	25.1	25.2	0.084 mg/L	8.417 mg/kg
2	Sb 206.833	-72.9	-73.1	-0.201 mg/L	-20.13 mg/kg
2	Se 196.026	6.6	6.6	0.062 mg/L	6.218 mg/kg
2	Si 251.611	73209.7	73367.6	17.89 mg/L	1788 mg/kg
2	Sn 189.933	56.6	56.7	-0.920 mg/L	-91.92 mg/kg
2	Sr 407.771	127570.8	127846.0	0.159 mg/L	15.89 mg/kg
2	Ti 334.941	209155.5	209606.8	2.197 mg/L	219.5 mg/kg
2	Tl 190.800	0.9	0.9	0.099 mg/L	9.877 mg/kg
2	V 292.402	3039.5	3046.1	0.227 mg/L	22.64 mg/kg
2	Zn 206.200	415.0	415.9	0.202 mg/L	20.15 mg/kg

Mean Data

ID: 305338 Seq. No.: 21 Sample No.: 5 A/S Pos: 21
Sample Qty: 0.5004 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 15:14:16

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	524866.7	100	0.7	mg/kg				0.74%
Y 360.064	267229.1	101	0.7	mg/kg				0.74%
Ag 328.068	-61.9	-0.024	0.0016	mg/L	-2.351	0.1605	mg/kg	6.83%
Al 396.140	163457.2	53.05	0.320	mg/L	5300	32.0	mg/kg	0.60%
As 188.979	8.3	0.110	0.0218	mg/L	11.00	2.181	mg/kg	19.83%
B 249.773	2886.3	0.089	0.0031	mg/L	8.919	0.3085	mg/kg	3.46%
Ba 455.403	167599.4	0.466	0.0025	mg/L	46.60	0.245	mg/kg	0.53%
Be 234.861	1122.9	0.002	0.0001	mg/L	0.222	0.0078	mg/kg	3.53%
Ca 315.887	2166187.9	222.8	1.40	mg/L	22260	139.9	mg/kg	0.63%
Cd 214.438	70.8	-0.004	0.0015	mg/L	-0.362	0.1506	mg/kg	41.58%
Co 228.616	159.3	0.043	0.0014	mg/L	4.264	0.1442	mg/kg	3.38%
Cr 205.558	110.8	0.145	0.0059	mg/L	14.52	0.593	mg/kg	4.08%
Cu 324.764	1476.1	0.082	0.0013	mg/L	8.180	0.1339	mg/kg	1.64%
Fe 238.204	829178.3	89.73	0.529	mg/L	8966	52.9	mg/kg	0.59%
K 766.514	18843.8	8.354	0.0556	mg/L	834.8	5.56	mg/kg	0.67%
Li 670.781	3919.5	0.034	0.0003	mg/L	3.388	0.0306	mg/kg	0.90%
Mg 279.074	160891.3	132.9	0.77	mg/L	13280	76.7	mg/kg	0.58%
Mn 257.610	271306.9	3.628	0.0207	mg/L	362.5	2.07	mg/kg	0.57%
Mo 202.031	51.4	0.019	0.0058	mg/L	1.927	0.5828	mg/kg	30.25%
Na 588.995	98735.6	1.495	0.0564	mg/L	149.4	5.64	mg/kg	3.77%
Ni 231.603	131.6	0.068	0.0006	mg/L	6.805	0.0615	mg/kg	0.90%
P 178.221	44.7	2.128	0.1364	mg/L	212.6	13.63	mg/kg	6.41%
Pb 220.353	20.5	0.068	0.0233	mg/L	6.768	2.3327	mg/kg	34.47%
Sb 206.833	-64.5	-0.149	0.0736	mg/L	-14.93	7.350	mg/kg	49.23%
Se 196.026	4.3	0.030	0.0454	mg/L	3.012	4.5339	mg/kg	150.51%
Si 251.611	73032.4	17.81	0.117	mg/L	1779	11.7	mg/kg	0.66%
Sn 189.933	61.1	-0.890	0.0424	mg/L	-88.93	4.238	mg/kg	4.77%
Sr 407.771	127475.6	0.159	0.0006	mg/L	15.84	0.064	mg/kg	0.41%
Ti 334.941	208540.0	2.186	0.0158	mg/L	218.4	1.58	mg/kg	0.73%
Tl 190.800	1.1	0.104	0.0074	mg/L	10.40	0.743	mg/kg	7.14%

V 292.402	3026.4	0.225	0.0020 mg/L	22.49	0.203 mg/kg	0.90%
Zn 206.200	414.0	0.201	0.0014 mg/L	20.06	0.136 mg/kg	0.68%

Replicate Data

ID: 305339 Date: 5/20/02 15:18:34

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	526508.2	526508.2	101	mg/kg		
1	Y 360.064	268054.3	268054.3	101	mg/kg		
1	Ag 328.068	-17.3	-17.2	-0.021	mg/L	-2.118	mg/kg
1	Al 396.140	165957.3	164928.8	53.53	mg/L	5355	mg/kg
1	As 188.979	-0.8	-0.8	0.039	mg/L	3.885	mg/kg
1	B 249.773	2873.9	2856.1	0.087	mg/L	8.751	mg/kg
1	Ba 455.403	161058.9	160060.8	0.444	mg/L	44.42	mg/kg
1	Be 234.861	1124.7	1117.7	0.003	mg/L	0.261	mg/kg
1	Ca 315.887	1807916.2	1796712.2	184.8	mg/L	18480	mg/kg
1	Cd 214.438	68.6	68.2	-0.002	mg/L	-0.182	mg/kg
1	Co 228.616	149.0	148.0	0.040	mg/L	3.953	mg/kg
1	Cr 205.558	109.8	109.1	0.139	mg/L	13.92	mg/kg
1	Cu 324.764	1505.8	1496.4	0.085	mg/L	8.546	mg/kg
1	Fe 238.204	816478.2	811418.4	87.81	mg/L	8784	mg/kg
1	K 766.514	17674.7	17565.2	7.860	mg/L	786.3	mg/kg
1	Li 670.781	5102.2	5070.6	0.043	mg/L	4.312	mg/kg
1	Mg 279.074	136407.3	135561.9	112.0	mg/L	11200	mg/kg
1	Mn 257.610	246457.8	244930.5	3.275	mg/L	327.6	mg/kg
1	Mo 202.031	45.7	45.4	0.010	mg/L	1.046	mg/kg
1	Na 588.995	96732.7	96133.3	1.339	mg/L	134.0	mg/kg
1	Ni 231.603	144.4	142.8	0.074	mg/L	7.392	mg/kg
1	P 178.221	36.5	36.2	1.721	mg/L	172.2	mg/kg
1	Pb 220.353	17.5	17.4	0.057	mg/L	5.680	mg/kg
1	Sb 206.833	-59.6	-59.3	-0.117	mg/L	-11.74	mg/kg
1	Se 196.026	0.7	0.7	-0.019	mg/L	-1.938	mg/kg
1	Si 251.611	64677.4	64276.5	15.67	mg/L	1568	mg/kg
1	Sn 189.933	58.5	58.2	-0.788	mg/L	-78.87	mg/kg
1	Sr 407.771	111778.1	111085.4	0.138	mg/L	13.85	mg/kg
1	Ti 334.941	207370.4	206085.3	2.155	mg/L	215.6	mg/kg
1	Tl 190.800	3.1	3.0	0.149	mg/L	14.86	mg/kg
1	V 292.402	2783.9	2766.7	0.206	mg/L	20.62	mg/kg
1	Zn 206.200	410.7	408.1	0.198	mg/L	19.79	mg/kg
2	Sc 357.253	522570.9	522570.9	100	mg/kg		
2	Y 360.064	265971.4	265971.4	100	mg/kg		
2	Ag 328.068	15.1	15.1	-0.019	mg/L	-1.948	mg/kg
2	Al 396.140	166408.7	166623.5	54.08	mg/L	5410	mg/kg
2	As 188.979	5.5	5.5	0.089	mg/L	8.866	mg/kg
2	B 249.773	2854.9	2858.6	0.087	mg/L	8.670	mg/kg
2	Ba 455.403	161209.3	161417.4	0.448	mg/L	44.80	mg/kg
2	Be 234.861	1134.9	1136.4	0.003	mg/L	0.271	mg/kg
2	Ca 315.887	1811913.6	1814252.3	186.6	mg/L	18660	mg/kg
2	Cd 214.438	68.4	68.5	-0.002	mg/L	-0.201	mg/kg
2	Co 228.616	156.4	156.6	0.042	mg/L	4.195	mg/kg
2	Cr 205.558	107.0	107.2	0.143	mg/L	14.28	mg/kg
2	Cu 324.764	1504.1	1506.1	0.086	mg/L	8.597	mg/kg
2	Fe 238.204	818198.4	819254.5	88.66	mg/L	8869	mg/kg
2	K 766.514	17677.9	17700.7	7.912	mg/L	791.6	mg/kg
2	Li 670.781	5276.4	5283.2	0.045	mg/L	4.482	mg/kg
2	Mg 279.074	136652.6	136829.0	113.0	mg/L	11310	mg/kg
2	Mn 257.610	247059.6	247378.5	3.308	mg/L	330.9	mg/kg
2	Mo 202.031	48.4	48.4	0.015	mg/L	1.492	mg/kg
2	Na 588.995	96582.2	96706.9	1.373	mg/L	137.4	mg/kg
2	Ni 231.603	146.9	146.5	0.076	mg/L	7.579	mg/kg
2	P 178.221	37.3	37.3	1.772	mg/L	177.3	mg/kg
2	Pb 220.353	34.3	34.3	0.116	mg/L	11.65	mg/kg
2	Sb 206.833	-56.7	-56.8	-0.102	mg/L	-10.22	mg/kg
2	Se 196.026	2.4	2.4	0.004	mg/L	0.390	mg/kg
2	Si 251.611	64825.4	64909.1	15.83	mg/L	1584	mg/kg
2	Sn 189.933	55.3	55.4	-0.811	mg/L	-81.18	mg/kg
2	Sr 407.771	112058.5	112203.2	0.140	mg/L	13.98	mg/kg
2	Ti 334.941	207771.3	208039.4	2.176	mg/L	217.6	mg/kg
2	Tl 190.800	2.2	2.2	0.127	mg/L	12.70	mg/kg

2 V 292.402	2771.6	2775.2	0.207 mg/L	20.68 mg/kg	
2 Zn 206.200	426.6	427.2	0.207 mg/L	20.75 mg/kg	

Mean Data

ID: 305339 Seq. No.: 22 Sample No.: 6 A/S Pos: 22
Sample Qty: 0.4998 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 15:18:34

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	524539.5	100	0.5	mg/kg				0.53%
Y 360.064	267012.8	101	0.6	mg/kg				0.55%
Ag 328.068	-1.0	-0.020	0.0012	mg/L	-2.033	0.1203	mg/kg	5.92%
Al 396.140	165776.1	53.81	0.389	mg/L	5383	38.9	mg/kg	0.72%
As 188.979	2.4	0.064	0.0352	mg/L	6.375	3.5220	mg/kg	55.25%
B 249.773	2857.3	0.087	0.0006	mg/L	8.711	0.0569	mg/kg	0.65%
Ba 455.403	160739.1	0.446	0.0027	mg/L	44.61	0.269	mg/kg	0.60%
Be 234.861	1127.1	0.003	0.0001	mg/L	0.266	0.0070	mg/kg	2.62%
Ca 315.887	1805482.3	185.7	1.28	mg/L	18570	127.7	mg/kg	0.69%
Cd 214.438	68.3	-0.002	0.0001	mg/L	-0.192	0.0137	mg/kg	7.13%
Co 228.616	152.3	0.041	0.0017	mg/L	4.074	0.1706	mg/kg	4.19%
Cr 205.558	108.2	0.141	0.0026	mg/L	14.10	0.257	mg/kg	1.82%
Cu 324.764	1501.2	0.086	0.0004	mg/L	8.572	0.0363	mg/kg	0.42%
Fe 238.204	815336.4	88.23	0.600	mg/L	8827	60.0	mg/kg	0.68%
K 766.514	17633.0	7.886	0.0370	mg/L	788.9	3.71	mg/kg	0.47%
Li 670.781	5176.9	0.044	0.0012	mg/L	4.397	0.1201	mg/kg	2.73%
Mg 279.074	136195.5	112.5	0.74	mg/L	11250	74.0	mg/kg	0.66%
Mn 257.610	246154.5	3.291	0.0232	mg/L	329.3	2.32	mg/kg	0.70%
Mo 202.031	46.9	0.013	0.0032	mg/L	1.269	0.3157	mg/kg	24.88%
Na 588.995	96420.1	1.356	0.0243	mg/L	135.7	2.43	mg/kg	1.79%
Ni 231.603	144.7	0.075	0.0013	mg/L	7.485	0.1321	mg/kg	1.76%
P 178.221	36.8	1.747	0.0358	mg/L	174.7	3.58	mg/kg	2.05%
Pb 220.353	25.9	0.087	0.0422	mg/L	8.663	4.2182	mg/kg	48.69%
Sb 206.833	-58.0	-0.110	0.0107	mg/L	-10.98	1.071	mg/kg	9.75%
Se 196.026	1.5	-0.008	0.0165	mg/L	-0.774	1.6463	mg/kg	212.61%
Si 251.611	64592.8	15.75	0.111	mg/L	1576	11.1	mg/kg	0.70%
Sn 189.933	56.8	-0.800	0.0163	mg/L	-80.02	1.630	mg/kg	2.04%
Sr 407.771	111644.3	0.139	0.0010	mg/L	13.91	0.097	mg/kg	0.70%
Ti 334.941	207062.4	2.165	0.0145	mg/L	216.6	1.45	mg/kg	0.67%
Tl 190.800	2.6	0.138	0.0153	mg/L	13.78	1.533	mg/kg	11.12%
V 292.402	2770.9	0.206	0.0004	mg/L	20.65	0.044	mg/kg	0.21%
Zn 206.200	417.7	0.203	0.0068	mg/L	20.27	0.677	mg/kg	3.34%

Replicate Data

ID: 305340 Date: 5/20/02 15:22:52

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	522291.8	522291.8	100	mg/kg		
1	Y 360.064	265905.2	265905.2	100	mg/kg		
1	Ag 328.068	-55.5	-55.6	-0.023	mg/L	-2.318	mg/kg
1	Al 396.140	108858.9	109057.6	35.39	mg/L	3536	mg/kg
1	As 188.979	11.5	11.5	0.135	mg/L	13.49	mg/kg
1	B 249.773	2679.8	2684.7	0.079	mg/L	7.933	mg/kg
1	Ba 455.403	90958.1	91124.1	0.263	mg/L	26.25	mg/kg
1	Be 234.861	991.6	993.4	0.001	mg/L	0.058	mg/kg
1	Ca 315.887	2547572.5	2552223.7	262.5	mg/L	26230	mg/kg
1	Cd 214.438	67.1	67.2	-0.002	mg/L	-0.183	mg/kg
1	Co 228.616	164.9	165.2	0.044	mg/L	4.430	mg/kg
1	Cr 205.558	92.2	92.3	0.128	mg/L	12.77	mg/kg
1	Cu 324.764	6891.4	6904.0	0.433	mg/L	43.24	mg/kg
1	Fe 238.204	753439.8	754815.4	81.68	mg/L	8162	mg/kg
1	K 766.514	12003.9	12025.8	5.719	mg/L	571.5	mg/kg
1	Li 670.781	3028.6	3034.2	0.027	mg/L	2.681	mg/kg
1	Mg 279.074	190917.6	191266.1	158.0	mg/L	15780	mg/kg
1	Mn 257.610	262976.8	263456.9	3.523	mg/L	352.0	mg/kg
1	Mo 202.031	40.7	40.8	0.004	mg/L	0.361	mg/kg
1	Na 588.995	96081.1	96256.6	1.347	mg/L	134.5	mg/kg
1	Ni 231.603	122.2	121.9	0.063	mg/L	6.305	mg/kg
1	P 178.221	54.4	54.5	2.601	mg/L	259.9	mg/kg
1	Pb 220.353	6622.5	6634.6	23.36	mg/L	2334	mg/kg

1 Sb 206.833	-60.7	-60.8	-0.127	mg/L	-12.64 mg/kg
1 Se 196.026	-1.9	-1.9	-0.055	mg/L	-5.449 mg/kg
1 Si 251.611	61154.9	61266.6	14.69	mg/L	1468 mg/kg
1 Sn 189.933	63.2	63.3	-1.035	mg/L	-103.4 mg/kg
1 Sr 407.771	121379.5	121601.1	0.151	mg/L	15.12 mg/kg
1 Ti 334.941	143460.8	143722.7	1.519	mg/L	151.7 mg/kg
1 Tl 190.800	-0.8	-0.8	0.059	mg/L	5.917 mg/kg
1 V 292.402	2198.4	2202.4	0.165	mg/L	16.46 mg/kg
1 Zn 206.200	627.0	628.1	0.308	mg/L	30.80 mg/kg
2 Sc 357.253	519070.5	519070.5	99	mg/kg	
2 Y 360.064	264221.9	264221.9	100	mg/kg	
2 Ag 328.068	-36.6	-36.9	-0.022	mg/L	-2.219 mg/kg
2 Al 396.140	108708.5	109582.8	35.56	mg/L	3553 mg/kg
2 As 188.979	11.2	11.3	0.133	mg/L	13.33 mg/kg
2 B 249.773	2681.6	2703.1	0.081	mg/L	8.086 mg/kg
2 Ba 455.403	90884.7	91615.7	0.264	mg/L	26.39 mg/kg
2 Be 234.861	1010.2	1018.3	0.001	mg/L	0.079 mg/kg
2 Ca 315.887	2543257.7	2563713.1	263.7	mg/L	26350 mg/kg
2 Cd 214.438	70.0	70.6	-0.001	mg/L	-0.132 mg/kg
2 Co 228.616	155.0	156.3	0.042	mg/L	4.179 mg/kg
2 Cr 205.558	87.2	87.9	0.124	mg/L	12.36 mg/kg
2 Cu 324.764	6910.7	6966.3	0.437	mg/L	43.64 mg/kg
2 Fe 238.204	752073.9	758122.9	82.04	mg/L	8197 mg/kg
2 K 766.514	12020.9	12117.6	5.755	mg/L	575.0 mg/kg
2 Li 670.781	3075.3	3100.0	0.027	mg/L	2.734 mg/kg
2 Mg 279.074	190108.4	191637.4	158.3	mg/L	15820 mg/kg
2 Mn 257.610	262178.1	264286.8	3.534	mg/L	353.1 mg/kg
2 Mo 202.031	51.4	51.8	0.020	mg/L	1.995 mg/kg
2 Na 588.995	95780.6	96550.9	1.364	mg/L	136.3 mg/kg
2 Ni 231.603	132.1	132.6	0.069	mg/L	6.857 mg/kg
2 P 178.221	57.3	57.8	2.757	mg/L	275.5 mg/kg
2 Pb 220.353	6621.0	6674.2	23.50	mg/L	2348 mg/kg
2 Sb 206.833	-59.6	-60.0	-0.122	mg/L	-12.19 mg/kg
2 Se 196.026	8.2	8.3	0.086	mg/L	8.580 mg/kg
2 Si 251.611	61251.5	61744.2	14.81	mg/L	1480 mg/kg
2 Sn 189.933	49.7	50.1	-1.116	mg/L	-111.5 mg/kg
2 Sr 407.771	120733.6	121704.6	0.151	mg/L	15.13 mg/kg
2 Ti 334.941	143231.8	144383.8	1.526	mg/L	152.4 mg/kg
2 Tl 190.800	-0.8	-0.8	0.058	mg/L	5.782 mg/kg
2 V 292.402	2196.3	2214.0	0.166	mg/L	16.55 mg/kg
2 Zn 206.200	618.8	623.8	0.306	mg/L	30.58 mg/kg

Mean Data ----------

ID: 305340 Seq. No.: 23 Sample No.: 7 A/S Pos: 23
Sample Qty: 0.5004 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 15:22:52

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Sample Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	520681.1	100	0.4	mg/kg				0.44%
Y 360.064	265063.6	100	0.4	mg/kg				0.45%
Ag 328.068	-46.3	-0.023	0.0007	mg/L	-2.268	0.0695	mg/kg	3.07%
Al 396.140	109320.2	35.48	0.120	mg/L	3545	12.0	mg/kg	0.34%
As 188.979	11.4	0.134	0.0011	mg/L	13.41	0.110	mg/kg	0.82%
B 249.773	2693.9	0.080	0.0011	mg/L	8.010	0.1084	mg/kg	1.35%
Ba 455.403	91369.9	0.263	0.0010	mg/L	26.32	0.099	mg/kg	0.38%
Be 234.861	1005.9	0.001	0.0001	mg/L	0.068	0.0144	mg/kg	21.07%
Ca 315.887	2557968.4	263.1	0.84	mg/L	26290	83.5	mg/kg	0.32%
Cd 214.438	68.9	-0.002	0.0004	mg/L	-0.157	0.0355	mg/kg	22.53%
Co 228.616	160.7	0.043	0.0018	mg/L	4.305	0.1771	mg/kg	4.11%
Cr 205.558	90.1	0.126	0.0029	mg/L	12.56	0.288	mg/kg	2.29%
Cu 324.764	6935.2	0.435	0.0028	mg/L	43.44	0.284	mg/kg	0.65%
Fe 238.204	756469.1	81.86	0.253	mg/L	8180	25.3	mg/kg	0.31%
K 766.514	12071.7	5.737	0.0251	mg/L	573.3	2.51	mg/kg	0.44%
Li 670.781	3067.1	0.027	0.0004	mg/L	2.707	0.0371	mg/kg	1.37%
Mg 279.074	191451.8	158.1	0.22	mg/L	15800	21.7	mg/kg	0.14%
Mn 257.610	263871.8	3.528	0.0078	mg/L	352.5	0.78	mg/kg	0.22%
Mo 202.031	46.3	0.012	0.0116	mg/L	1.178	1.1556	mg/kg	98.13%
Na 588.995	96403.8	1.355	0.0125	mg/L	135.4	1.24	mg/kg	0.92%
Ni 231.603	127.2	0.066	0.0039	mg/L	6.581	0.3901	mg/kg	5.93%
P 178.221	56.1	2.679	0.1105	mg/L	267.7	11.04	mg/kg	4.12%

Pb 220.353	6654.4	23.43	0.099 mg/L	2341	9.9 mg/kg	0.42%
Sb 206.833	-60.4	-0.124	0.0032 mg/L	-12.42	0.317 mg/kg	2.55%
Se 196.026	3.2	0.016	0.0993 mg/L	1.566	9.9200 mg/kg	633.47%
Si 251.611	61505.4	14.75	0.085 mg/L	1474	8.5 mg/kg	0.58%
Sn 189.933	56.7	-1.075	0.0571 mg/L	-107.4	5.71 mg/kg	5.31%
Sr 407.771	121652.9	0.151	0.0001 mg/L	15.13	0.009 mg/kg	0.06%
Ti 334.941	144053.3	1.522	0.0050 mg/L	152.1	0.50 mg/kg	0.33%
Tl 190.800	-0.8	0.059	0.0010 mg/L	5.850	0.0954 mg/kg	1.63%
V 292.402	2208.2	0.165	0.0006 mg/L	16.51	0.060 mg/kg	0.36%
Zn 206.200	626.0	0.307	0.0015 mg/L	30.69	0.154 mg/kg	0.50%

Replicate Data

ID: 305341 Date: 5/20/02 15:27:07

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	524129.6	524129.6	100	mg/kg		
1	Y 360.064	265628.8	265628.8	100	mg/kg		
1	Ag 328.068	4.4	4.3	-0.020	mg/L	-2.005	mg/kg
1	Al 396.140	73235.7	73112.1	23.71	mg/L	2372	mg/kg
1	As 188.979	0.6	0.6	0.050	mg/L	4.997	mg/kg
1	B 249.773	1896.5	1893.3	0.032	mg/L	3.154	mg/kg
1	Ba 455.403	44431.0	44356.0	0.135	mg/L	13.52	mg/kg
1	Be 234.861	613.0	612.0	0.000	mg/L	-0.012	mg/kg
1	Ca 315.887	2761417.2	2756758.4	283.5	mg/L	28360	mg/kg
1	Cd 214.438	39.3	39.2	-0.001	mg/L	-0.075	mg/kg
1	Co 228.616	100.3	100.2	0.026	mg/L	2.611	mg/kg
1	Cr 205.558	66.4	66.3	0.093	mg/L	9.283	mg/kg
1	Cu 324.764	1978.4	1975.1	0.111	mg/L	11.11	mg/kg
1	Fe 238.204	494075.5	493242.0	53.37	mg/L	5339	mg/kg
1	K 766.514	8215.0	8201.1	4.241	mg/L	424.3	mg/kg
1	Li 670.781	1786.3	1783.3	0.017	mg/L	1.685	mg/kg
1	Mg 279.074	198195.2	197860.8	163.4	mg/L	16350	mg/kg
1	Mn 257.610	229092.1	228705.5	3.058	mg/L	305.9	mg/kg
1	Mo 202.031	46.2	46.1	0.012	mg/L	1.152	mg/kg
1	Na 588.995	120492.0	120288.7	2.784	mg/L	278.6	mg/kg
1	Ni 231.603	77.8	77.7	0.040	mg/L	4.036	mg/kg
1	P 178.221	26.7	26.6	1.258	mg/L	125.8	mg/kg
1	Pb 220.353	69.4	69.2	0.239	mg/L	23.94	mg/kg
1	Sb 206.833	-65.1	-65.0	-0.152	mg/L	-15.21	mg/kg
1	Se 196.026	9.4	9.4	0.100	mg/L	10.04	mg/kg
1	Si 251.611	54333.6	54241.9	12.88	mg/L	1288	mg/kg
1	Sn 189.933	61.9	61.8	-1.047	mg/L	-104.7	mg/kg
1	Sr 407.771	167528.5	167245.9	0.207	mg/L	20.75	mg/kg
1	Ti 334.941	131519.5	131297.6	1.388	mg/L	138.9	mg/kg
1	Tl 190.800	2.6	2.6	0.120	mg/L	12.02	mg/kg
1	V 292.402	2051.3	2047.8	0.153	mg/L	15.35	mg/kg
1	Zn 206.200	186.5	186.2	0.086	mg/L	8.645	mg/kg
2	Sc 357.253	518343.2	518343.2	99	mg/kg		
2	Y 360.064	262465.7	262465.7	99	mg/kg		
2	Ag 328.068	71.5	72.2	-0.016	mg/L	-1.648	mg/kg
2	Al 396.140	72750.0	73438.0	23.82	mg/L	2383	mg/kg
2	As 188.979	1.1	1.1	0.054	mg/L	5.379	mg/kg
2	B 249.773	1887.8	1905.7	0.032	mg/L	3.249	mg/kg
2	Ba 455.403	43820.9	44235.3	0.135	mg/L	13.49	mg/kg
2	Be 234.861	590.5	596.0	0.000	mg/L	-0.032	mg/kg
2	Ca 315.887	2749199.5	2775199.4	285.4	mg/L	28550	mg/kg
2	Cd 214.438	28.7	29.0	-0.003	mg/L	-0.269	mg/kg
2	Co 228.616	86.3	87.1	0.022	mg/L	2.243	mg/kg
2	Cr 205.558	73.8	74.5	0.101	mg/L	10.12	mg/kg
2	Cu 324.764	1963.8	1982.3	0.111	mg/L	11.15	mg/kg
2	Fe 238.204	491659.0	496308.8	53.70	mg/L	5372	mg/kg
2	K 766.514	7965.0	8040.3	4.179	mg/L	418.1	mg/kg
2	Li 670.781	1734.4	1750.8	0.017	mg/L	1.659	mg/kg
2	Mg 279.074	197246.7	199112.1	164.5	mg/L	16450	mg/kg
2	Mn 257.610	227682.6	229835.9	3.073	mg/L	307.4	mg/kg
2	Mo 202.031	50.5	51.0	0.019	mg/L	1.871	mg/kg
2	Na 588.995	120392.0	121530.6	2.859	mg/L	286.0	mg/kg
2	Ni 231.603	66.5	67.2	0.035	mg/L	3.496	mg/kg
2	P 178.221	39.5	39.9	1.898	mg/L	189.8	mg/kg

2	Pb 220.353	61.9	62.5	0.216 mg/L	21.56 mg/kg
2	Sb 206.833	-52.6	-53.1	-0.080 mg/L	-8.001 mg/kg
2	Se 196.026	4.6	4.7	0.035 mg/L	3.548 mg/kg
2	Si 251.611	53350.4	53854.9	12.77 mg/L	1278 mg/kg
2	Sn 189.933	49.7	50.1	-1.123 mg/L	-112.4 mg/kg
2	Sr 407.771	166397.0	167970.7	0.208 mg/L	20.84 mg/kg
2	Ti 334.941	130165.5	131396.5	1.389 mg/L	139.0 mg/kg
2	Tl 190.800	1.2	1.2	0.082 mg/L	8.179 mg/kg
2	V 292.402	2070.9	2090.5	0.157 mg/L	15.66 mg/kg
2	Zn 206.200	196.3	198.1	0.092 mg/L	9.242 mg/kg

Mean Data

ID: 305341 Seq. No.: 24 Sample No.: 8 A/S Pos: 24
Sample Qty: 0.4998 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 15:27:07

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	521236.4	100	0.8	mg/kg				0.78%
Y 360.064	264047.3	100	0.8	mg/kg				0.85%
Ag 328.068	38.3	-0.018	0.0025	mg/L	-1.826	0.2524	mg/kg	13.82%
Al 396.140	73275.0	23.77	0.075	mg/L	2378	7.5	mg/kg	0.31%
As 188.979	0.8	0.052	0.0027	mg/L	5.188	0.2708	mg/kg	5.22%
B 249.773	1899.5	0.032	0.0007	mg/L	3.201	0.0674	mg/kg	2.10%
Ba 455.403	44295.7	0.135	0.0001	mg/L	13.51	0.015	mg/kg	0.11%
Be 234.861	604.0	0.000	0.0001	mg/L	-0.022	0.0142	mg/kg	63.48%
Ca 315.887	2765978.9	284.5	1.34	mg/L	28460	134.2	mg/kg	0.47%
Cd 214.438	34.1	-0.002	0.0014	mg/L	-0.172	0.1376	mg/kg	80.05%
Co 228.616	93.6	0.024	0.0026	mg/L	2.427	0.2596	mg/kg	10.70%
Cr 205.558	70.4	0.097	0.0059	mg/L	9.700	0.5893	mg/kg	6.08%
Cu 324.764	1978.7	0.111	0.0003	mg/L	11.13	0.026	mg/kg	0.23%
Fe 238.204	494775.4	53.54	0.235	mg/L	5356	23.5	mg/kg	0.44%
K 766.514	8120.7	4.210	0.0439	mg/L	421.2	4.40	mg/kg	1.04%
Li 670.781	1767.1	0.017	0.0002	mg/L	1.672	0.0184	mg/kg	1.10%
Mg 279.074	198486.5	163.9	0.73	mg/L	16400	73.1	mg/kg	0.45%
Mn 257.610	229270.7	3.065	0.0107	mg/L	306.7	1.07	mg/kg	0.35%
Mo 202.031	48.6	0.015	0.0051	mg/L	1.512	0.5089	mg/kg	33.67%
Na 588.995	120909.6	2.822	0.0525	mg/L	282.3	5.26	mg/kg	1.86%
Ni 231.603	72.4	0.038	0.0038	mg/L	3.766	0.3817	mg/kg	10.13%
P 178.221	33.3	1.578	0.4525	mg/L	157.8	45.27	mg/kg	28.68%
Pb 220.353	65.9	0.227	0.0168	mg/L	22.75	1.683	mg/kg	7.40%
Sb 206.833	-59.0	-0.116	0.0509	mg/L	-11.60	5.095	mg/kg	43.91%
Se 196.026	7.0	0.068	0.0459	mg/L	6.793	4.5891	mg/kg	67.56%
Si 251.611	54048.4	12.82	0.073	mg/L	1283	7.3	mg/kg	0.57%
Sn 189.933	55.9	-1.085	0.0542	mg/L	-108.6	5.42	mg/kg	4.99%
Sr 407.771	167608.3	0.208	0.0006	mg/L	20.79	0.063	mg/kg	0.30%
Ti 334.941	131347.0	1.389	0.0009	mg/L	138.9	0.09	mg/kg	0.06%
Tl 190.800	1.9	0.101	0.0272	mg/L	10.10	2.718	mg/kg	26.91%
V 292.402	2069.2	0.155	0.0022	mg/L	15.51	0.221	mg/kg	1.43%
Zn 206.200	192.2	0.089	0.0042	mg/L	8.943	0.4218	mg/kg	4.72%

Replicate Data

ID: 305342 Date: 5/20/02 15:31:15

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	532348.5	532348.5	102	mg/kg		
1	Y 360.064	269915.8	269915.8	102	mg/kg		
1	Ag 328.068	-28.2	-27.7	-0.022	mg/L	-2.174	mg/kg
1	Al 396.140	55982.0	55024.7	17.85	mg/L	1786	mg/kg
1	As 188.979	1.5	1.4	0.056	mg/L	5.648	mg/kg
1	B 249.773	1773.3	1743.0	0.024	mg/L	2.366	mg/kg
1	Ba 455.403	44368.8	43610.1	0.130	mg/L	13.05	mg/kg
1	Be 234.861	531.0	521.9	0.000	mg/L	-0.006	mg/kg
1	Ca 315.887	2356184.1	2315893.2	238.2	mg/L	23830	mg/kg
1	Cd 214.438	31.9	31.4	0.000	mg/L	-0.028	mg/kg
1	Co 228.616	86.2	84.7	0.022	mg/L	2.176	mg/kg
1	Cr 205.558	64.3	63.2	0.082	mg/L	8.239	mg/kg
1	Cu 324.764	804.8	791.0	0.036	mg/L	3.648	mg/kg
1	Fe 238.204	433933.3	426513.0	46.15	mg/L	4618	mg/kg
1	K 766.514	7091.0	6969.7	3.766	mg/L	376.8	mg/kg

1	Li 670.781	1531.3	1505.1	0.015	mg/L	1.463 mg/kg
1	Mg 279.074	172723.0	169769.5	140.2	mg/L	14030 mg/kg
1	Mn 257.610	144182.1	141716.6	1.894	mg/L	189.5 mg/kg
1	Mo 202.031	47.8	46.9	0.013	mg/L	1.270 mg/kg
1	Na 588.995	93525.0	91925.7	1.087	mg/L	108.8 mg/kg
1	Ni 231.603	69.2	68.0	0.035	mg/L	3.542 mg/kg
1	P 178.221	36.2	35.6	1.691	mg/L	169.2 mg/kg
1	Pb 220.353	16.5	16.2	0.053	mg/L	5.267 mg/kg
1	Sb 206.833	-53.5	-52.5	-0.076	mg/L	-7.653 mg/kg
1	Se 196.026	7.3	7.2	0.070	mg/L	6.996 mg/kg
1	Si 251.611	54681.9	53746.8	12.86	mg/L	1287 mg/kg
1	Sn 189.933	50.7	49.8	-0.995	mg/L	-99.58 mg/kg
1	Sr 407.771	100528.7	98809.7	0.123	mg/L	12.34 mg/kg
1	Ti 334.941	123580.0	121466.8	1.280	mg/L	128.1 mg/kg
1	Tl 190.800	3.1	3.0	0.122	mg/L	12.21 mg/kg
1	V 292.402	1435.0	1410.5	0.107	mg/L	10.68 mg/kg
1	Zn 206.200	227.5	223.6	0.105	mg/L	10.52 mg/kg
2	Sc 357.253	529479.7	529479.7	101	mg/kg	
2	Y 360.064	268559.1	268559.1	101	mg/kg	
2	Ag 328.068	-27.0	-26.7	-0.022	mg/L	-2.168 mg/kg
2	Al 396.140	55583.0	54928.5	17.82	mg/L	1783 mg/kg
2	As 188.979	-0.6	-0.6	0.041	mg/L	4.081 mg/kg
2	B 249.773	1786.7	1765.7	0.026	mg/L	2.584 mg/kg
2	Ba 455.403	44009.8	43491.6	0.130	mg/L	13.02 mg/kg
2	Be 234.861	539.4	533.1	0.000	mg/L	0.002 mg/kg
2	Ca 315.887	2355947.9	2328207.9	239.4	mg/L	23960 mg/kg
2	Cd 214.438	25.1	24.8	-0.002	mg/L	-0.154 mg/kg
2	Co 228.616	88.0	87.0	0.022	mg/L	2.240 mg/kg
2	Cr 205.558	57.5	56.8	0.076	mg/L	7.630 mg/kg
2	Cu 324.764	829.2	819.4	0.038	mg/L	3.829 mg/kg
2	Fe 238.204	433732.5	428625.5	46.38	mg/L	4641 mg/kg
2	K 766.514	6944.5	6862.8	3.724	mg/L	372.6 mg/kg
2	Li 670.781	1473.3	1456.0	0.014	mg/L	1.423 mg/kg
2	Mg 279.074	172285.6	170257.0	140.6	mg/L	14070 mg/kg
2	Mn 257.610	143087.1	141402.3	1.890	mg/L	189.1 mg/kg
2	Mo 202.031	51.0	50.4	0.018	mg/L	1.779 mg/kg
2	Na 588.995	93625.3	92522.9	1.123	mg/L	112.4 mg/kg
2	Ni 231.603	70.7	69.8	0.036	mg/L	3.634 mg/kg
2	P 178.221	31.8	31.5	1.491	mg/L	149.2 mg/kg
2	Pb 220.353	17.1	16.9	0.055	mg/L	5.504 mg/kg
2	Sb 206.833	-62.8	-62.0	-0.134	mg/L	-13.42 mg/kg
2	Se 196.026	-8.4	-8.3	-0.142	mg/L	-14.23 mg/kg
2	Si 251.611	54294.2	53654.9	12.83	mg/L	1284 mg/kg
2	Sn 189.933	58.2	57.5	-0.949	mg/L	-94.99 mg/kg
2	Sr 407.771	100385.6	99203.6	0.124	mg/L	12.39 mg/kg
2	Ti 334.941	121828.4	120393.9	1.269	mg/L	127.0 mg/kg
2	Tl 190.800	0.8	0.7	0.062	mg/L	6.187 mg/kg
2	V 292.402	1405.4	1388.8	0.105	mg/L	10.52 mg/kg
2	Zn 206.200	241.1	238.3	0.113	mg/L	11.26 mg/kg

Mean Data ----------

ID: 305342 Seq. No.: 25 Sample No.: 9 A/S Pos: 25

Sample Qty: 0.4997 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 15:31:15

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	530914.1	101	0.4	mg/kg				0.38%
Y 360.064	269237.4	102	0.4	mg/kg				0.36%
Ag 328.068	-27.2	-0.022	0.0000	mg/L	-2.171	0.0039	mg/kg	0.18%
Al 396.140	54976.6	17.84	0.022	mg/L	1785	2.2	mg/kg	0.12%
As 188.979	0.4	0.049	0.0111	mg/L	4.865	1.1085	mg/kg	22.79%
B 249.773	1754.3	0.025	0.0015	mg/L	2.475	0.1541	mg/kg	6.23%
Ba 455.403	43550.8	0.130	0.0002	mg/L	13.03	0.018	mg/kg	0.14%
Be 234.861	527.5	0.000	0.0001	mg/L	-0.002	0.0058	mg/kg	296.10%
Ca 315.887	2322050.6	238.8	0.90	mg/L	23900	89.6	mg/kg	0.38%
Cd 214.438	28.1	-0.001	0.0009	mg/L	-0.091	0.0890	mg/kg	97.73%
Co 228.616	85.8	0.022	0.0005	mg/L	2.208	0.0452	mg/kg	2.05%
Cr 205.558	60.0	0.079	0.0043	mg/L	7.934	0.4301	mg/kg	5.42%
Cu 324.764	805.2	0.037	0.0013	mg/L	3.738	0.1277	mg/kg	3.42%
Fe 238.204	427569.3	46.26	0.162	mg/L	4629	16.2	mg/kg	0.35%

K 766.514	6916.2	3.745	0.0292 mg/L	374.7	2.92 mg/kg	0.78%
Li 670.781	1480.6	0.014	0.0003 mg/L	1.443	0.0278 mg/kg	1.93%
Mg 279.074	170013.3	140.4	0.28 mg/L	14050	28.5 mg/kg	0.20%
Mn 257.610	141559.4	1.892	0.0030 mg/L	189.3	0.30 mg/kg	0.16%
Mo 202.031	48.7	0.015	0.0036 mg/L	1.525	0.3598 mg/kg	23.60%
Na 588.995	92224.3	1.105	0.0253 mg/L	110.6	2.53 mg/kg	2.29%
Ni 231.603	68.9	0.036	0.0007 mg/L	3.588	0.0651 mg/kg	1.81%
P 178.221	33.5	1.591	0.1416 mg/L	159.2	14.17 mg/kg	8.90%
Pb 220.353	16.6	0.054	0.0017 mg/L	5.385	0.1672 mg/kg	3.10%
Sb 206.833	-57.3	-0.105	0.0407 mg/L	-10.54	4.076 mg/kg	38.69%
Se 196.026	-0.6	-0.036	0.1500 mg/L	-3.618	15.0104 mg/kg	414.94%
Si 251.611	53700.9	12.85	0.018 mg/L	1285	1.8 mg/kg	0.14%
Sn 189.933	53.7	-0.972	0.0324 mg/L	-97.29	3.243 mg/kg	3.33%
Sr 407.771	99006.6	0.124	0.0003 mg/L	12.36	0.034 mg/kg	0.28%
Ti 334.941	120930.4	1.275	0.0077 mg/L	127.5	0.78 mg/kg	0.61%
Tl 190.800	1.9	0.092	0.0426 mg/L	9.198	4.2576 mg/kg	46.29%
V 292.402	1399.7	0.106	0.0011 mg/L	10.60	0.112 mg/kg	1.06%
Zn 206.200	230.9	0.109	0.0052 mg/L	10.89	0.521 mg/kg	4.79%

Replicate Data ----------

ID: 305342d Date: 5/20/02 15:35:25

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	518536.3	518536.3	99	mg/kg		
1	Y 360.064	262440.8	262440.8	99	mg/kg		
1	Ag 328.068	3.9	3.9	-0.020	mg/L	-2.005	mg/kg
1	Al 396.140	52938.3	53419.0	17.33	mg/L	1732	mg/kg
1	As 188.979	5.8	5.9	0.091	mg/L	9.106	mg/kg
1	B 249.773	1756.9	1772.9	0.028	mg/L	2.778	mg/kg
1	Ba 455.403	41443.9	41820.3	0.127	mg/L	12.71	mg/kg
1	Be 234.861	529.7	534.5	0.000	mg/L	-0.006	mg/kg
1	Ca 315.887	2495419.7	2518081.8	259.0	mg/L	25890	mg/kg
1	Cd 214.438	40.4	40.8	-0.001	mg/L	-0.120	mg/kg
1	Co 228.616	80.9	81.7	0.021	mg/L	2.090	mg/kg
1	Cr 205.558	59.5	60.0	0.081	mg/L	8.115	mg/kg
1	Cu 324.764	795.6	802.9	0.036	mg/L	3.603	mg/kg
1	Fe 238.204	420352.3	424169.7	45.90	mg/L	4588	mg/kg
1	K 766.514	8218.0	8292.7	4.277	mg/L	427.5	mg/kg
1	Li 670.781	1411.7	1424.5	0.014	mg/L	1.397	mg/kg
1	Mg 279.074	181588.6	183237.7	151.3	mg/L	15130	mg/kg
1	Mn 257.610	148238.3	149584.6	2.000	mg/L	199.9	mg/kg
1	Mo 202.031	44.4	44.8	0.009	mg/L	0.947	mg/kg
1	Na 588.995	96231.6	97105.5	1.397	mg/L	139.7	mg/kg
1	Ni 231.603	57.5	58.1	0.030	mg/L	3.027	mg/kg
1	P 178.221	43.4	43.8	2.084	mg/L	208.3	mg/kg
1	Pb 220.353	14.7	14.8	0.048	mg/L	4.756	mg/kg
1	Sb 206.833	-54.2	-54.7	-0.089	mg/L	-8.931	mg/kg
1	Se 196.026	1.6	1.7	-0.006	mg/L	-0.564	mg/kg
1	Si 251.611	69906.2	70541.1	17.09	mg/L	1708	mg/kg
1	Sn 189.933	53.9	54.4	-1.029	mg/L	-102.9	mg/kg
1	Sr 407.771	111307.5	112318.4	0.140	mg/L	13.99	mg/kg
1	Ti 334.941	116466.2	117523.8	1.242	mg/L	124.1	mg/kg
1	Tl 190.800	1.5	1.6	0.087	mg/L	8.692	mg/kg
1	V 292.402	1410.7	1423.5	0.108	mg/L	10.77	mg/kg
1	Zn 206.200	228.3	230.4	0.109	mg/L	10.85	mg/kg
2	Sc 357.253	520047.9	520047.9	99	mg/kg		
2	Y 360.064	263468.7	263468.7	99	mg/kg		
2	Ag 328.068	47.4	47.7	-0.018	mg/L	-1.775	mg/kg
2	Al 396.140	53210.4	53537.6	17.37	mg/L	1736	mg/kg
2	As 188.979	12.7	12.7	0.145	mg/L	14.48	mg/kg
2	B 249.773	1733.7	1744.3	0.024	mg/L	2.424	mg/kg
2	Ba 455.403	41594.9	41850.7	0.127	mg/L	12.74	mg/kg
2	Be 234.861	542.1	545.4	0.000	mg/L	0.000	mg/kg
2	Ca 315.887	2524266.2	2539786.4	261.2	mg/L	26110	mg/kg
2	Cd 214.438	47.6	47.9	0.000	mg/L	0.001	mg/kg
2	Co 228.616	94.5	95.0	0.025	mg/L	2.465	mg/kg
2	Cr 205.558	65.7	66.1	0.087	mg/L	8.746	mg/kg
2	Cu 324.764	814.0	819.0	0.037	mg/L	3.693	mg/kg
2	Fe 238.204	425130.7	427744.5	46.28	mg/L	4626	mg/kg

2 K 766.514	8245.3	8296.0	4.278 mg/L	427.6 mg/kg
2 Li 670.781	1534.1	1543.5	0.015 mg/L	1.492 mg/kg
2 Mg 279.074	183799.6	184929.7	152.7 mg/L	15270 mg/kg
2 Mn 257.610	148376.4	149288.7	1.996 mg/L	199.5 mg/kg
2 Mo 202.031	47.8	48.1	0.014 mg/L	1.445 mg/kg
2 Na 588.995	96180.8	96772.2	1.377 mg/L	137.7 mg/kg
2 Ni 231.603	59.8	60.2	0.031 mg/L	3.135 mg/kg
2 P 178.221	35.0	35.2	1.671 mg/L	167.0 mg/kg
2 Pb 220.353	28.5	28.6	0.096 mg/L	9.630 mg/kg
2 Sb 206.833	-52.0	-52.3	-0.075 mg/L	-7.512 mg/kg
2 Se 196.026	12.2	12.3	0.140 mg/L	14.01 mg/kg
2 Si 251.611	70197.0	70628.6	17.10 mg/L	1710 mg/kg
2 Sn 189.933	60.7	61.1	-0.997 mg/L	-99.69 mg/kg
2 Sr 407.771	112780.9	113474.3	0.141 mg/L	14.13 mg/kg
2 Ti 334.941	116617.2	117334.2	1.240 mg/L	124.0 mg/kg
2 Tl 190.800	3.9	3.9	0.150 mg/L	14.98 mg/kg
2 V 292.402	1442.6	1451.5	0.110 mg/L	10.97 mg/kg
2 Zn 206.200	237.7	239.1	0.113 mg/L	11.29 mg/kg

Mean Data ----------

ID: 305342d Seq. No.: 26 Sample No.: 10 A/S Pos: 26
Sample Qty: 0.5002 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 15:35:25

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	519292.1	99	0.2	mg/kg				0.21%
Y 360.064	262954.8	99	0.3	mg/kg				0.28%
Ag 328.068	25.8	-0.019	0.0016	mg/L	-1.890	0.1627	mg/kg	8.61%
Al 396.140	53478.3	17.35	0.027	mg/L	1734	2.7	mg/kg	0.16%
As 188.979	9.3	0.118	0.0380	mg/L	11.79	3.801	mg/kg	32.23%
B 249.773	1758.6	0.026	0.0025	mg/L	2.601	0.2499	mg/kg	9.61%
Ba 455.403	41835.5	0.127	0.0002	mg/L	12.73	0.015	mg/kg	0.12%
Be 234.861	540.0	0.000	0.0000	mg/L	-0.003	0.0041	mg/kg	122.08%
Ca 315.887	2528934.1	260.1	1.58	mg/L	26000	157.8	mg/kg	0.61%
Cd 214.438	44.3	-0.001	0.0009	mg/L	-0.059	0.0853	mg/kg	143.40%
Co 228.616	88.3	0.023	0.0027	mg/L	2.277	0.2652	mg/kg	11.65%
Cr 205.558	63.1	0.084	0.0045	mg/L	8.431	0.4462	mg/kg	5.29%
Cu 324.764	810.9	0.036	0.0006	mg/L	3.648	0.0638	mg/kg	1.75%
Fe 238.204	425957.1	46.09	0.274	mg/L	4607	27.3	mg/kg	0.59%
K 766.514	8294.3	4.277	0.0009	mg/L	427.6	0.09	mg/kg	0.02%
Li 670.781	1484.0	0.014	0.0007	mg/L	1.444	0.0672	mg/kg	4.65%
Mg 279.074	184083.7	152.0	0.99	mg/L	15200	98.8	mg/kg	0.65%
Mn 257.610	149436.6	1.998	0.0028	mg/L	199.7	0.28	mg/kg	0.14%
Mo 202.031	46.4	0.012	0.0035	mg/L	1.196	0.3522	mg/kg	29.45%
Na 588.995	96938.8	1.387	0.0141	mg/L	138.7	1.41	mg/kg	1.02%
Ni 231.603	59.1	0.031	0.0008	mg/L	3.081	0.0763	mg/kg	2.48%
P 178.221	39.5	1.878	0.2921	mg/L	187.7	29.20	mg/kg	15.56%
Pb 220.353	21.7	0.072	0.0345	mg/L	7.193	3.4469	mg/kg	47.92%
Sb 206.833	-53.5	-0.082	0.0100	mg/L	-8.222	1.0037	mg/kg	12.21%
Se 196.026	7.0	0.067	0.1031	mg/L	6.722	10.3041	mg/kg	153.28%
Si 251.611	70584.9	17.10	0.011	mg/L	1709	1.1	mg/kg	0.07%
Sn 189.933	57.8	-1.013	0.0227	mg/L	-101.3	2.26	mg/kg	2.24%
Sr 407.771	112896.3	0.141	0.0010	mg/L	14.06	0.100	mg/kg	0.71%
Ti 334.941	117429.0	1.241	0.0012	mg/L	124.1	0.12	mg/kg	0.09%
Tl 190.800	2.7	0.118	0.0445	mg/L	11.84	4.447	mg/kg	37.57%
V 292.402	1437.5	0.109	0.0014	mg/L	10.87	0.145	mg/kg	1.33%
Zn 206.200	234.8	0.111	0.0031	mg/L	11.07	0.309	mg/kg	2.79%

Replicate Data ----------

ID: CCV Date: 5/20/02 15:39:34

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	536739.2	536739.2	103	mg/kg		
1 Y 360.064	273238.6	273238.6	103	mg/kg		
1 Ag 328.068	11706.9	11412.6	0.580	mg/L	580.3	mg/kg
1 Al 396.140	7959.1	7759.0	2.526	mg/L	2526	mg/kg
1 As 188.979	330.1	321.8	2.560	mg/L	2560	mg/kg
1 B 249.773	5154.3	5024.7	0.434	mg/L	433.6	mg/kg
1 Ba 455.403	191574.8	186758.5	0.500	mg/L	500.1	mg/kg

1	Be 234.861	4956.9	4832.2	0.049 mg/L	48.60 mg/kg
1	Ca 315.887	51849.3	50545.8	5.103 mg/L	5103 mg/kg
1	Cd 214.438	2724.1	2655.6	0.506 mg/L	506.1 mg/kg
1	Co 228.616	1860.5	1813.8	0.507 mg/L	506.6 mg/kg
1	Cr 205.558	541.8	528.2	0.498 mg/L	497.8 mg/kg
1	Cu 324.764	7779.0	7583.5	0.494 mg/L	493.9 mg/kg
1	Fe 238.204	4767.5	4647.7	0.489 mg/L	489.5 mg/kg
1	K 766.514	10569.9	10304.2	5.054 mg/L	5054 mg/kg
1	Li 670.781	63654.6	62054.3	0.498 mg/L	498.3 mg/kg
1	Mg 279.074	6256.4	6099.1	5.029 mg/L	5029 mg/kg
1	Mn 257.610	38952.1	37972.8	0.507 mg/L	506.6 mg/kg
1	Mo 202.031	386.1	376.4	0.501 mg/L	500.7 mg/kg
1	Na 588.995	160021.5	155998.5	4.921 mg/L	4921 mg/kg
1	Ni 231.603	1019.4	989.4	0.509 mg/L	509.4 mg/kg
1	P 178.221	53.8	52.4	2.500 mg/L	2500 mg/kg
1	Pb 220.353	143.2	139.6	0.487 mg/L	487.2 mg/kg
1	Sb 206.833	383.9	374.3	2.519 mg/L	2519 mg/kg
1	Se 196.026	188.4	183.7	2.500 mg/L	2500 mg/kg
1	Si 251.611	10880.8	10607.2	2.514 mg/L	2514 mg/kg
1	Sn 189.933	493.9	481.4	2.422 mg/L	2422 mg/kg
1	Sr 407.771	414796.4	404368.2	0.499 mg/L	498.7 mg/kg
1	Ti 334.941	51511.7	50216.7	0.509 mg/L	509.4 mg/kg
1	Tl 190.800	89.3	87.0	2.324 mg/L	2324 mg/kg
1	V 292.402	7028.3	6851.6	0.505 mg/L	505.2 mg/kg
1	Zn 206.200	1040.2	1014.0	0.502 mg/L	501.9 mg/kg
2	Sc 357.253	538634.9	538634.9	103 mg/kg	
2	Y 360.064	274468.1	274468.1	103 mg/kg	
2	Ag 328.068	11626.9	11294.7	0.574 mg/L	574.1 mg/kg
2	Al 396.140	7819.1	7595.7	2.473 mg/L	2473 mg/kg
2	As 188.979	319.9	310.8	2.474 mg/L	2474 mg/kg
2	B 249.773	5170.1	5022.4	0.433 mg/L	433.3 mg/kg
2	Ba 455.403	193150.5	187631.9	0.502 mg/L	502.4 mg/kg
2	Be 234.861	4925.8	4785.1	0.048 mg/L	48.13 mg/kg
2	Ca 315.887	51613.3	50138.7	5.061 mg/L	5061 mg/kg
2	Cd 214.438	2708.6	2631.2	0.502 mg/L	501.5 mg/kg
2	Co 228.616	1842.0	1789.3	0.500 mg/L	499.7 mg/kg
2	Cr 205.558	540.8	525.3	0.495 mg/L	495.0 mg/kg
2	Cu 324.764	7706.3	7486.1	0.488 mg/L	487.5 mg/kg
2	Fe 238.204	4816.1	4678.5	0.493 mg/L	492.8 mg/kg
2	K 766.514	10451.3	10152.7	4.996 mg/L	4996 mg/kg
2	Li 670.781	64213.8	62379.2	0.501 mg/L	500.9 mg/kg
2	Mg 279.074	6279.0	6099.6	5.029 mg/L	5029 mg/kg
2	Mn 257.610	38640.3	37536.3	0.501 mg/L	500.8 mg/kg
2	Mo 202.031	389.2	378.1	0.503 mg/L	503.2 mg/kg
2	Na 588.995	160705.6	156114.0	4.928 mg/L	4928 mg/kg
2	Ni 231.603	1007.4	973.4	0.501 mg/L	501.2 mg/kg
2	P 178.221	55.3	53.8	2.564 mg/L	2564 mg/kg
2	Pb 220.353	150.1	145.8	0.509 mg/L	508.9 mg/kg
2	Sb 206.833	387.9	376.8	2.534 mg/L	2534 mg/kg
2	Se 196.026	194.4	188.8	2.571 mg/L	2571 mg/kg
2	Si 251.611	10780.4	10472.4	2.480 mg/L	2480 mg/kg
2	Sn 189.933	496.1	481.9	2.425 mg/L	2425 mg/kg
2	Sr 407.771	418416.3	406461.5	0.501 mg/L	501.3 mg/kg
2	Ti 334.941	51076.5	49617.2	0.503 mg/L	503.2 mg/kg
2	Tl 190.800	94.3	91.6	2.445 mg/L	2445 mg/kg
2	V 292.402	6968.7	6769.6	0.499 mg/L	499.2 mg/kg
2	Zn 206.200	1028.2	998.8	0.494 mg/L	494.3 mg/kg

Mean Data

ID: CCV #2 Seq. No.: 27 Sample No.: 9 A/S Pos: 4
Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 15:39:34

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	537687.1	103	0.3	mg/kg				0.25%
Y 360.064	273853.4	103	0.3	mg/kg				0.32%
Ag 328.068	11353.6	0.577	0.0044	mg/L	577.2	4.39	mg/kg	0.76%
*QC exceeds upper limit for Ag 328.068			Recovery = 115.45%		Action = Continue			
Al 396.140	7677.3	2.500	0.0375	mg/L	2500	37.5	mg/kg	1.50%
As 188.979	316.3	2.517	0.0609	mg/L	2517	60.9	mg/kg	2.42%

B 249.773	5023.5	0.433	0.0002 mg/L	433.5	0.17 mg/kg	0.04%
*QC exceeds lower limit for B 249.773			Recovery = 86.69%	Action = Continue		
Ba 455.403	187195.2	0.501	0.0017 mg/L	501.2	1.66 mg/kg	0.33%
Be 234.861	4808.7	0.048	0.0003 mg/L	48.36	0.332 mg/kg	0.69%
Ca 315.887	50342.2	5.082	0.0296 mg/L	5082	29.6 mg/kg	0.58%
Cd 214.438	2643.4	0.504	0.0032 mg/L	503.8	3.21 mg/kg	0.64%
Co 228.616	1801.5	0.503	0.0048 mg/L	503.1	4.85 mg/kg	0.96%
Cr 205.558	526.8	0.496	0.0020 mg/L	496.4	1.98 mg/kg	0.40%
Cu 324.764	7534.8	0.491	0.0045 mg/L	490.7	4.48 mg/kg	0.91%
Fe 238.204	4663.1	0.491	0.0024 mg/L	491.1	2.36 mg/kg	0.48%
K 766.514	10228.5	5.025	0.0414 mg/L	5025	41.4 mg/kg	0.82%
Li 670.781	62216.7	0.500	0.0018 mg/L	499.6	1.84 mg/kg	0.37%
Mg 279.074	6099.4	5.029	0.0003 mg/L	5029	0.3 mg/kg	0.01%
Mn 257.610	37754.6	0.504	0.0041 mg/L	503.7	4.13 mg/kg	0.82%
Mo 202.031	377.3	0.502	0.0018 mg/L	502.0	1.76 mg/kg	0.35%
Na 588.995	156056.3	4.924	0.0049 mg/L	4924	4.9 mg/kg	0.10%
Ni 231.603	981.4	0.505	0.0058 mg/L	505.3	5.81 mg/kg	1.15%
P 178.221	53.1	2.532	0.0450 mg/L	2532	45.0 mg/kg	1.78%
Pb 220.353	142.7	0.498	0.0153 mg/L	498.1	15.34 mg/kg	3.08%
Sb 206.833	375.5	2.527	0.0108 mg/L	2527	10.8 mg/kg	0.43%
Se 196.026	186.2	2.535	0.0500 mg/L	2535	50.0 mg/kg	1.97%
Si 251.611	10539.8	2.497	0.0243 mg/L	2497	24.3 mg/kg	0.97%
Sn 189.933	481.7	2.424	0.0022 mg/L	2424	2.2 mg/kg	0.09%
Sr 407.771	405414.9	0.500	0.0018 mg/L	500.0	1.82 mg/kg	0.36%
Ti 334.941	49916.9	0.506	0.0044 mg/L	506.3	4.39 mg/kg	0.87%
Tl 190.800	89.3	2.385	0.0858 mg/L	2385	85.8 mg/kg	3.60%
V 292.402	6810.6	0.502	0.0042 mg/L	502.2	4.25 mg/kg	0.85%
Zn 206.200	1006.4	0.498	0.0054 mg/L	498.1	5.42 mg/kg	1.09%

Replicate Data ----------

ID: CCB Date: 5/20/02 15:43:41

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	531377.5	531377.5	102	mg/kg		
1	Y 360.064	270911.5	270911.5	102	mg/kg		
1	Ag 328.068	80.5	79.3	-0.016	mg/L	-16.09	mg/kg
1	Al 396.140	-126.5	-124.5	-0.014	mg/L	-14.15	mg/kg
1	As 188.979	-9.3	-9.2	-0.027	mg/L	-26.62	mg/kg
1	B 249.773	583.9	575.0	-0.049	mg/L	-48.75	mg/kg
1	Ba 455.403	819.6	807.1	0.001	mg/L	0.574	mg/kg
1	Be 234.861	-20.7	-20.4	0.000	mg/L	0.296	mg/kg
1	Ca 315.887	915.0	901.0	-0.004	mg/L	-4.442	mg/kg
1	Cd 214.438	-64.7	-63.7	0.000	mg/L	0.283	mg/kg
1	Co 228.616	9.8	9.6	0.001	mg/L	0.711	mg/kg
1	Cr 205.558	24.4	24.1	0.002	mg/L	1.747	mg/kg
1	Cu 324.764	-60.9	-60.0	-0.004	mg/L	-3.962	mg/kg
1	Fe 238.204	183.5	180.7	0.006	mg/L	5.981	mg/kg
1	K 766.514	-2923.4	-2878.7	-0.040	mg/L	-40.34	mg/kg
1	Li 670.781	-50.2	-49.4	0.002	mg/L	2.201	mg/kg
1	Mg 279.074	21.3	21.0	0.008	mg/L	8.412	mg/kg
1	Mn 257.610	-36.9	-36.4	-0.002	mg/L	-1.787	mg/kg
1	Mo 202.031	37.8	37.2	-0.002	mg/L	-1.723	mg/kg
1	Na 588.995	75078.4	73929.4	0.011	mg/L	10.70	mg/kg
1	Ni 231.603	-0.0	-0.0	0.000	mg/L	0.391	mg/kg
1	P 178.221	-2.1	-2.1	-0.123	mg/L	-123.1	mg/kg
1	Pb 220.353	9.1	8.9	0.027	mg/L	26.90	mg/kg
1	Sb 206.833	-42.6	-41.9	-0.012	mg/L	-11.79	mg/kg
1	Se 196.026	7.5	7.4	0.073	mg/L	72.89	mg/kg
1	Si 251.611	553.8	545.4	-0.051	mg/L	-50.58	mg/kg
1	Sn 189.933	75.3	74.2	-0.004	mg/L	-3.708	mg/kg
1	Sr 407.771	-1929.0	-1899.5	0.000	mg/L	-0.404	mg/kg
1	Ti 334.941	698.3	687.6	-0.003	mg/L	-3.392	mg/kg
1	Tl 190.800	-2.5	-2.5	-0.071	mg/L	-70.82	mg/kg
1	V 292.402	-26.8	-26.4	0.002	mg/L	1.555	mg/kg
1	Zn 206.200	20.0	19.7	0.003	mg/L	2.820	mg/kg
2	Sc 357.253	529950.7	529950.7	101	mg/kg		
2	Y 360.064	270519.1	270519.1	102	mg/kg		
2	Ag 328.068	116.4	114.9	-0.014	mg/L	-14.22	mg/kg
2	Al 396.140	-149.6	-147.7	-0.022	mg/L	-21.66	mg/kg

2 As 188.979	-0.5	-0.5	0.042	mg/L	41.56 mg/kg
2 B 249.773	548.2	541.2	-0.052	mg/L	-52.41 mg/kg
2 Ba 455.403	781.2	771.3	0.000	mg/L	0.478 mg/kg
2 Be 234.861	-15.7	-15.5	0.000	mg/L	0.345 mg/kg
2 Ca 315.887	904.8	893.4	-0.005	mg/L	-5.222 mg/kg
2 Cd 214.438	-73.0	-72.0	-0.001	mg/L	-1.263 mg/kg
2 Co 228.616	11.8	11.6	0.001	mg/L	1.273 mg/kg
2 Cr 205.558	20.8	20.5	-0.002	mg/L	-1.748 mg/kg
2 Cu 324.764	-66.7	-65.8	-0.004	mg/L	-4.344 mg/kg
2 Fe 238.204	220.8	218.0	0.010	mg/L	10.02 mg/kg
2 K 766.514	-2976.7	-2939.0	-0.064	mg/L	-63.64 mg/kg
2 Li 670.781	-23.3	-23.0	0.002	mg/L	2.412 mg/kg
2 Mg 279.074	45.7	45.1	0.028	mg/L	28.35 mg/kg
2 Mn 257.610	-46.5	-46.0	-0.002	mg/L	-1.915 mg/kg
2 Mo 202.031	45.9	45.3	0.010	mg/L	10.28 mg/kg
2 Na 588.995	74454.9	73512.8	-0.014	mg/L	-14.22 mg/kg
2 Ni 231.603	-5.9	-5.8	-0.003	mg/L	-2.576 mg/kg
2 P 178.221	-3.0	-3.0	-0.168	mg/L	-167.6 mg/kg
2 Pb 220.353	3.8	3.7	0.009	mg/L	8.617 mg/kg
2 Sb 206.833	-44.6	-44.1	-0.025	mg/L	-24.89 mg/kg
2 Se 196.026	10.3	10.2	0.112	mg/L	111.5 mg/kg
2 Si 251.611	547.4	540.4	-0.052	mg/L	-51.84 mg/kg
2 Sn 189.933	80.7	79.7	0.030	mg/L	29.76 mg/kg
2 Sr 407.771	-1893.8	-1869.8	0.000	mg/L	-0.368 mg/kg
2 Ti 334.941	648.0	639.8	-0.004	mg/L	-3.887 mg/kg
2 Tl 190.800	3.1	3.0	0.076	mg/L	75.62 mg/kg
2 V 292.402	-24.3	-24.0	0.002	mg/L	1.730 mg/kg
2 Zn 206.200	6.5	6.4	-0.004	mg/L	-3.827 mg/kg

Mean Data

ID: CCB
Sample Qty: 1.0000 g

Seq. No.: 28 Sample No.: 10
Prep. Vol.: 1.0 L
Data: Original

A/S Pos: 1
Dilution: 1.0: 1.0
Date: 5/20/02 15:43:41

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	530664.1	101	0.2	mg/kg				0.19%
Y 360.064	270715.3	102	0.1	mg/kg				0.10%
Ag 328.068	97.1	-0.015	0.0013	mg/L	-15.16	1.326	mg/kg	8.75%
*QC exceeds lower limit for Ag 328.068 Action = Continue								
Al 396.140	-136.1	-0.018	0.0053	mg/L	-17.90	5.309	mg/kg	29.65%
As 188.979	-4.8	0.007	0.0482	mg/L	7.473	48.2082	mg/kg	645.10%
B 249.773	558.1	-0.051	0.0026	mg/L	-50.58	2.587	mg/kg	5.12%
Ba 455.403	789.2	0.001	0.0001	mg/L	0.526	0.0679	mg/kg	12.90%
Be 234.861	-18.0	0.000	0.0000	mg/L	0.321	0.0344	mg/kg	10.73%
Ca 315.887	897.2	-0.005	0.0006	mg/L	-4.832	0.5514	mg/kg	11.41%
Cd 214.438	-67.9	0.000	0.0011	mg/L	-0.490	1.0936	mg/kg	223.21%
Co 228.616	10.6	0.001	0.0004	mg/L	0.992	0.3975	mg/kg	40.06%
Cr 205.558	22.3	0.000	0.0025	mg/L	-0.001	2.4715	mg/kg	>999.9%
Cu 324.764	-62.9	-0.004	0.0003	mg/L	-4.153	0.2699	mg/kg	6.50%
Fe 238.204	199.3	0.008	0.0029	mg/L	8.003	2.8583	mg/kg	35.72%
K 766.514	-2908.8	-0.052	0.0165	mg/L	-51.99	16.482	mg/kg	31.70%
Li 670.781	-36.2	0.002	0.0001	mg/L	2.306	0.1491	mg/kg	6.47%
Mg 279.074	33.1	0.018	0.0141	mg/L	18.38	14.097	mg/kg	76.70%
Mn 257.610	-41.2	-0.002	0.0001	mg/L	-1.851	0.0908	mg/kg	4.91%
Mo 202.031	41.3	0.004	0.0085	mg/L	4.276	8.4846	mg/kg	198.42%
Na 588.995	73721.1	-0.002	0.0176	mg/L	-1.759	17.6240	mg/kg	>999.9%
Ni 231.603	-2.9	-0.001	0.0021	mg/L	-1.092	2.0983	mg/kg	192.08%
P 178.221	-2.5	-0.145	0.0315	mg/L	-145.4	31.48	mg/kg	21.66%
Pb 220.353	6.3	0.018	0.0129	mg/L	17.76	12.929	mg/kg	72.80%
Sb 206.833	-43.0	-0.018	0.0093	mg/L	-18.34	9.270	mg/kg	50.54%
Se 196.026	8.8	0.092	0.0273	mg/L	92.21	27.329	mg/kg	29.64%
Si 251.611	542.9	-0.051	0.0009	mg/L	-51.21	0.891	mg/kg	1.74%
Sn 189.933	76.9	0.013	0.0237	mg/L	13.03	23.668	mg/kg	181.68%
Sr 407.771	-1884.6	0.000	0.0000	mg/L	-0.386	0.0258	mg/kg	6.69%
Ti 334.941	663.7	-0.004	0.0003	mg/L	-3.640	0.3500	mg/kg	9.62%
Tl 190.800	0.3	0.002	0.1035	mg/L	2.398	103.5469	mg/kg	>999.9%
V 292.402	-25.2	0.002	0.0001	mg/L	1.643	0.1239	mg/kg	7.54%
Zn 206.200	13.1	-0.001	0.0047	mg/L	-0.503	4.7006	mg/kg	933.74%

Replicate Data

ID: 305342s

Date: 5/20/02 15:47:52

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	517225.3	517225.3	99	mg/kg		
1	Y 360.064	261486.3	261486.3	99	mg/kg		
1	Ag 328.068	9405.3	9514.8	0.480	mg/L	48.01	mg/kg
1	Al 396.140	92013.7	93084.6	30.16	mg/L	3014	mg/kg
1	As 188.979	323.6	327.4	2.604	mg/L	260.2	mg/kg
1	B 249.773	6861.2	6941.0	0.584	mg/L	58.39	mg/kg
1	Ba 455.403	238605.7	241382.9	0.667	mg/L	66.60	mg/kg
1	Be 234.861	5688.3	5754.5	0.052	mg/L	5.154	mg/kg
1	Ca 315.887	2534672.0	2564173.5	263.7	mg/L	26350	mg/kg
1	Cd 214.438	2669.1	2700.1	0.486	mg/L	48.58	mg/kg
1	Co 228.616	1752.6	1773.0	0.495	mg/L	49.47	mg/kg
1	Cr 205.558	570.3	576.9	0.592	mg/L	59.11	mg/kg
1	Cu 324.764	8148.4	8243.2	0.519	mg/L	51.90	mg/kg
1	Fe 238.204	448725.8	453948.6	49.12	mg/L	4908	mg/kg
1	K 766.514	83091.9	84059.0	33.56	mg/L	3353	mg/kg
1	Li 670.781	65412.6	66173.9	0.531	mg/L	53.08	mg/kg
1	Mg 279.074	195209.6	197481.7	163.1	mg/L	16300	mg/kg
1	Mn 257.610	188998.1	191197.8	2.556	mg/L	255.4	mg/kg
1	Mo 202.031	709.2	717.5	1.006	mg/L	100.5	mg/kg
1	Na 588.995	522308.7	528387.9	27.20	mg/L	2718	mg/kg
1	Ni 231.603	952.4	966.0	0.497	mg/L	49.70	mg/kg
1	P 178.221	83.9	84.9	4.062	mg/L	405.9	mg/kg
1	Pb 220.353	160.4	162.3	0.567	mg/L	56.65	mg/kg
1	Sb 206.833	741.6	750.2	4.805	mg/L	480.1	mg/kg
1	Se 196.026	184.0	186.1	2.533	mg/L	253.1	mg/kg
1	Si 251.611	100005.6	101169.6	24.84	mg/L	2482	mg/kg
1	Sn 189.933	870.3	880.4	3.887	mg/L	388.4	mg/kg
1	Sr 407.771	564186.5	570753.1	0.703	mg/L	70.26	mg/kg
1	Ti 334.941	231731.9	234429.0	2.458	mg/L	245.6	mg/kg
1	Tl 190.800	84.4	85.4	2.334	mg/L	233.2	mg/kg
1	V 292.402	8419.5	8517.5	0.627	mg/L	62.67	mg/kg
1	Zn 206.200	1222.3	1236.5	0.614	mg/L	61.31	mg/kg
2	Sc 357.253	514761.1	514761.1	98	mg/kg		
2	Y 360.064	260334.1	260334.1	98	mg/kg		
2	Ag 328.068	9316.4	9470.0	0.478	mg/L	47.77	mg/kg
2	Al 396.140	92078.7	93596.3	30.33	mg/L	3030	mg/kg
2	As 188.979	322.9	328.2	2.610	mg/L	260.8	mg/kg
2	B 249.773	6904.5	7018.3	0.592	mg/L	59.20	mg/kg
2	Ba 455.403	239250.4	243193.7	0.671	mg/L	67.09	mg/kg
2	Be 234.861	5705.2	5799.3	0.052	mg/L	5.195	mg/kg
2	Ca 315.887	2534519.7	2576293.4	265.0	mg/L	26480	mg/kg
2	Cd 214.438	2673.7	2717.8	0.489	mg/L	48.90	mg/kg
2	Co 228.616	1766.7	1795.9	0.502	mg/L	50.12	mg/kg
2	Cr 205.558	568.0	577.3	0.592	mg/L	59.18	mg/kg
2	Cu 324.764	8123.2	8257.1	0.520	mg/L	51.98	mg/kg
2	Fe 238.204	448675.4	456070.5	49.35	mg/L	4931	mg/kg
2	K 766.514	83226.2	84598.0	33.76	mg/L	3374	mg/kg
2	Li 670.781	65560.6	66641.2	0.535	mg/L	53.45	mg/kg
2	Mg 279.074	195186.7	198403.8	163.9	mg/L	16370	mg/kg
2	Mn 257.610	188847.4	191959.9	2.566	mg/L	256.4	mg/kg
2	Mo 202.031	718.2	730.1	1.025	mg/L	102.4	mg/kg
2	Na 588.995	523014.5	531634.7	27.40	mg/L	2737	mg/kg
2	Ni 231.603	978.6	996.9	0.513	mg/L	51.29	mg/kg
2	P 178.221	91.5	93.0	4.453	mg/L	444.9	mg/kg
2	Pb 220.353	154.9	157.4	0.550	mg/L	54.94	mg/kg
2	Sb 206.833	759.1	771.6	4.935	mg/L	493.1	mg/kg
2	Se 196.026	182.3	185.3	2.522	mg/L	252.0	mg/kg
2	Si 251.611	99774.5	101419.0	24.90	mg/L	2488	mg/kg
2	Sn 189.933	858.8	873.0	3.837	mg/L	383.4	mg/kg
2	Sr 407.771	565058.2	574371.5	0.708	mg/L	70.70	mg/kg
2	Ti 334.941	232232.9	236060.6	2.475	mg/L	247.3	mg/kg
2	Tl 190.800	82.8	84.2	2.302	mg/L	230.0	mg/kg
2	V 292.402	8412.9	8551.5	0.630	mg/L	62.92	mg/kg
2	Zn 206.200	1214.2	1234.3	0.612	mg/L	61.20	mg/kg

Mean Data

ID: 305342s Seq. No.: 29 Sample No.: 11 A/S Pos: 27

Sample Qty: 0.5004 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 15:47:52

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Std.Dev.	Sample Units	RSD
Sc 357.253	515993.2	99	0.3	mg/kg				0.34%
Y 360.064	260910.2	98	0.3	mg/kg				0.31%
Ag 328.068	9492.4	0.479	0.0017	mg/L	47.89	0.166	mg/kg	0.35%
Al 396.140	93340.5	30.25	0.117	mg/L	3022	11.7	mg/kg	0.39%
As 188.979	327.8	2.607	0.0046	mg/L	260.5	0.46	mg/kg	0.18%
B 249.773	6979.7	0.588	0.0057	mg/L	58.79	0.573	mg/kg	0.97%
Ba 455.403	242288.3	0.669	0.0035	mg/L	66.85	0.350	mg/kg	0.52%
Be 234.861	5776.9	0.052	0.0003	mg/L	5.174	0.0294	mg/kg	0.57%
Ca 315.887	2570233.5	264.3	0.88	mg/L	26410	88.1	mg/kg	0.33%
Cd 214.438	2709.0	0.488	0.0022	mg/L	48.74	0.225	mg/kg	0.46%
Co 228.616	1784.4	0.498	0.0045	mg/L	49.79	0.453	mg/kg	0.91%
Cr 205.558	577.1	0.592	0.0004	mg/L	59.14	0.043	mg/kg	0.07%
Cu 324.764	8250.2	0.520	0.0006	mg/L	51.94	0.058	mg/kg	0.11%
Fe 238.204	455009.5	49.23	0.162	mg/L	4919	16.2	mg/kg	0.33%
K 766.514	84328.5	33.66	0.147	mg/L	3363	14.7	mg/kg	0.44%
Li 670.781	66407.6	0.533	0.0026	mg/L	53.27	0.264	mg/kg	0.50%
Mg 279.074	197942.8	163.5	0.54	mg/L	16340	53.8	mg/kg	0.33%
Mn 257.610	191578.9	2.561	0.0072	mg/L	255.9	0.72	mg/kg	0.28%
Mo 202.031	723.8	1.015	0.0132	mg/L	101.4	1.32	mg/kg	1.30%
Na 588.995	530011.3	27.30	0.137	mg/L	2728	13.7	mg/kg	0.50%
Ni 231.603	981.4	0.505	0.0112	mg/L	50.49	1.123	mg/kg	2.22%
P 178.221	88.9	4.257	0.2765	mg/L	425.4	27.63	mg/kg	6.49%
Pb 220.353	159.8	0.558	0.0121	mg/L	55.79	1.213	mg/kg	2.17%
Sb 206.833	760.9	4.870	0.0919	mg/L	486.6	9.19	mg/kg	1.89%
Se 196.026	185.7	2.528	0.0077	mg/L	252.6	0.77	mg/kg	0.31%
Si 251.611	101294.3	24.87	0.042	mg/L	2485	4.2	mg/kg	0.17%
Sn 189.933	876.7	3.862	0.0353	mg/L	385.9	3.53	mg/kg	0.91%
Sr 407.771	572562.3	0.705	0.0031	mg/L	70.48	0.314	mg/kg	0.45%
Ti 334.941	235244.8	2.467	0.0121	mg/L	246.5	1.21	mg/kg	0.49%
Tl 190.800	84.8	2.318	0.0226	mg/L	231.6	2.26	mg/kg	0.98%
V 292.402	8534.5	0.628	0.0018	mg/L	62.79	0.176	mg/kg	0.28%
Zn 206.200	1235.4	0.613	0.0008	mg/L	61.26	0.081	mg/kg	0.13%

Replicate Data
ID: 305342sd Date: 5/20/02 15:52:07

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	520502.6	520502.6	99	mg/kg		
1	Y 360.064	263971.5	263971.5	100	mg/kg		
1	Ag 328.068	9426.8	9476.5	0.478	mg/L	47.80	mg/kg
1	Al 396.140	88007.4	88471.1	28.67	mg/L	2864	mg/kg
1	As 188.979	308.7	310.3	2.470	mg/L	246.8	mg/kg
1	B 249.773	6944.1	6980.7	0.590	mg/L	58.91	mg/kg
1	Ba 455.403	238812.8	240071.1	0.663	mg/L	66.27	mg/kg
1	Be 234.861	5740.1	5770.4	0.052	mg/L	5.167	mg/kg
1	Ca 315.887	2632082.9	2645952.4	272.1	mg/L	27190	mg/kg
1	Cd 214.438	2676.9	2691.0	0.485	mg/L	48.47	mg/kg
1	Co 228.616	1775.4	1784.7	0.498	mg/L	49.79	mg/kg
1	Cr 205.558	580.8	583.9	0.599	mg/L	59.84	mg/kg
1	Cu 324.764	8280.8	8324.4	0.524	mg/L	52.34	mg/kg
1	Fe 238.204	446261.3	448612.8	48.54	mg/L	4849	mg/kg
1	K 766.514	83943.1	84385.4	33.68	mg/L	3365	mg/kg
1	Li 670.781	66311.7	66661.1	0.535	mg/L	53.46	mg/kg
1	Mg 279.074	204265.0	205341.3	169.6	mg/L	16940	mg/kg
1	Mn 257.610	184335.0	185306.3	2.477	mg/L	247.5	mg/kg
1	Mo 202.031	717.5	721.3	1.012	mg/L	101.1	mg/kg
1	Na 588.995	522862.6	525617.8	27.04	mg/L	2701	mg/kg
1	Ni 231.603	968.2	972.8	0.501	mg/L	50.04	mg/kg
1	P 178.221	108.7	109.3	5.237	mg/L	523.2	mg/kg
1	Pb 220.353	168.2	169.1	0.591	mg/L	59.03	mg/kg
1	Sb 206.833	748.9	752.9	4.821	mg/L	481.7	mg/kg
1	Se 196.026	193.4	194.4	2.648	mg/L	264.5	mg/kg
1	Si 251.611	94319.3	94816.3	23.19	mg/L	2317	mg/kg
1	Sn 189.933	848.0	852.5	3.671	mg/L	366.7	mg/kg
1	Sr 407.771	567331.8	570321.3	0.703	mg/L	70.19	mg/kg

1	Ti 334.941	231430.7	232650.2	2.441 mg/L	243.8 mg/kg
1	Tl 190.800	85.9	86.4	2.363 mg/L	236.1 mg/kg
1	V 292.402	8387.3	8431.5	0.621 mg/L	62.03 mg/kg
1	Zn 206.200	1201.9	1208.2	0.599 mg/L	59.88 mg/kg
2	Sc 357.253	512739.7	512739.7	98 mg/kg	
2	Y 360.064	259782.5	259782.5	98 mg/kg	
2	Ag 328.068	9448.4	9642.0	0.487 mg/L	48.67 mg/kg
2	Al 396.140	87205.9	88992.7	28.83 mg/L	2880 mg/kg
2	As 188.979	320.9	327.5	2.605 mg/L	260.3 mg/kg
2	B 249.773	6902.7	7044.1	0.596 mg/L	59.57 mg/kg
2	Ba 455.403	236403.9	241247.6	0.667 mg/L	66.60 mg/kg
2	Be 234.861	5657.0	5772.9	0.052 mg/L	5.166 mg/kg
2	Ca 315.887	2610904.3	2664399.6	274.0 mg/L	27380 mg/kg
2	Cd 214.438	2681.4	2736.3	0.493 mg/L	49.30 mg/kg
2	Co 228.616	1775.3	1811.7	0.506 mg/L	50.55 mg/kg
2	Cr 205.558	575.4	587.2	0.603 mg/L	60.20 mg/kg
2	Cu 324.764	8140.3	8307.1	0.523 mg/L	52.22 mg/kg
2	Fe 238.204	442084.5	451142.4	48.81 mg/L	4877 mg/kg
2	K 766.514	82865.3	84563.1	33.75 mg/L	3372 mg/kg
2	Li 670.781	65612.7	66957.1	0.537 mg/L	53.69 mg/kg
2	Mg 279.074	202093.4	206234.1	170.3 mg/L	17020 mg/kg
2	Mn 257.610	182379.4	186116.2	2.488 mg/L	248.6 mg/kg
2	Mo 202.031	720.9	735.7	1.033 mg/L	103.2 mg/kg
2	Na 588.995	518421.4	529043.5	27.24 mg/L	2721 mg/kg
2	Ni 231.603	971.0	991.2	0.510 mg/L	50.99 mg/kg
2	P 178.221	110.5	112.7	5.404 mg/L	539.9 mg/kg
2	Pb 220.353	153.8	157.0	0.548 mg/L	54.77 mg/kg
2	Sb 206.833	744.7	759.9	4.864 mg/L	485.9 mg/kg
2	Se 196.026	185.1	188.9	2.571 mg/L	256.9 mg/kg
2	Si 251.611	93068.6	94975.5	23.23 mg/L	2320 mg/kg
2	Sn 189.933	857.0	874.6	3.803 mg/L	379.9 mg/kg
2	Sr 407.771	560865.5	572357.2	0.705 mg/L	70.44 mg/kg
2	Ti 334.941	229150.0	233845.1	2.453 mg/L	245.1 mg/kg
2	Tl 190.800	86.1	87.8	2.402 mg/L	239.9 mg/kg
2	V 292.402	8386.2	8558.0	0.630 mg/L	62.95 mg/kg
2	Zn 206.200	1193.5	1217.9	0.604 mg/L	60.37 mg/kg

Mean Data ----------

ID: 305342sd Seq. No.: 30 Sample No.: 12 A/S Pos: 28

Sample Qty: 0.5005 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 15:52:07

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	516621.2	99	1.0	mg/kg				1.06%
Y 360.064	261877.0	99	1.1	mg/kg				1.13%
Ag 328.068	9559.2	0.483	0.0062	mg/L	48.23	0.615	mg/kg	1.28%
Al 396.140	88731.9	28.75	0.119	mg/L	2872	11.9	mg/kg	0.41%
As 188.979	318.9	2.538	0.0952	mg/L	253.5	9.51	mg/kg	3.75%
B 249.773	7012.4	0.593	0.0046	mg/L	59.24	0.463	mg/kg	0.78%
Ba 455.403	240659.4	0.665	0.0023	mg/L	66.43	0.231	mg/kg	0.35%
Be 234.861	5771.6	0.052	0.0000	mg/L	5.167	0.0009	mg/kg	0.02%
Ca 315.887	2655176.0	273.1	1.34	mg/L	27280	134.1	mg/kg	0.49%
Cd 214.438	2713.7	0.489	0.0059	mg/L	48.88	0.589	mg/kg	1.20%
Co 228.616	1798.2	0.502	0.0053	mg/L	50.17	0.534	mg/kg	1.06%
Cr 205.558	585.5	0.601	0.0026	mg/L	60.02	0.255	mg/kg	0.42%
Cu 324.764	8315.7	0.523	0.0009	mg/L	52.28	0.085	mg/kg	0.16%
Fe 238.204	449877.6	48.68	0.194	mg/L	4863	19.3	mg/kg	0.40%
K 766.514	84474.3	33.72	0.049	mg/L	3368	4.9	mg/kg	0.14%
Li 670.781	66809.1	0.536	0.0017	mg/L	53.58	0.167	mg/kg	0.31%
Mg 279.074	205787.7	170.0	0.52	mg/L	16980	52.1	mg/kg	0.31%
Mn 257.610	185711.2	2.483	0.0077	mg/L	248.0	0.77	mg/kg	0.31%
Mo 202.031	728.5	1.022	0.0150	mg/L	102.1	1.50	mg/kg	1.47%
Na 588.995	527330.6	27.14	0.145	mg/L	2711	14.5	mg/kg	0.53%
Ni 231.603	982.0	0.506	0.0067	mg/L	50.51	0.671	mg/kg	1.33%
P 178.221	111.0	5.321	0.1181	mg/L	531.5	11.80	mg/kg	2.22%
Pb 220.353	163.0	0.570	0.0302	mg/L	56.90	3.018	mg/kg	5.30%
Sb 206.833	756.4	4.843	0.0302	mg/L	483.8	3.02	mg/kg	0.62%
Se 196.026	191.6	2.610	0.0543	mg/L	260.7	5.42	mg/kg	2.08%
Si 251.611	94895.9	23.21	0.026	mg/L	2319	2.6	mg/kg	0.11%
Sn 189.933	863.5	3.737	0.0931	mg/L	373.3	9.30	mg/kg	2.49%

Sr 407.771	571339.3	0.704	0.0018 mg/L	70.31	0.177 mg/kg	0.25%
Ti 334.941	233247.6	2.447	0.0089 mg/L	244.5	0.89 mg/kg	0.36%
Tl 190.800	87.1	2.382	0.0275 mg/L	238.0	2.75 mg/kg	1.16%
V 292.402	8494.8	0.626	0.0065 mg/L	62.49	0.654 mg/kg	1.05%
Zn 206.200	1213.1	0.602	0.0034 mg/L	60.13	0.344 mg/kg	0.57%

Replicate Data
ID: Hg_ReAlign Date: 5/20/02 15:55:23

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Hg 253.652	74548.5	74548.5				

Replicate Data
ID: 3053421 Date: 5/20/02 15:56:53

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	535232.3	535232.3	102	mg/kg		
1	Y 360.064	272708.3	272708.3	103	mg/kg		
1	Ag 328.068	160.8	157.2	-0.012	mg/L	-6.000	mg/kg
1	Al 396.140	11289.6	11036.8	3.591	mg/L	1797	mg/kg
1	As 188.979	-4.4	-4.3	0.012	mg/L	5.802	mg/kg
1	B 249.773	797.8	780.0	-0.039	mg/L	-19.41	mg/kg
1	Ba 455.403	9844.0	9623.5	0.027	mg/L	13.37	mg/kg
1	Be 234.861	101.9	99.6	0.001	mg/L	0.342	mg/kg
1	Ca 315.887	481009.7	470237.1	48.28	mg/L	24160	mg/kg
1	Cd 214.438	-51.4	-50.3	0.003	mg/L	1.395	mg/kg
1	Co 228.616	34.1	33.4	0.007	mg/L	3.682	mg/kg
1	Cr 205.558	29.8	29.1	0.007	mg/L	3.355	mg/kg
1	Cu 324.764	138.4	135.3	0.006	mg/L	2.918	mg/kg
1	Fe 238.204	87323.3	85367.6	9.226	mg/L	4616	mg/kg
1	K 766.514	-904.1	-883.8	0.731	mg/L	365.5	mg/kg
1	Li 670.781	214.1	209.4	0.004	mg/L	2.135	mg/kg
1	Mg 279.074	33869.2	33110.7	27.34	mg/L	13680	mg/kg
1	Mn 257.610	30371.0	29690.8	0.396	mg/L	198.0	mg/kg
1	Mo 202.031	38.8	37.9	-0.001	mg/L	-0.354	mg/kg
1	Na 588.995	78151.9	76401.7	0.159	mg/L	79.36	mg/kg
1	Ni 231.603	8.3	8.1	0.005	mg/L	2.286	mg/kg
1	P 178.221	5.4	5.3	0.231	mg/L	115.5	mg/kg
1	Pb 220.353	3.6	3.5	0.008	mg/L	3.946	mg/kg
1	Sb 206.833	-44.1	-43.1	-0.019	mg/L	-9.528	mg/kg
1	Se 196.026	1.1	1.1	-0.013	mg/L	-6.577	mg/kg
1	Si 251.611	11411.1	11155.5	2.527	mg/L	1264	mg/kg
1	Sn 189.933	68.3	66.8	-0.208	mg/L	-104.2	mg/kg
1	Sr 407.771	18539.5	18124.3	0.024	mg/L	12.11	mg/kg
1	Ti 334.941	25934.0	25353.2	0.258	mg/L	129.2	mg/kg
1	Tl 190.800	0.1	0.1	-0.002	mg/L	-0.952	mg/kg
1	V 292.402	226.9	221.8	0.020	mg/L	9.870	mg/kg
1	Zn 206.200	44.1	43.1	0.015	mg/L	7.290	mg/kg
2	Sc 357.253	531008.6	531008.6	101	mg/kg		
2	Y 360.064	270727.9	270727.9	102	mg/kg		
2	Ag 328.068	113.6	111.9	-0.014	mg/L	-7.193	mg/kg
2	Al 396.140	11404.7	11238.0	3.656	mg/L	1829	mg/kg
2	As 188.979	4.0	3.9	0.076	mg/L	37.88	mg/kg
2	B 249.773	788.2	776.7	-0.039	mg/L	-19.67	mg/kg
2	Ba 455.403	9916.2	9771.2	0.027	mg/L	13.58	mg/kg
2	Be 234.861	102.1	100.6	0.001	mg/L	0.342	mg/kg
2	Ca 315.887	483960.8	476885.4	48.97	mg/L	24500	mg/kg
2	Cd 214.438	-41.5	-40.9	0.005	mg/L	2.268	mg/kg
2	Co 228.616	47.0	46.3	0.011	mg/L	5.499	mg/kg
2	Cr 205.558	29.0	28.5	0.006	mg/L	3.076	mg/kg
2	Cu 324.764	142.5	140.4	0.006	mg/L	3.066	mg/kg
2	Fe 238.204	87757.6	86474.6	9.346	mg/L	4676	mg/kg
2	K 766.514	-919.2	-905.8	0.722	mg/L	361.3	mg/kg
2	Li 670.781	205.2	202.2	0.004	mg/L	2.107	mg/kg
2	Mg 279.074	33959.5	33463.0	27.63	mg/L	13820	mg/kg
2	Mn 257.610	30507.0	30061.0	0.401	mg/L	200.5	mg/kg
2	Mo 202.031	50.4	49.7	0.017	mg/L	8.377	mg/kg

2 Na 588.995	78373.8	77227.9	0.208 mg/L	104.1 mg/kg	
2 Ni 231.603	22.6	22.1	0.012 mg/L	5.896 mg/kg	
2 P 178.221	-0.2	-0.2	-0.033 mg/L	-16.76 mg/kg	
2 Pb 220.353	5.8	5.7	0.016 mg/L	7.838 mg/kg	
2 Sb 206.833	-32.1	-31.6	0.051 mg/L	25.36 mg/kg	
2 Se 196.026	8.6	8.5	0.088 mg/L	44.27 mg/kg	
2 Si 251.611	11410.9	11244.0	2.548 mg/L	1275 mg/kg	
2 Sn 189.933	72.3	71.2	-0.183 mg/L	-91.43 mg/kg	
2 Sr 407.771	18629.8	18357.5	0.024 mg/L	12.25 mg/kg	
2 Ti 334.941	26101.3	25719.7	0.262 mg/L	131.2 mg/kg	
2 Tl 190.800	4.6	4.5	0.116 mg/L	57.92 mg/kg	
2 V 292.402	285.6	281.4	0.024 mg/L	12.05 mg/kg	
2 Zn 206.200	66.2	65.2	0.026 mg/L	12.84 mg/kg	

Mean Data

ID: 3053421 Seq. No.: 32 Sample No.: 13 A/S Pos: 29
Sample Qty: 0.4997 g Prep. Vol.: 50.0 mL Dilution: 1.0: 5.0
Data: Original Date: 5/20/02 15:56:53

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	533120.5	102	0.6	mg/kg				0.56%
Y 360.064	271718.1	102	0.5	mg/kg				0.52%
Ag 328.068	134.6	-0.013	0.0017	mg/L	-6.597	0.8436	mg/kg	12.79%
Al 396.140	11137.4	3.624	0.0460	mg/L	1813	23.0	mg/kg	1.27%
As 188.979	-0.2	0.044	0.0453	mg/L	21.84	22.684	mg/kg	103.86%
B 249.773	778.3	-0.039	0.0004	mg/L	-19.54	0.183	mg/kg	0.94%
Ba 455.403	9697.4	0.027	0.0003	mg/L	13.47	0.152	mg/kg	1.12%
Be 234.861	100.1	0.001	0.0000	mg/L	0.342	0.0002	mg/kg	0.05%
Ca 315.887	473561.3	48.63	0.484	mg/L	24330	242.0	mg/kg	0.99%
Cd 214.438	-45.6	0.004	0.0012	mg/L	1.832	0.6175	mg/kg	33.71%
Co 228.616	39.8	0.009	0.0026	mg/L	4.591	1.2852	mg/kg	28.00%
Cr 205.558	28.8	0.006	0.0004	mg/L	3.215	0.1974	mg/kg	6.14%
Cu 324.764	137.9	0.006	0.0002	mg/L	2.992	0.1051	mg/kg	3.51%
Fe 238.204	85921.1	9.286	0.0847	mg/L	4646	42.4	mg/kg	0.91%
K 766.514	-894.8	0.726	0.0060	mg/L	363.4	3.00	mg/kg	0.82%
Li 670.781	205.8	0.004	0.0000	mg/L	2.121	0.0202	mg/kg	0.95%
Mg 279.074	33286.8	27.49	0.206	mg/L	13750	103.0	mg/kg	0.75%
Mn 257.610	29875.9	0.398	0.0035	mg/L	199.3	1.75	mg/kg	0.88%
Mo 202.031	43.8	0.008	0.0123	mg/L	4.011	6.1739	mg/kg	153.91%
Na 588.995	76814.8	0.183	0.0350	mg/L	91.72	17.489	mg/kg	19.07%
Ni 231.603	15.1	0.008	0.0051	mg/L	4.091	2.5525	mg/kg	62.39%
P 178.221	2.5	0.099	0.1869	mg/L	49.38	93.530	mg/kg	189.42%
Pb 220.353	4.6	0.012	0.0055	mg/L	5.892	2.7522	mg/kg	46.71%
Sb 206.833	-37.4	0.016	0.0493	mg/L	7.916	24.6699	mg/kg	311.65%
Se 196.026	4.8	0.038	0.0719	mg/L	18.85	35.953	mg/kg	190.77%
Si 251.611	11199.8	2.537	0.0150	mg/L	1269	7.5	mg/kg	0.59%
Sn 189.933	69.0	-0.195	0.0180	mg/L	-97.79	8.996	mg/kg	9.20%
Sr 407.771	18240.9	0.024	0.0002	mg/L	12.18	0.101	mg/kg	0.83%
Ti 334.941	25536.5	0.260	0.0027	mg/L	130.2	1.37	mg/kg	1.05%
Tl 190.800	2.3	0.057	0.0832	mg/L	28.49	41.631	mg/kg	146.15%
V 292.402	251.6	0.022	0.0031	mg/L	10.96	1.545	mg/kg	14.09%
Zn 206.200	54.1	0.020	0.0078	mg/L	10.06	3.922	mg/kg	38.97%

Replicate Data

ID: 305342pds Date: 5/20/02 16:01:04

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	523633.5	523633.5	100	mg/kg		
1 Y 360.064	264899.6	264899.6	100	mg/kg		
1 Ag 328.068	9114.3	9107.5	0.459	mg/L	45.93	mg/kg
1 Al 396.140	62244.8	62198.7	20.18	mg/L	2019	mg/kg
1 As 188.979	304.5	304.3	2.424	mg/L	242.5	mg/kg
1 B 249.773	6163.9	6159.4	0.503	mg/L	50.35	mg/kg
1 Ba 455.403	226167.9	226000.2	0.624	mg/L	62.40	mg/kg
1 Be 234.861	5490.0	5485.9	0.049	mg/L	4.919	mg/kg
1 Ca 315.887	2534123.0	2532244.8	260.4	mg/L	26060	mg/kg
1 Cd 214.438	2541.7	2539.8	0.465	mg/L	46.53	mg/kg
1 Co 228.616	1731.0	1729.7	0.483	mg/L	48.33	mg/kg
1 Cr 205.558	541.5	541.1	0.555	mg/L	55.52	mg/kg

1	Cu 324.764	7867.9	7862.0	0.494 mg/L	49.48 mg/kg
1	Fe 238.204	429658.4	429340.0	46.45 mg/L	4648 mg/kg
1	K 766.514	74480.4	74425.2	29.83 mg/L	2985 mg/kg
1	Li 670.781	62954.5	62907.8	0.505 mg/L	50.54 mg/kg
1	Mg 279.074	198369.6	198222.6	163.7 mg/L	16380 mg/kg
1	Mn 257.610	175779.3	175649.0	2.348 mg/L	235.0 mg/kg
1	Mo 202.031	41.5	41.5	0.005 mg/L	0.464 mg/kg
1	Na 588.995	496170.4	495802.6	25.25 mg/L	2527 mg/kg
1	Ni 231.603	930.6	931.7	0.480 mg/L	48.00 mg/kg
1	P 178.221	76.0	75.9	3.633 mg/L	363.5 mg/kg
1	Pb 220.353	169.3	169.1	0.591 mg/L	59.15 mg/kg
1	Sb 206.833	-57.4	-57.4	-0.106 mg/L	-10.61 mg/kg
1	Se 196.026	177.7	177.6	2.416 mg/L	241.7 mg/kg
1	Si 251.611	53977.2	53937.2	12.80 mg/L	1281 mg/kg
1	Sn 189.933	52.3	52.2	-1.167 mg/L	-116.8 mg/kg
1	Sr 407.771	488285.9	487924.0	0.601 mg/L	60.17 mg/kg
1	Ti 334.941	120590.7	120501.3	1.277 mg/L	127.8 mg/kg
1	Tl 190.800	82.1	82.0	2.244 mg/L	224.6 mg/kg
1	V 292.402	8118.4	8112.4	0.598 mg/L	59.79 mg/kg
1	Zn 206.200	1182.9	1182.0	0.586 mg/L	58.66 mg/kg
2	Sc 357.253	522468.2	522468.2	100 mg/kg	
2	Y 360.064	264647.5	264647.5	100 mg/kg	
2	Ag 328.068	9114.6	9128.1	0.460 mg/L	46.04 mg/kg
2	Al 396.140	62069.6	62161.9	20.17 mg/L	2018 mg/kg
2	As 188.979	310.1	310.6	2.473 mg/L	247.4 mg/kg
2	B 249.773	6202.0	6211.2	0.509 mg/L	50.88 mg/kg
2	Ba 455.403	226468.9	226805.8	0.626 mg/L	62.62 mg/kg
2	Be 234.861	5495.9	5504.0	0.049 mg/L	4.934 mg/kg
2	Ca 315.887	2538038.8	2541814.2	261.4 mg/L	26160 mg/kg
2	Cd 214.438	2547.6	2551.4	0.467 mg/L	46.75 mg/kg
2	Co 228.616	1747.0	1749.6	0.489 mg/L	48.89 mg/kg
2	Cr 205.558	542.9	543.7	0.558 mg/L	55.81 mg/kg
2	Cu 324.764	7829.3	7840.9	0.493 mg/L	49.34 mg/kg
2	Fe 238.204	430663.9	431304.5	46.67 mg/L	4670 mg/kg
2	K 766.514	74630.5	74741.6	29.96 mg/L	2997 mg/kg
2	Li 670.781	62808.4	62901.8	0.505 mg/L	50.54 mg/kg
2	Mg 279.074	198480.3	198775.6	164.2 mg/L	16430 mg/kg
2	Mn 257.610	175061.1	175321.5	2.344 mg/L	234.5 mg/kg
2	Mo 202.031	47.6	47.7	0.014 mg/L	1.382 mg/kg
2	Na 588.995	497077.7	497817.1	25.37 mg/L	2539 mg/kg
2	Ni 231.603	946.2	948.2	0.488 mg/L	48.85 mg/kg
2	P 178.221	81.6	81.7	3.912 mg/L	391.4 mg/kg
2	Pb 220.353	155.9	156.2	0.545 mg/L	54.57 mg/kg
2	Sb 206.833	-50.7	-50.8	-0.066 mg/L	-6.590 mg/kg
2	Se 196.026	177.3	177.6	2.416 mg/L	241.7 mg/kg
2	Si 251.611	53661.5	53741.3	12.75 mg/L	1275 mg/kg
2	Sn 189.933	57.6	57.7	-1.136 mg/L	-113.7 mg/kg
2	Sr 407.771	489603.8	490332.1	0.604 mg/L	60.47 mg/kg
2	Ti 334.941	120212.3	120391.2	1.276 mg/L	127.7 mg/kg
2	Tl 190.800	82.3	82.5	2.256 mg/L	225.8 mg/kg
2	V 292.402	8021.0	8032.9	0.592 mg/L	59.20 mg/kg
2	Zn 206.200	1170.0	1171.8	0.581 mg/L	58.15 mg/kg

Mean Data ----------

ID: 305342pds Seq. No.: 33 Sample No.: 14 A/S Pos: 30

Sample Qty: 0.4997 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 16:01:04

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	523050.8	100	0.2	mg/kg				0.16%
Y 360.064	264773.5	100	0.1	mg/kg				0.07%
Ag 328.068	9117.8	0.460	0.0008	mg/L	45.98	0.077	mg/kg	0.17%
Al 396.140	62180.3	20.17	0.009	mg/L	2018	0.9	mg/kg	0.04%
As 188.979	307.4	2.448	0.0346	mg/L	245.0	3.46	mg/kg	1.41%
B 249.773	6185.3	0.506	0.0038	mg/L	50.61	0.379	mg/kg	0.75%
Ba 455.403	226403.0	0.625	0.0016	mg/L	62.51	0.158	mg/kg	0.25%
Be 234.861	5495.0	0.049	0.0001	mg/L	4.927	0.0109	mg/kg	0.22%
Ca 315.887	2537029.5	260.9	0.70	mg/L	26110	69.7	mg/kg	0.27%
Cd 214.438	2545.6	0.466	0.0015	mg/L	46.64	0.151	mg/kg	0.32%
Co 228.616	1739.7	0.486	0.0039	mg/L	48.61	0.394	mg/kg	0.81%

Cr 205.558	542.4	0.556	0.0020 mg/L	55.66	0.199 mg/kg	0.36%
Cu 324.764	7851.5	0.494	0.0010 mg/L	49.41	0.101 mg/kg	0.20%
Fe 238.204	430322.3	46.56	0.150 mg/L	4659	15.0 mg/kg	0.32%
K 766.514	74583.4	29.89	0.086 mg/L	2991	8.7 mg/kg	0.29%
Li 670.781	62904.8	0.505	0.0000 mg/L	50.54	0.003 mg/kg	0.01%
Mg 279.074	198499.1	164.0	0.32 mg/L	16400	32.3 mg/kg	0.20%
Mn 257.610	175485.3	2.346	0.0031 mg/L	234.7	0.31 mg/kg	0.13%
Mo 202.031	44.6	0.009	0.0065 mg/L	0.923	0.6490 mg/kg	70.32%
Na 588.995	496809.9	25.31	0.085 mg/L	2533	8.5 mg/kg	0.34%
Ni 231.603	939.9	0.484	0.0060 mg/L	48.43	0.600 mg/kg	1.24%
P 178.221	78.8	3.772	0.1973 mg/L	377.4	19.75 mg/kg	5.23%
Pb 220.353	162.7	0.568	0.0323 mg/L	56.86	3.235 mg/kg	5.69%
Sb 206.833	-54.1	-0.086	0.0284 mg/L	-8.599	2.8420 mg/kg	33.05%
Se 196.026	177.6	2.416	0.0001 mg/L	241.7	0.01 mg/kg	0.00%
Si 251.611	53839.2	12.77	0.037 mg/L	1278	3.7 mg/kg	0.29%
Sn 189.933	55.0	-1.152	0.0219 mg/L	-115.2	2.19 mg/kg	1.90%
Sr 407.771	489128.0	0.603	0.0021 mg/L	60.32	0.209 mg/kg	0.35%
Ti 334.941	120446.2	1.276	0.0007 mg/L	127.7	0.07 mg/kg	0.06%
Tl 190.800	82.2	2.250	0.0085 mg/L	225.2	0.85 mg/kg	0.38%
V 292.402	8072.7	0.595	0.0041 mg/L	59.50	0.412 mg/kg	0.69%
Zn 206.200	1176.9	0.584	0.0036 mg/L	58.40	0.363 mg/kg	0.62%

Replicate Data ----------

ID: 305343 Date: 5/20/02 16:05:18

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	520808.0	520808.0	100	mg/kg		
1	Y 360.064	264324.5	264324.5	100	mg/kg		
1	Ag 328.068	-18.5	-18.6	-0.021	mg/L	-2.122	mg/kg
1	Al 396.140	67828.8	68146.2	22.10	mg/L	2208	mg/kg
1	As 188.979	10.6	10.6	0.128	mg/L	12.82	mg/kg
1	B 249.773	1942.2	1951.2	0.036	mg/L	3.566	mg/kg
1	Ba 455.403	56341.8	56605.5	0.170	mg/L	17.03	mg/kg
1	Be 234.861	656.1	659.2	0.000	mg/L	-0.012	mg/kg
1	Ca 315.887	3090606.6	3105070.6	319.4	mg/L	31900	mg/kg
1	Cd 214.438	60.4	60.6	0.001	mg/L	0.070	mg/kg
1	Co 228.616	98.2	98.7	0.026	mg/L	2.565	mg/kg
1	Cr 205.558	68.3	68.6	0.100	mg/L	9.944	mg/kg
1	Cu 324.764	1377.3	1383.8	0.070	mg/L	7.019	mg/kg
1	Fe 238.204	513161.3	515562.9	55.79	mg/L	5573	mg/kg
1	K 766.514	13631.7	13695.5	6.365	mg/L	635.8	mg/kg
1	Li 670.781	1818.6	1827.1	0.017	mg/L	1.717	mg/kg
1	Mg 279.074	223086.5	224130.6	185.1	mg/L	18490	mg/kg
1	Mn 257.610	194920.6	195832.8	2.618	mg/L	261.6	mg/kg
1	Mo 202.031	42.8	43.0	0.007	mg/L	0.691	mg/kg
1	Na 588.995	95930.1	96379.0	1.354	mg/L	135.3	mg/kg
1	Ni 231.603	79.1	79.3	0.041	mg/L	4.117	mg/kg
1	P 178.221	67.5	67.8	3.242	mg/L	323.9	mg/kg
1	Pb 220.353	61.1	61.3	0.212	mg/L	21.13	mg/kg
1	Sb 206.833	-64.0	-64.3	-0.148	mg/L	-14.77	mg/kg
1	Se 196.026	4.5	4.5	0.034	mg/L	3.380	mg/kg
1	Si 251.611	63544.2	63841.6	15.22	mg/L	1521	mg/kg
1	Sn 189.933	49.8	50.0	-1.251	mg/L	-125.0	mg/kg
1	Sr 407.771	136830.1	137470.4	0.171	mg/L	17.06	mg/kg
1	Ti 334.941	108381.9	108889.2	1.161	mg/L	115.9	mg/kg
1	Tl 190.800	0.8	0.8	0.078	mg/L	7.774	mg/kg
1	V 292.402	1531.0	1538.2	0.116	mg/L	11.60	mg/kg
1	Zn 206.200	489.9	492.2	0.240	mg/L	23.98	mg/kg
2	Sc 357.253	513957.7	513957.7	98	mg/kg		
2	Y 360.064	260337.5	260337.5	98	mg/kg		
2	Ag 328.068	62.2	63.3	-0.017	mg/L	-1.692	mg/kg
2	Al 396.140	67142.8	68356.2	22.17	mg/L	2214	mg/kg
2	As 188.979	7.1	7.2	0.101	mg/L	10.13	mg/kg
2	B 249.773	1964.6	2000.1	0.041	mg/L	4.057	mg/kg
2	Ba 455.403	56407.1	57426.4	0.173	mg/L	17.26	mg/kg
2	Be 234.861	665.0	677.0	0.000	mg/L	0.001	mg/kg
2	Ca 315.887	3072738.4	3128265.7	321.8	mg/L	32140	mg/kg
2	Cd 214.438	32.5	33.1	-0.005	mg/L	-0.459	mg/kg
2	Co 228.616	113.0	115.1	0.030	mg/L	3.025	mg/kg

2	Cr 205.558	68.5	69.7	0.101 mg/L	10.09 mg/kg
2	Cu 324.764	1373.5	1398.3	0.071 mg/L	7.105 mg/kg
2	Fe 238.204	509332.8	518536.9	56.11 mg/L	5605 mg/kg
2	K 766.514	13540.9	13785.6	6.400 mg/L	639.3 mg/kg
2	Li 670.781	1766.4	1798.3	0.017 mg/L	1.694 mg/kg
2	Mg 279.074	221092.7	225088.1	185.9 mg/L	18570 mg/kg
2	Mn 257.610	193365.6	196859.9	2.632 mg/L	262.9 mg/kg
2	Mo 202.031	42.2	43.0	0.007 mg/L	0.686 mg/kg
2	Na 588.995	95930.4	97663.9	1.431 mg/L	142.9 mg/kg
2	Ni 231.603	72.5	73.8	0.038 mg/L	3.833 mg/kg
2	P 178.221	76.0	77.4	3.703 mg/L	369.9 mg/kg
2	Pb 220.353	53.7	54.7	0.188 mg/L	18.78 mg/kg
2	Sb 206.833	-60.5	-61.6	-0.132 mg/L	-13.16 mg/kg
2	Se 196.026	12.3	12.5	0.144 mg/L	14.39 mg/kg
2	Si 251.611	63498.4	64645.8	15.42 mg/L	1541 mg/kg
2	Sn 189.933	48.7	49.6	-1.256 mg/L	-125.5 mg/kg
2	Sr 407.771	135590.8	138041.0	0.172 mg/L	17.13 mg/kg
2	Ti 334.941	108548.1	110509.7	1.178 mg/L	117.6 mg/kg
2	Tl 190.800	2.5	2.5	0.125 mg/L	12.45 mg/kg
2	V 292.402	1527.5	1555.1	0.117 mg/L	11.72 mg/kg
2	Zn 206.200	503.0	512.1	0.250 mg/L	24.97 mg/kg

Mean Data

ID: 305343 Seq. No.: 34 Sample No.: 15 A/S Pos: 31
Sample Qty: 0.5005 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 16:05:18

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Std.Dev.	Sample Units	RSD
Sc 357.253	517382.8	99	0.9	mg/kg				0.94%
Y 360.064	262331.0	99	1.1	mg/kg				1.07%
Ag 328.068	22.4	-0.019	0.0030	mg/L	-1.907	0.3043	mg/kg	15.96%
Al 396.140	68251.2	22.13	0.048	mg/L	2211	4.8	mg/kg	0.22%
As 188.979	8.9	0.115	0.0190	mg/L	11.47	1.901	mg/kg	16.56%
B 249.773	1975.7	0.038	0.0035	mg/L	3.811	0.3467	mg/kg	9.10%
Ba 455.403	57016.0	0.172	0.0016	mg/L	17.15	0.165	mg/kg	0.96%
Be 234.861	668.1	0.000	0.0001	mg/L	-0.006	0.0093	mg/kg	163.00%
Ca 315.887	3116668.2	320.6	1.69	mg/L	32020	168.6	mg/kg	0.53%
Cd 214.438	46.9	-0.002	0.0037	mg/L	-0.194	0.3739	mg/kg	192.42%
Co 228.616	106.9	0.028	0.0033	mg/L	2.795	0.3249	mg/kg	11.62%
Cr 205.558	69.2	0.100	0.0011	mg/L	10.02	0.105	mg/kg	1.05%
Cu 324.764	1391.1	0.071	0.0006	mg/L	7.062	0.0610	mg/kg	0.86%
Fe 238.204	517049.9	55.95	0.228	mg/L	5589	22.7	mg/kg	0.41%
K 766.514	13740.6	6.382	0.0246	mg/L	637.6	2.46	mg/kg	0.39%
Li 670.781	1812.7	0.017	0.0002	mg/L	1.706	0.0162	mg/kg	0.95%
Mg 279.074	224609.3	185.5	0.56	mg/L	18530	55.9	mg/kg	0.30%
Mn 257.610	196346.3	2.625	0.0097	mg/L	262.2	0.97	mg/kg	0.37%
Mo 202.031	43.0	0.007	0.0000	mg/L	0.689	0.0035	mg/kg	0.51%
Na 588.995	97021.5	1.392	0.0544	mg/L	139.1	5.43	mg/kg	3.90%
Ni 231.603	76.6	0.040	0.0020	mg/L	3.975	0.2008	mg/kg	5.05%
P 178.221	72.6	3.472	0.3256	mg/L	346.9	32.53	mg/kg	9.38%
Pb 220.353	58.0	0.200	0.0166	mg/L	19.95	1.662	mg/kg	8.33%
Sb 206.833	-62.9	-0.140	0.0114	mg/L	-13.96	1.134	mg/kg	8.12%
Se 196.026	8.5	0.089	0.0779	mg/L	8.885	7.7844	mg/kg	87.62%
Si 251.611	64243.7	15.32	0.142	mg/L	1531	14.2	mg/kg	0.93%
Sn 189.933	49.8	-1.254	0.0033	mg/L	-125.2	0.33	mg/kg	0.26%
Sr 407.771	137755.7	0.171	0.0005	mg/L	17.10	0.050	mg/kg	0.29%
Ti 334.941	109699.4	1.169	0.0121	mg/L	116.8	1.21	mg/kg	1.03%
Tl 190.800	1.7	0.101	0.0331	mg/L	10.11	3.305	mg/kg	32.68%
V 292.402	1546.7	0.117	0.0009	mg/L	11.66	0.088	mg/kg	0.75%
Zn 206.200	502.1	0.245	0.0071	mg/L	24.47	0.704	mg/kg	2.88%

Replicate Data

ID: 305344 Date: 5/20/02 16:09:30

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	515665.1	515665.1	99	mg/kg		
1	Y 360.064	261438.9	261438.9	99	mg/kg		
1	Ag 328.068	-51.9	-52.7	-0.023	mg/L	-2.302	mg/kg
1	Al 396.140	66727.2	67708.1	21.96	mg/L	2194	mg/kg

1	As 188.979	3.3	3.4	0.072	mg/L	7.146 mg/kg
1	B 249.773	1889.9	1917.7	0.033	mg/L	3.250 mg/kg
1	Ba 455.403	55669.5	56487.9	0.169	mg/L	16.87 mg/kg
1	Be 234.861	670.6	680.4	0.000	mg/L	0.036 mg/kg
1	Ca 315.887	2800666.2	2841836.1	292.3	mg/L	29210 mg/kg
1	Cd 214.438	61.0	61.9	0.001	mg/L	0.099 mg/kg
1	Co 228.616	77.8	78.9	0.020	mg/L	2.012 mg/kg
1	Cr 205.558	74.4	75.5	0.103	mg/L	10.33 mg/kg
1	Cu 324.764	1048.7	1064.1	0.051	mg/L	5.086 mg/kg
1	Fe 238.204	500118.4	507470.1	54.91	mg/L	5487 mg/kg
1	K 766.514	13262.7	13457.7	6.273	mg/L	626.8 mg/kg
1	Li 670.781	1698.9	1723.9	0.016	mg/L	1.635 mg/kg
1	Mg 279.074	204546.0	207552.8	171.4	mg/L	17130 mg/kg
1	Mn 257.610	178372.8	180994.9	2.420	mg/L	241.8 mg/kg
1	Mo 202.031	42.7	43.3	0.007	mg/L	0.733 mg/kg
1	Na 588.995	98235.6	99679.6	1.551	mg/L	155.0 mg/kg
1	Ni 231.603	69.2	70.2	0.037	mg/L	3.647 mg/kg
1	P 178.221	44.1	44.8	2.131	mg/L	213.0 mg/kg
1	Pb 220.353	7.6	7.8	0.023	mg/L	2.280 mg/kg
1	Sb 206.833	-64.0	-65.0	-0.152	mg/L	-15.19 mg/kg
1	Se 196.026	1.5	1.5	-0.008	mg/L	-0.777 mg/kg
1	Si 251.611	68352.6	69357.4	16.69	mg/L	1668 mg/kg
1	Sn 189.933	60.5	61.4	-1.109	mg/L	-110.9 mg/kg
1	Sr 407.771	133986.8	135956.4	0.169	mg/L	16.88 mg/kg
1	Ti 334.941	119389.1	121144.2	1.284	mg/L	128.3 mg/kg
1	Tl 190.800	0.4	0.4	0.062	mg/L	6.212 mg/kg
1	V 292.402	1518.5	1540.8	0.116	mg/L	11.62 mg/kg
1	Zn 206.200	253.5	257.2	0.122	mg/L	12.19 mg/kg
2	Sc 357.253	513093.9	513093.9	98	mg/kg	
2	Y 360.064	260006.8	260006.8	98	mg/kg	
2	Ag 328.068	28.7	29.3	-0.019	mg/L	-1.871 mg/kg
2	Al 396.140	67177.6	68506.7	22.22	mg/L	2220 mg/kg
2	As 188.979	-3.8	-3.9	0.015	mg/L	1.464 mg/kg
2	B 249.773	1893.4	1930.9	0.033	mg/L	3.337 mg/kg
2	Ba 455.403	55725.1	56827.7	0.170	mg/L	16.98 mg/kg
2	Be 234.861	639.2	651.8	0.000	mg/L	0.001 mg/kg
2	Ca 315.887	2811893.8	2867526.7	294.9	mg/L	29470 mg/kg
2	Cd 214.438	31.7	32.4	-0.005	mg/L	-0.464 mg/kg
2	Co 228.616	109.4	111.6	0.029	mg/L	2.926 mg/kg
2	Cr 205.558	67.7	69.0	0.097	mg/L	9.730 mg/kg
2	Cu 324.764	1041.8	1062.4	0.051	mg/L	5.062 mg/kg
2	Fe 238.204	501930.8	511861.4	55.39	mg/L	5534 mg/kg
2	K 766.514	13260.0	13522.4	6.298	mg/L	629.3 mg/kg
2	Li 670.781	1683.3	1716.7	0.016	mg/L	1.630 mg/kg
2	Mg 279.074	205069.8	209127.1	172.7	mg/L	17260 mg/kg
2	Mn 257.610	178819.8	182357.8	2.438	mg/L	243.6 mg/kg
2	Mo 202.031	47.1	48.0	0.014	mg/L	1.425 mg/kg
2	Na 588.995	98335.7	100281.2	1.587	mg/L	158.6 mg/kg
2	Ni 231.603	62.3	63.5	0.033	mg/L	3.305 mg/kg
2	P 178.221	39.0	39.8	1.893	mg/L	189.2 mg/kg
2	Pb 220.353	16.8	17.1	0.056	mg/L	5.563 mg/kg
2	Sb 206.833	-63.8	-65.0	-0.152	mg/L	-15.23 mg/kg
2	Se 196.026	15.9	16.2	0.194	mg/L	19.39 mg/kg
2	Si 251.611	68254.1	69604.5	16.75	mg/L	1674 mg/kg
2	Sn 189.933	57.6	58.8	-1.132	mg/L	-113.1 mg/kg
2	Sr 407.771	134357.6	137015.8	0.170	mg/L	17.01 mg/kg
2	Ti 334.941	119307.2	121667.7	1.290	mg/L	128.9 mg/kg
2	Tl 190.800	3.4	3.5	0.146	mg/L	14.62 mg/kg
2	V 292.402	1543.2	1573.8	0.119	mg/L	11.86 mg/kg
2	Zn 206.200	262.9	268.1	0.128	mg/L	12.74 mg/kg

Mean Data ----------

ID: 305344 Seq. No.: 35 Sample No.: 16 A/S Pos: 32

Sample Qty: 0.5004 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 16:09:30

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	514379.5	98	0.3	mg/kg				0.35%
Y 360.064	260722.9	98	0.4	mg/kg				0.39%
Ag 328.068	-11.7	-0.021	0.0031	mg/L	-2.087	0.3048	mg/kg	14.61%

Al 396.140	68107.4	22.09	0.183 mg/L	2207	18.3 mg/kg	0.83%
As 188.979	-0.3	0.043	0.0402 mg/L	4.305	4.0179 mg/kg	93.34%
B 249.773	1924.3	0.033	0.0006 mg/L	3.293	0.0616 mg/kg	1.87%
Ba 455.403	56657.8	0.169	0.0008 mg/L	16.93	0.076 mg/kg	0.45%
Be 234.861	666.1	0.000	0.0002 mg/L	0.019	0.0244 mg/kg	130.29%
Ca 315.887	2854681.4	293.6	1.87 mg/L	29340	186.8 mg/kg	0.64%
Cd 214.438	47.1	-0.002	0.0040 mg/L	-0.182	0.3981 mg/kg	218.67%
Co 228.616	95.2	0.025	0.0065 mg/L	2.469	0.6464 mg/kg	26.18%
Cr 205.558	72.3	0.100	0.0042 mg/L	10.03	0.421 mg/kg	4.20%
Cu 324.764	1063.2	0.051	0.0002 mg/L	5.074	0.0174 mg/kg	0.34%
Fe 238.204	509665.8	55.15	0.336 mg/L	5510	33.6 mg/kg	0.61%
K 766.514	13490.0	6.285	0.0177 mg/L	628.0	1.77 mg/kg	0.28%
Li 670.781	1720.3	0.016	0.0000 mg/L	1.632	0.0041 mg/kg	0.25%
Mg 279.074	208339.9	172.1	0.92 mg/L	17190	91.9 mg/kg	0.53%
Mn 257.610	181676.3	2.429	0.0129 mg/L	242.7	1.29 mg/kg	0.53%
Mo 202.031	45.7	0.011	0.0049 mg/L	1.079	0.4898 mg/kg	45.40%
Na 588.995	99980.4	1.569	0.0255 mg/L	156.8	2.54 mg/kg	1.62%
Ni 231.603	66.9	0.035	0.0024 mg/L	3.476	0.2420 mg/kg	6.96%
P 178.221	42.3	2.012	0.1682 mg/L	201.1	16.81 mg/kg	8.36%
Pb 220.353	12.4	0.039	0.0232 mg/L	3.922	2.3211 mg/kg	59.19%
Sb 206.833	-65.0	-0.152	0.0003 mg/L	-15.21	0.031 mg/kg	0.21%
Se 196.026	8.8	0.093	0.1427 mg/L	9.308	14.2619 mg/kg	153.23%
Si 251.611	69480.9	16.72	0.040 mg/L	1671	4.0 mg/kg	0.24%
Sn 189.933	60.1	-1.121	0.0162 mg/L	-112.0	1.62 mg/kg	1.45%
Sr 407.771	136486.1	0.170	0.0009 mg/L	16.95	0.092 mg/kg	0.54%
Ti 334.941	121405.9	1.287	0.0041 mg/L	128.6	0.41 mg/kg	0.32%
Tl 190.800	1.9	0.104	0.0595 mg/L	10.42	5.948 mg/kg	57.09%
V 292.402	1557.3	0.118	0.0017 mg/L	11.74	0.171 mg/kg	1.45%
Zn 206.200	262.7	0.125	0.0039 mg/L	12.47	0.388 mg/kg	3.11%

Replicate Data

ID: 305345 Date: 5/20/02 16:13:42

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	527002.6	527002.6	101	mg/kg		
1	Y 360.064	266952.7	266952.7	101	mg/kg		
1	Ag 328.068	67.2	66.7	-0.017	mg/L	-1.674	mg/kg
1	Al 396.140	41549.7	41253.5	13.38	mg/L	1337	mg/kg
1	As 188.979	-2.2	-2.2	0.028	mg/L	2.815	mg/kg
1	B 249.773	1380.1	1370.3	-0.004	mg/L	-0.403	mg/kg
1	Ba 455.403	30235.6	30020.0	0.091	mg/L	9.130	mg/kg
1	Be 234.861	389.8	387.0	0.000	mg/L	-0.032	mg/kg
1	Ca 315.887	2081679.0	2066837.9	212.5	mg/L	21240	mg/kg
1	Cd 214.438	19.2	19.1	0.000	mg/L	-0.023	mg/kg
1	Co 228.616	70.4	69.9	0.018	mg/L	1.760	mg/kg
1	Cr 205.558	57.1	56.7	0.069	mg/L	6.920	mg/kg
1	Cu 324.764	586.6	582.4	0.025	mg/L	2.486	mg/kg
1	Fe 238.204	333842.7	331462.6	35.86	mg/L	3583	mg/kg
1	K 766.514	6361.3	6315.9	3.513	mg/L	351.0	mg/kg
1	Li 670.781	1122.1	1114.1	0.011	mg/L	1.149	mg/kg
1	Mg 279.074	148135.7	147079.6	121.5	mg/L	12140	mg/kg
1	Mn 257.610	101071.1	100350.6	1.341	mg/L	134.0	mg/kg
1	Mo 202.031	41.6	41.3	0.004	mg/L	0.433	mg/kg
1	Na 588.995	94326.4	93653.9	1.191	mg/L	119.0	mg/kg
1	Ni 231.603	43.0	42.8	0.022	mg/L	2.237	mg/kg
1	P 178.221	24.2	24.0	1.131	mg/L	113.0	mg/kg
1	Pb 220.353	12.0	11.9	0.038	mg/L	3.754	mg/kg
1	Sb 206.833	-42.0	-41.7	-0.011	mg/L	-1.050	mg/kg
1	Se 196.026	11.5	11.4	0.128	mg/L	12.79	mg/kg
1	Si 251.611	51064.1	50700.0	12.17	mg/L	1216	mg/kg
1	Sn 189.933	54.7	54.3	-0.839	mg/L	-83.87	mg/kg
1	Sr 407.771	92010.9	91354.9	0.114	mg/L	11.41	mg/kg
1	Ti 334.941	97439.6	96744.9	1.020	mg/L	101.9	mg/kg
1	Tl 190.800	-0.8	-0.8	0.015	mg/L	1.459	mg/kg
1	V 292.402	1172.8	1164.5	0.089	mg/L	8.868	mg/kg
1	Zn 206.200	178.8	177.5	0.082	mg/L	8.197	mg/kg
2	Sc 357.253	521059.2	521059.2	100	mg/kg		
2	Y 360.064	264165.6	264165.6	100	mg/kg		
2	Ag 328.068	-2.3	-2.3	-0.020	mg/L	-2.037	mg/kg

2 Al 396.140	41841.4	42017.0	13.63 mg/L	1362 mg/kg	
2 As 188.979	8.5	8.6	0.112 mg/L	11.22 mg/kg	
2 B 249.773	1359.3	1365.0	-0.005 mg/L	-0.494 mg/kg	
2 Ba 455.403	30453.7	30581.5	0.093 mg/L	9.292 mg/kg	
2 Be 234.861	396.2	397.9	0.000 mg/L	-0.025 mg/kg	
2 Ca 315.887	2078672.0	2087393.3	214.7 mg/L	21450 mg/kg	
2 Cd 214.438	15.7	15.7	-0.001 mg/L	-0.103 mg/kg	
2 Co 228.616	54.1	54.4	0.013 mg/L	1.324 mg/kg	
2 Cr 205.558	52.4	52.7	0.066 mg/L	6.557 mg/kg	
2 Cu 324.764	628.0	630.6	0.028 mg/L	2.789 mg/kg	
2 Fe 238.204	332788.0	334184.2	36.16 mg/L	3613 mg/kg	
2 K 766.514	6526.4	6553.8	3.605 mg/L	360.2 mg/kg	
2 Li 670.781	1276.2	1281.5	0.013 mg/L	1.282 mg/kg	
2 Mg 279.074	147626.8	148246.2	122.4 mg/L	12230 mg/kg	
2 Mn 257.610	101440.6	101866.2	1.361 mg/L	136.0 mg/kg	
2 Mo 202.031	45.0	45.2	0.010 mg/L	1.015 mg/kg	
2 Na 588.995	94476.8	94873.2	1.264 mg/L	126.3 mg/kg	
2 Ni 231.603	36.1	36.2	0.019 mg/L	1.902 mg/kg	
2 P 178.221	25.1	25.2	1.191 mg/L	119.0 mg/kg	
2 Pb 220.353	19.5	19.6	0.065 mg/L	6.452 mg/kg	
2 Sb 206.833	-59.4	-59.7	-0.120 mg/L	-11.99 mg/kg	
2 Se 196.026	6.4	6.5	0.060 mg/L	6.038 mg/kg	
2 Si 251.611	51228.9	51443.9	12.35 mg/L	1234 mg/kg	
2 Sn 189.933	63.1	63.3	-0.789 mg/L	-78.82 mg/kg	
2 Sr 407.771	91688.5	92073.2	0.115 mg/L	11.50 mg/kg	
2 Ti 334.941	98307.7	98720.2	1.041 mg/L	104.0 mg/kg	
2 Tl 190.800	1.5	1.5	0.075 mg/L	7.517 mg/kg	
2 V 292.402	1174.7	1179.7	0.090 mg/L	8.980 mg/kg	
2 Zn 206.200	183.5	184.3	0.085 mg/L	8.538 mg/kg	

Mean Data

ID: 305345 Seq. No.: 36 Sample No.: 17 A/S Pos: 33
Sample Qty: 0.5004 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 16:13:42

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Sample Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	524030.9	100	0.8	mg/kg				0.80%
Y 360.064	265559.1	100	0.7	mg/kg				0.74%
Ag 328.068	32.2	-0.019	0.0026	mg/L	-1.856	0.2569	mg/kg	13.84%
Al 396.140	41635.2	13.51	0.175	mg/L	1350	17.5	mg/kg	1.29%
As 188.979	3.2	0.070	0.0595	mg/L	7.016	5.9403	mg/kg	84.67%
B 249.773	1367.6	-0.004	0.0006	mg/L	-0.449	0.0648	mg/kg	14.45%
Ba 455.403	30300.8	0.092	0.0011	mg/L	9.211	0.1145	mg/kg	1.24%
Be 234.861	392.4	0.000	0.0000	mg/L	-0.029	0.0047	mg/kg	16.64%
Ca 315.887	2077115.6	213.6	1.50	mg/L	21340	149.4	mg/kg	0.70%
Cd 214.438	17.4	-0.001	0.0006	mg/L	-0.063	0.0562	mg/kg	89.56%
Co 228.616	62.2	0.015	0.0031	mg/L	1.542	0.3087	mg/kg	20.02%
Cr 205.558	54.7	0.067	0.0026	mg/L	6.739	0.2567	mg/kg	3.81%
Cu 324.764	606.5	0.026	0.0021	mg/L	2.637	0.2144	mg/kg	8.13%
Fe 238.204	332823.4	36.01	0.208	mg/L	3598	20.8	mg/kg	0.58%
K 766.514	6434.9	3.559	0.0650	mg/L	355.6	6.50	mg/kg	1.83%
Li 670.781	1197.8	0.012	0.0009	mg/L	1.215	0.0945	mg/kg	7.78%
Mg 279.074	147662.9	122.0	0.68	mg/L	12190	68.1	mg/kg	0.56%
Mn 257.610	101108.4	1.351	0.0143	mg/L	135.0	1.43	mg/kg	1.06%
Mo 202.031	43.3	0.007	0.0041	mg/L	0.724	0.4114	mg/kg	56.85%
Na 588.995	94263.5	1.227	0.0516	mg/L	122.6	5.15	mg/kg	4.20%
Ni 231.603	39.5	0.021	0.0024	mg/L	2.070	0.2370	mg/kg	11.45%
P 178.221	24.6	1.161	0.0423	mg/L	116.0	4.23	mg/kg	3.65%
Pb 220.353	15.8	0.051	0.0191	mg/L	5.103	1.9080	mg/kg	37.39%
Sb 206.833	-50.7	-0.065	0.0774	mg/L	-6.521	7.7360	mg/kg	118.64%
Se 196.026	8.9	0.094	0.0478	mg/L	9.415	4.7759	mg/kg	50.72%
Si 251.611	51072.0	12.26	0.131	mg/L	1225	13.1	mg/kg	1.07%
Sn 189.933	58.8	-0.814	0.0357	mg/L	-81.35	3.570	mg/kg	4.39%
Sr 407.771	91714.1	0.115	0.0006	mg/L	11.45	0.062	mg/kg	0.54%
Ti 334.941	97732.6	1.030	0.0147	mg/L	103.0	1.46	mg/kg	1.42%
Tl 190.800	0.3	0.045	0.0429	mg/L	4.488	4.2841	mg/kg	95.46%
V 292.402	1172.1	0.089	0.0008	mg/L	8.924	0.0787	mg/kg	0.88%
Zn 206.200	180.9	0.084	0.0024	mg/L	8.367	0.2412	mg/kg	2.88%

Replicate Data

ID: mpb-185857 Date: 5/20/02 16:17:52

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	547592.9	547592.9	105	mg/kg		
1	Y 360.064	279612.9	279612.9	105	mg/kg		
1	Ag 328.068	136.0	130.0	-0.013	mg/L	-1.343	mg/kg
1	Al 396.140	-46.7	-44.6	0.012	mg/L	1.176	mg/kg
1	As 188.979	-2.1	-2.0	0.030	mg/L	2.993	mg/kg
1	B 249.773	455.1	434.8	-0.064	mg/L	-6.394	mg/kg
1	Ba 455.403	868.8	830.1	0.001	mg/L	0.064	mg/kg
1	Be 234.861	-25.0	-23.9	0.000	mg/L	0.026	mg/kg
1	Ca 315.887	2999.4	2866.1	0.198	mg/L	19.77	mg/kg
1	Cd 214.438	-77.8	-74.4	-0.002	mg/L	-0.170	mg/kg
1	Co 228.616	6.0	5.8	0.000	mg/L	-0.038	mg/kg
1	Cr 205.558	27.9	26.7	0.004	mg/L	0.433	mg/kg
1	Cu 324.764	-61.5	-58.8	-0.004	mg/L	-0.388	mg/kg
1	Fe 238.204	232.3	222.0	0.010	mg/L	1.046	mg/kg
1	K 766.514	-2901.0	-2772.0	0.001	mg/L	0.089	mg/kg
1	Li 670.781	-182.2	-174.1	0.001	mg/L	0.120	mg/kg
1	Mg 279.074	41.6	39.7	0.024	mg/L	2.387	mg/kg
1	Mn 257.610	-11.9	-11.4	-0.001	mg/L	-0.145	mg/kg
1	Mo 202.031	40.2	38.4	0.000	mg/L	0.008	mg/kg
1	Na 588.995	74715.9	71393.8	-0.141	mg/L	-14.10	mg/kg
1	Ni 231.603	-11.7	-11.1	-0.005	mg/L	-0.532	mg/kg
1	P 178.221	4.2	4.0	0.168	mg/L	16.82	mg/kg
1	Pb 220.353	5.7	5.4	0.015	mg/L	1.455	mg/kg
1	Sb 206.833	-31.7	-30.3	0.059	mg/L	5.901	mg/kg
1	Se 196.026	6.0	5.7	0.050	mg/L	4.980	mg/kg
1	Si 251.611	551.2	526.7	-0.055	mg/L	-5.535	mg/kg
1	Sn 189.933	81.3	77.6	0.017	mg/L	1.746	mg/kg
1	Sr 407.771	-1645.0	-1571.9	0.000	mg/L	0.000	mg/kg
1	Ti 334.941	728.8	696.4	-0.003	mg/L	-0.330	mg/kg
1	Tl 190.800	2.5	2.4	0.059	mg/L	5.943	mg/kg
1	V 292.402	-26.0	-24.9	0.002	mg/L	0.167	mg/kg
1	Zn 206.200	45.1	43.1	0.015	mg/L	1.455	mg/kg
2	Sc 357.253	543919.4	543919.4	104	mg/kg		
2	Y 360.064	277524.4	277524.4	105	mg/kg		
2	Ag 328.068	153.8	148.0	-0.012	mg/L	-1.248	mg/kg
2	Al 396.140	-36.7	-35.3	0.015	mg/L	1.479	mg/kg
2	As 188.979	-0.9	-0.8	0.039	mg/L	3.870	mg/kg
2	B 249.773	461.5	444.0	-0.063	mg/L	-6.295	mg/kg
2	Ba 455.403	825.3	793.9	0.001	mg/L	0.054	mg/kg
2	Be 234.861	-25.0	-24.0	0.000	mg/L	0.026	mg/kg
2	Ca 315.887	3070.6	2953.9	0.207	mg/L	20.68	mg/kg
2	Cd 214.438	-81.6	-78.5	-0.002	mg/L	-0.247	mg/kg
2	Co 228.616	15.0	14.4	0.002	mg/L	0.204	mg/kg
2	Cr 205.558	27.2	26.2	0.004	mg/L	0.385	mg/kg
2	Cu 324.764	-43.3	-41.7	-0.003	mg/L	-0.277	mg/kg
2	Fe 238.204	258.8	249.0	0.013	mg/L	1.337	mg/kg
2	K 766.514	-2794.0	-2687.8	0.033	mg/L	3.342	mg/kg
2	Li 670.781	-170.5	-164.0	0.001	mg/L	0.129	mg/kg
2	Mg 279.074	79.8	76.8	0.055	mg/L	5.450	mg/kg
2	Mn 257.610	31.5	30.3	-0.001	mg/L	-0.090	mg/kg
2	Mo 202.031	42.7	41.1	0.004	mg/L	0.408	mg/kg
2	Na 588.995	74876.7	72030.7	-0.103	mg/L	-10.29	mg/kg
2	Ni 231.603	10.4	10.0	0.006	mg/L	0.552	mg/kg
2	P 178.221	4.5	4.3	0.184	mg/L	18.37	mg/kg
2	Pb 220.353	1.5	1.5	0.001	mg/L	0.075	mg/kg
2	Sb 206.833	-42.6	-41.0	-0.006	mg/L	-0.621	mg/kg
2	Se 196.026	6.0	5.8	0.051	mg/L	5.073	mg/kg
2	Si 251.611	534.6	514.3	-0.059	mg/L	-5.851	mg/kg
2	Sn 189.933	81.5	78.4	0.022	mg/L	2.219	mg/kg
2	Sr 407.771	-1644.4	-1581.9	0.000	mg/L	-0.001	mg/kg
2	Ti 334.941	684.4	658.4	-0.004	mg/L	-0.369	mg/kg
2	Tl 190.800	0.9	0.9	0.018	mg/L	1.782	mg/kg
2	V 292.402	-36.9	-35.5	0.001	mg/L	0.089	mg/kg
2	Zn 206.200	40.6	39.0	0.013	mg/L	1.252	mg/kg

Mean Data

ID: mpb-185857 Seq. No.: 37 Sample No.: 18 A/S Pos: 34

Sample Qty: 0.5000 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 16:17:52

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	545756.2	104	0.5	mg/kg				0.48%
Y 360.064	278568.6	105	0.6	mg/kg				0.53%
Ag 328.068	139.0	-0.013	0.0007	mg/L	-1.295	0.0671	mg/kg	5.18%
Al 396.140	-40.0	0.013	0.0021	mg/L	1.327	0.2144	mg/kg	16.15%
As 188.979	-1.4	0.034	0.0062	mg/L	3.431	0.6202	mg/kg	18.07%
B 249.773	439.4	-0.063	0.0007	mg/L	-6.345	0.0702	mg/kg	1.11%
Ba 455.403	812.0	0.001	0.0001	mg/L	0.059	0.0069	mg/kg	11.72%
Be 234.861	-24.0	0.000	0.0000	mg/L	0.026	0.0001	mg/kg	0.39%
Ca 315.887	2910.0	0.202	0.0064	mg/L	20.23	0.639	mg/kg	3.16%
Cd 214.438	-76.5	-0.002	0.0005	mg/L	-0.209	0.0544	mg/kg	26.09%
Co 228.616	10.1	0.001	0.0017	mg/L	0.083	0.1713	mg/kg	205.56%
Cr 205.558	26.4	0.004	0.0003	mg/L	0.409	0.0340	mg/kg	8.31%
Cu 324.764	-50.2	-0.003	0.0008	mg/L	-0.333	0.0787	mg/kg	23.65%
Fe 238.204	235.5	0.012	0.0021	mg/L	1.192	0.2063	mg/kg	17.31%
K 766.514	-2729.9	0.017	0.0230	mg/L	1.715	2.3000	mg/kg	134.09%
Li 670.781	-169.0	0.001	0.0001	mg/L	0.125	0.0057	mg/kg	4.58%
Mg 279.074	58.3	0.039	0.0217	mg/L	3.918	2.1662	mg/kg	55.28%
Mn 257.610	9.4	-0.001	0.0004	mg/L	-0.117	0.0394	mg/kg	33.54%
Mo 202.031	39.8	0.002	0.0028	mg/L	0.208	0.2830	mg/kg	136.09%
Na 588.995	71712.2	-0.122	0.0269	mg/L	-12.20	2.694	mg/kg	22.09%
Ni 231.603	-0.6	0.000	0.0077	mg/L	0.010	0.7664	mg/kg	>999.9%
P 178.221	4.1	0.176	0.0110	mg/L	17.59	1.096	mg/kg	6.23%
Pb 220.353	3.4	0.008	0.0098	mg/L	0.765	0.9755	mg/kg	127.56%
Sb 206.833	-35.6	0.026	0.0461	mg/L	2.640	4.6118	mg/kg	174.66%
Se 196.026	5.7	0.050	0.0007	mg/L	5.026	0.0656	mg/kg	1.31%
Si 251.611	520.5	-0.057	0.0022	mg/L	-5.693	0.2236	mg/kg	3.93%
Sn 189.933	78.0	0.020	0.0033	mg/L	1.983	0.3346	mg/kg	16.88%
Sr 407.771	-1576.9	0.000	0.0000	mg/L	-0.001	0.0009	mg/kg	110.48%
Ti 334.941	677.4	-0.003	0.0003	mg/L	-0.350	0.0279	mg/kg	7.96%
Tl 190.800	1.6	0.039	0.0294	mg/L	3.862	2.9421	mg/kg	76.18%
V 292.402	-30.2	0.001	0.0006	mg/L	0.128	0.0551	mg/kg	43.12%
Zn 206.200	41.0	0.014	0.0014	mg/L	1.354	0.1439	mg/kg	10.63%

Replicate Data

ID: lfb-185857 Date: 5/20/02 16:22:03

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	533532.7	533532.7	102	mg/kg		
1	Y 360.064	271508.0	271508.0	102	mg/kg		
1	Ag 328.068	9739.5	9551.7	0.482	mg/L	48.24	mg/kg
1	Al 396.140	7832.1	7681.1	2.485	mg/L	248.5	mg/kg
1	As 188.979	318.5	312.4	2.487	mg/L	248.7	mg/kg
1	B 249.773	5104.7	5006.2	0.432	mg/L	43.16	mg/kg
1	Ba 455.403	193162.5	189438.0	0.510	mg/L	51.04	mg/kg
1	Be 234.861	4834.7	4741.4	0.048	mg/L	4.769	mg/kg
1	Ca 315.887	245942.0	241199.8	24.72	mg/L	2472	mg/kg
1	Cd 214.438	2660.5	2609.2	0.495	mg/L	49.49	mg/kg
1	Co 228.616	1791.0	1756.5	0.491	mg/L	49.05	mg/kg
1	Cr 205.558	533.1	522.8	0.493	mg/L	49.25	mg/kg
1	Cu 324.764	7494.2	7349.7	0.476	mg/L	47.61	mg/kg
1	Fe 238.204	5102.0	5003.7	0.528	mg/L	52.80	mg/kg
1	K 766.514	66097.1	64822.7	26.12	mg/L	2612	mg/kg
1	Li 670.781	62548.9	61342.9	0.493	mg/L	49.26	mg/kg
1	Mg 279.074	29407.4	28840.4	23.81	mg/L	2381	mg/kg
1	Mn 257.610	37793.5	37064.8	0.494	mg/L	49.45	mg/kg
1	Mo 202.031	728.0	714.0	1.001	mg/L	100.1	mg/kg
1	Na 588.995	481217.8	471939.2	23.82	mg/L	2382	mg/kg
1	Ni 231.603	959.9	937.6	0.483	mg/L	48.28	mg/kg
1	P 178.221	55.1	54.0	2.577	mg/L	257.7	mg/kg
1	Pb 220.353	142.1	139.4	0.486	mg/L	48.64	mg/kg
1	Sb 206.833	817.4	801.6	5.118	mg/L	511.8	mg/kg
1	Se 196.026	185.7	182.1	2.479	mg/L	247.9	mg/kg
1	Si 251.611	20912.1	20508.9	4.927	mg/L	492.7	mg/kg
1	Sn 189.933	904.2	886.8	4.757	mg/L	475.7	mg/kg
1	Sr 407.771	411449.2	403515.7	0.498	mg/L	49.77	mg/kg

1 Ti 334.941	102748.2	100767.1	1.039 mg/L	103.9 mg/kg	
1 Tl 190.800	87.3	85.6	2.287 mg/L	228.7 mg/kg	
1 V 292.402	6845.9	6713.9	0.495 mg/L	49.51 mg/kg	
1 Zn 206.200	1030.5	1010.7	0.500 mg/L	50.02 mg/kg	
2 Sc 357.253	529121.1	529121.1	101 mg/kg		
2 Y 360.064	269014.3	269014.3	101 mg/kg		
2 Ag 328.068	9660.0	9552.8	0.482 mg/L	48.25 mg/kg	
2 Al 396.140	7814.4	7727.6	2.499 mg/L	249.9 mg/kg	
2 As 188.979	311.1	307.6	2.449 mg/L	244.9 mg/kg	
2 B 249.773	5133.1	5076.1	0.439 mg/L	43.92 mg/kg	
2 Ba 455.403	192709.6	190569.6	0.513 mg/L	51.34 mg/kg	
2 Be 234.861	4823.8	4770.3	0.048 mg/L	4.798 mg/kg	
2 Ca 315.887	245521.2	242794.8	24.88 mg/L	2488 mg/kg	
2 Cd 214.438	2658.3	2628.8	0.499 mg/L	49.85 mg/kg	
2 Co 228.616	1793.9	1773.9	0.495 mg/L	49.54 mg/kg	
2 Cr 205.558	527.2	521.4	0.491 mg/L	49.11 mg/kg	
2 Cu 324.764	7468.0	7385.0	0.478 mg/L	47.84 mg/kg	
2 Fe 238.204	5075.1	5018.8	0.530 mg/L	52.96 mg/kg	
2 K 766.514	65901.5	65169.7	26.26 mg/L	2626 mg/kg	
2 Li 670.781	62347.4	61655.1	0.495 mg/L	49.51 mg/kg	
2 Mg 279.074	29221.5	28897.0	23.86 mg/L	2386 mg/kg	
2 Mn 257.610	37726.0	37307.0	0.498 mg/L	49.77 mg/kg	
2 Mo 202.031	732.9	724.8	1.017 mg/L	101.7 mg/kg	
2 Na 588.995	480684.4	475346.5	24.03 mg/L	2403 mg/kg	
2 Ni 231.603	953.7	940.2	0.484 mg/L	48.41 mg/kg	
2 P 178.221	56.7	56.1	2.677 mg/L	267.7 mg/kg	
2 Pb 220.353	144.3	142.7	0.498 mg/L	49.79 mg/kg	
2 Sb 206.833	810.1	801.1	5.115 mg/L	511.5 mg/kg	
2 Se 196.026	183.6	181.6	2.471 mg/L	247.1 mg/kg	
2 Si 251.611	20832.3	20600.9	4.951 mg/L	495.1 mg/kg	
2 Sn 189.933	901.9	891.8	4.788 mg/L	478.8 mg/kg	
2 Sr 407.771	410362.0	405805.0	0.500 mg/L	50.05 mg/kg	
2 Ti 334.941	102447.1	101309.5	1.045 mg/L	104.5 mg/kg	
2 Tl 190.800	84.7	83.7	2.236 mg/L	223.6 mg/kg	
2 V 292.402	6853.5	6777.4	0.500 mg/L	49.98 mg/kg	
2 Zn 206.200	1025.6	1014.2	0.502 mg/L	50.20 mg/kg	

Mean Data

ID: lfb-185857 Seq. No.: 38 Sample No.: 19 A/S Pos: 35
Sample Qty: 0.5000 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 16:22:03

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	531326.9	102	0.6	mg/kg				0.59%
Y 360.064	270261.1	102	0.7	mg/kg				0.65%
Ag 328.068	9552.2	0.482	0.0000	mg/L	48.24	0.004	mg/kg	0.01%
Al 396.140	7704.4	2.492	0.0103	mg/L	249.2	1.03	mg/kg	0.41%
As 188.979	310.0	2.468	0.0265	mg/L	246.8	2.65	mg/kg	1.07%
B 249.773	5041.2	0.435	0.0054	mg/L	43.54	0.535	mg/kg	1.23%
Ba 455.403	190003.8	0.512	0.0022	mg/L	51.19	0.216	mg/kg	0.42%
Be 234.861	4755.9	0.048	0.0002	mg/L	4.784	0.0203	mg/kg	0.42%
Ca 315.887	241997.3	24.80	0.116	mg/L	2480	11.6	mg/kg	0.47%
Cd 214.438	2619.0	0.497	0.0026	mg/L	49.67	0.257	mg/kg	0.52%
Co 228.616	1765.2	0.493	0.0035	mg/L	49.30	0.346	mg/kg	0.70%
Cr 205.558	522.1	0.492	0.0010	mg/L	49.18	0.100	mg/kg	0.20%
Cu 324.764	7367.3	0.477	0.0016	mg/L	47.72	0.163	mg/kg	0.34%
Fe 238.204	5011.2	0.529	0.0012	mg/L	52.88	0.116	mg/kg	0.22%
K 766.514	64996.2	26.19	0.095	mg/L	2619	9.5	mg/kg	0.36%
Li 670.781	61499.0	0.494	0.0018	mg/L	49.39	0.176	mg/kg	0.36%
Mg 279.074	28868.7	23.84	0.033	mg/L	2384	3.3	mg/kg	0.14%
Mn 257.610	37185.9	0.496	0.0023	mg/L	49.61	0.229	mg/kg	0.46%
Mo 202.031	719.4	1.009	0.0113	mg/L	100.9	1.13	mg/kg	1.12%
Na 588.995	473642.9	23.93	0.144	mg/L	2393	14.4	mg/kg	0.60%
Ni 231.603	938.9	0.483	0.0009	mg/L	48.34	0.093	mg/kg	0.19%
P 178.221	55.1	2.627	0.0709	mg/L	262.7	7.09	mg/kg	2.70%
Pb 220.353	141.0	0.492	0.0082	mg/L	49.21	0.815	mg/kg	1.66%
Sb 206.833	801.4	5.116	0.0021	mg/L	511.6	0.21	mg/kg	0.04%
Se 196.026	181.9	2.475	0.0052	mg/L	247.5	0.52	mg/kg	0.21%
Si 251.611	20554.9	4.939	0.0164	mg/L	493.9	1.64	mg/kg	0.33%
Sn 189.933	889.3	4.773	0.0217	mg/L	477.3	2.17	mg/kg	0.45%

Sr 407.771	404660.4	0.499	0.0020 mg/L	49.91	0.199 mg/kg	0.40%
Ti 334.941	101038.3	1.042	0.0040 mg/L	104.2	0.40 mg/kg	0.38%
Tl 190.800	84.7	2.261	0.0364 mg/L	226.1	3.64 mg/kg	1.61%
V 292.402	6745.7	0.497	0.0033 mg/L	49.74	0.329 mg/kg	0.66%
Zn 206.200	1012.4	0.501	0.0012 mg/L	50.11	0.125 mg/kg	0.25%

Replicate Data
ID: 305316 Date: 5/20/02 16:26:19

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	528420.0	528420.0	101	mg/kg		
1	Y 360.064	271730.1	271730.1	102	mg/kg		
1	Ag 328.068	-1.6	-1.6	-0.020	mg/L	-2.036	mg/kg
1	Al 396.140	302343.5	299382.8	97.18	mg/L	9722	mg/kg
1	As 188.979	-2.2	-2.2	0.028	mg/L	2.812	mg/kg
1	B 249.773	3742.7	3706.1	0.120	mg/L	11.99	mg/kg
1	Ba 455.403	363425.7	359866.8	0.979	mg/L	97.90	mg/kg
1	Be 234.861	1831.3	1813.4	0.006	mg/L	0.615	mg/kg
1	Ca 315.887	814247.7	806274.0	82.86	mg/L	8289	mg/kg
1	Cd 214.438	85.8	84.9	-0.004	mg/L	-0.372	mg/kg
1	Co 228.616	238.9	236.5	0.064	mg/L	6.435	mg/kg
1	Cr 205.558	181.3	179.5	0.224	mg/L	22.39	mg/kg
1	Cu 324.764	1831.4	1813.4	0.113	mg/L	11.29	mg/kg
1	Fe 238.204	1198572.6	1186835.4	128.4	mg/L	12850	mg/kg
1	K 766.514	20736.0	20532.9	9.007	mg/L	901.1	mg/kg
1	Li 670.781	6685.6	6620.1	0.055	mg/L	5.550	mg/kg
1	Mg 279.074	59600.8	59017.2	48.74	mg/L	4876	mg/kg
1	Mn 257.610	305446.9	302455.8	4.044	mg/L	404.6	mg/kg
1	Mo 202.031	51.7	51.2	0.019	mg/L	1.902	mg/kg
1	Na 588.995	89532.7	88656.0	0.892	mg/L	89.22	mg/kg
1	Ni 231.603	201.8	196.9	0.102	mg/L	10.17	mg/kg
1	P 178.221	42.9	42.5	2.023	mg/L	202.4	mg/kg
1	Pb 220.353	33.0	32.7	0.111	mg/L	11.08	mg/kg
1	Sb 206.833	-62.5	-61.9	-0.133	mg/L	-13.34	mg/kg
1	Se 196.026	7.5	7.5	0.074	mg/L	7.407	mg/kg
1	Si 251.611	69754.4	69071.3	17.19	mg/L	1720	mg/kg
1	Sn 189.933	77.2	76.5	-0.283	mg/L	-28.27	mg/kg
1	Sr 407.771	148981.7	147522.8	0.183	mg/L	18.32	mg/kg
1	Ti 334.941	232564.2	230286.8	2.399	mg/L	240.0	mg/kg
1	Tl 190.800	-0.9	-0.9	0.022	mg/L	2.168	mg/kg
1	V 292.402	3706.8	3670.5	0.272	mg/L	27.24	mg/kg
1	Zn 206.200	639.1	632.8	0.311	mg/L	31.07	mg/kg
2	Sc 357.253	525337.6	525337.6	100	mg/kg		
2	Y 360.064	270329.1	270329.1	102	mg/kg		
2	Ag 328.068	-34.2	-34.1	-0.022	mg/L	-2.207	mg/kg
2	Al 396.140	303383.0	302174.8	98.08	mg/L	9812	mg/kg
2	As 188.979	-6.5	-6.5	-0.006	mg/L	-0.551	mg/kg
2	B 249.773	3749.3	3734.3	0.121	mg/L	12.15	mg/kg
2	Ba 455.403	364385.0	362933.8	0.987	mg/L	98.74	mg/kg
2	Be 234.861	1842.0	1834.7	0.006	mg/L	0.625	mg/kg
2	Ca 315.887	815936.3	812686.8	83.52	mg/L	8355	mg/kg
2	Cd 214.438	80.6	80.3	-0.005	mg/L	-0.490	mg/kg
2	Co 228.616	234.4	233.5	0.063	mg/L	6.350	mg/kg
2	Cr 205.558	178.0	177.3	0.222	mg/L	22.23	mg/kg
2	Cu 324.764	1841.1	1833.7	0.114	mg/L	11.41	mg/kg
2	Fe 238.204	1202181.7	1197393.9	129.6	mg/L	12960	mg/kg
2	K 766.514	20959.3	20875.8	9.139	mg/L	914.3	mg/kg
2	Li 670.781	6756.5	6729.6	0.056	mg/L	5.638	mg/kg
2	Mg 279.074	59979.6	59740.7	49.34	mg/L	4936	mg/kg
2	Mn 257.610	306174.4	304955.1	4.078	mg/L	407.9	mg/kg
2	Mo 202.031	47.8	47.6	0.014	mg/L	1.364	mg/kg
2	Na 588.995	89753.2	89395.8	0.936	mg/L	93.64	mg/kg
2	Ni 231.603	187.8	184.3	0.095	mg/L	9.523	mg/kg
2	P 178.221	40.0	39.8	1.893	mg/L	189.4	mg/kg
2	Pb 220.353	22.0	21.9	0.073	mg/L	7.273	mg/kg
2	Sb 206.833	-63.4	-63.1	-0.141	mg/L	-14.08	mg/kg
2	Se 196.026	1.1	1.1	-0.013	mg/L	-1.323	mg/kg
2	Si 251.611	70190.9	69911.3	17.40	mg/L	1741	mg/kg
2	Sn 189.933	72.5	72.2	-0.313	mg/L	-31.32	mg/kg

2 Sr 407.771	149278.0	148683.5	0.185 mg/L	18.47 mg/kg
2 Ti 334.941	233136.9	232208.4	2.419 mg/L	242.0 mg/kg
2 Tl 190.800	-0.2	-0.2	0.042 mg/L	4.207 mg/kg
2 V 292.402	3784.2	3769.1	0.279 mg/L	27.96 mg/kg
2 Zn 206.200	635.8	633.2	0.311 mg/L	31.09 mg/kg

Mean Data ----------

ID: 305316 Seq. No.: 39 Sample No.: 20 A/S Pos: 36

Sample Qty: 0.4998 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 16:26:19

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	526878.8	101	0.4	mg/kg				0.41%
Y 360.064	271029.6	102	0.4	mg/kg				0.37%
Ag 328.068	-17.9	-0.021	0.0012	mg/L	-2.122	0.1210	mg/kg	5.70%
Al 396.140	300778.8	97.63	0.641	mg/L	9767	64.1	mg/kg	0.66%
As 188.979	-4.3	0.011	0.0238	mg/L	1.130	2.3778	mg/kg	210.38%
B 249.773	3720.2	0.121	0.0011	mg/L	12.07	0.109	mg/kg	0.90%
Ba 455.403	361400.3	0.983	0.0059	mg/L	98.32	0.592	mg/kg	0.60%
Be 234.861	1824.0	0.006	0.0001	mg/L	0.620	0.0072	mg/kg	1.17%
Ca 315.887	809480.4	83.19	0.467	mg/L	8322	46.7	mg/kg	0.56%
Cd 214.438	82.6	-0.004	0.0008	mg/L	-0.431	0.0835	mg/kg	19.38%
Co 228.616	235.0	0.064	0.0006	mg/L	6.392	0.0605	mg/kg	0.95%
Cr 205.558	178.4	0.223	0.0011	mg/L	22.31	0.110	mg/kg	0.49%
Cu 324.764	1823.6	0.113	0.0009	mg/L	11.35	0.089	mg/kg	0.78%
Fe 238.204	1192114.7	129.0	0.81	mg/L	12910	80.8	mg/kg	0.63%
K 766.514	20704.4	9.073	0.0937	mg/L	907.7	9.37	mg/kg	1.03%
Li 670.781	6674.9	0.056	0.0006	mg/L	5.594	0.0618	mg/kg	1.11%
Mg 279.074	59379.0	49.04	0.423	mg/L	4906	42.3	mg/kg	0.86%
Mn 257.610	303705.4	4.061	0.0236	mg/L	406.3	2.36	mg/kg	0.58%
Mo 202.031	49.4	0.016	0.0038	mg/L	1.633	0.3804	mg/kg	23.30%
Na 588.995	89025.9	0.914	0.0313	mg/L	91.43	3.131	mg/kg	3.42%
Ni 231.603	190.6	0.098	0.0046	mg/L	9.849	0.4610	mg/kg	4.68%
P 178.221	41.2	1.958	0.0918	mg/L	195.9	9.18	mg/kg	4.69%
Pb 220.353	27.3	0.092	0.0269	mg/L	9.176	2.6901	mg/kg	29.32%
Sb 206.833	-62.5	-0.137	0.0053	mg/L	-13.71	0.528	mg/kg	3.85%
Se 196.026	4.3	0.030	0.0617	mg/L	3.042	6.1731	mg/kg	202.94%
Si 251.611	69491.3	17.30	0.149	mg/L	1730	15.0	mg/kg	0.86%
Sn 189.933	74.3	-0.298	0.0215	mg/L	-29.79	2.152	mg/kg	7.22%
Sr 407.771	148103.1	0.184	0.0010	mg/L	18.40	0.101	mg/kg	0.55%
Ti 334.941	231247.6	2.409	0.0142	mg/L	241.0	1.42	mg/kg	0.59%
Tl 190.800	-0.5	0.032	0.0144	mg/L	3.188	1.4416	mg/kg	45.22%
V 292.402	3719.8	0.276	0.0051	mg/L	27.60	0.511	mg/kg	1.85%
Zn 206.200	633.0	0.311	0.0002	mg/L	31.08	0.015	mg/kg	0.05%

Replicate Data ----------

ID: CCV Date: 5/20/02 16:30:30

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	534754.7	534754.7	102	mg/kg		
1	Y 360.064	272459.3	272459.3	103	mg/kg		
1	Ag 328.068	11603.2	11353.5	0.577	mg/L	577.2	mg/kg
1	Al 396.140	7878.5	7708.9	2.510	mg/L	2510	mg/kg
1	As 188.979	328.3	321.2	2.556	mg/L	2556	mg/kg
1	B 249.773	5029.6	4921.3	0.422	mg/L	422.4	mg/kg
1	Ba 455.403	192633.2	188487.3	0.505	mg/L	504.7	mg/kg
1	Be 234.861	4904.4	4798.8	0.048	mg/L	48.26	mg/kg
1	Ca 315.887	51004.0	49906.3	5.037	mg/L	5037	mg/kg
1	Cd 214.438	2686.1	2628.3	0.501	mg/L	501.0	mg/kg
1	Co 228.616	1841.0	1801.4	0.503	mg/L	503.1	mg/kg
1	Cr 205.558	542.7	531.0	0.501	mg/L	500.6	mg/kg
1	Cu 324.764	7733.1	7566.7	0.493	mg/L	492.8	mg/kg
1	Fe 238.204	4854.3	4749.8	0.501	mg/L	500.5	mg/kg
1	K 766.514	10541.1	10314.2	5.058	mg/L	5058	mg/kg
1	Li 670.781	64193.7	62812.0	0.504	mg/L	504.4	mg/kg
1	Mg 279.074	6157.4	6024.8	4.968	mg/L	4968	mg/kg
1	Mn 257.610	38567.1	37737.1	0.503	mg/L	503.5	mg/kg
1	Mo 202.031	387.7	379.3	0.505	mg/L	505.0	mg/kg
1	Na 588.995	160060.3	156615.3	4.958	mg/L	4958	mg/kg

1 Ni 231.603	1011.9	984.9	0.507 mg/L	507.1 mg/kg
1 P 178.221	51.5	50.4	2.402 mg/L	2402 mg/kg
1 Pb 220.353	148.0	144.8	0.506 mg/L	505.5 mg/kg
1 Sb 206.833	379.7	371.5	2.502 mg/L	2502 mg/kg
1 Se 196.026	189.5	185.4	2.523 mg/L	2523 mg/kg
1 Si 251.611	10677.1	10447.3	2.473 mg/L	2473 mg/kg
1 Sn 189.933	495.7	485.0	2.445 mg/L	2445 mg/kg
1 Sr 407.771	416933.5	407960.0	0.503 mg/L	503.1 mg/kg
1 Ti 334.941	51014.4	49916.4	0.506 mg/L	506.2 mg/kg
1 Tl 190.800	91.4	89.5	2.390 mg/L	2390 mg/kg
1 V 292.402	6918.2	6769.3	0.499 mg/L	499.2 mg/kg
1 Zn 206.200	1040.6	1018.2	0.504 mg/L	504.1 mg/kg
2 Sc 357.253	529220.1	529220.1	101 mg/kg	
2 Y 360.064	269230.1	269230.1	102 mg/kg	
2 Ag 328.068	11653.6	11522.1	0.586 mg/L	586.1 mg/kg
2 Al 396.140	7931.2	7841.6	2.553 mg/L	2553 mg/kg
2 As 188.979	322.4	318.8	2.537 mg/L	2537 mg/kg
2 B 249.773	5035.1	4978.3	0.429 mg/L	428.6 mg/kg
2 Ba 455.403	191515.2	189353.1	0.507 mg/L	507.0 mg/kg
2 Be 234.861	4944.4	4888.6	0.049 mg/L	49.16 mg/kg
2 Ca 315.887	51328.2	50748.7	5.124 mg/L	5124 mg/kg
2 Cd 214.438	2704.0	2673.5	0.509 mg/L	509.4 mg/kg
2 Co 228.616	1850.5	1829.6	0.511 mg/L	511.0 mg/kg
2 Cr 205.558	543.4	537.2	0.507 mg/L	506.7 mg/kg
2 Cu 324.764	7743.9	7656.5	0.499 mg/L	498.6 mg/kg
2 Fe 238.204	4919.9	4864.3	0.513 mg/L	512.9 mg/kg
2 K 766.514	10561.4	10442.1	5.107 mg/L	5107 mg/kg
2 Li 670.781	63794.0	63073.8	0.506 mg/L	506.4 mg/kg
2 Mg 279.074	6225.8	6155.5	5.075 mg/L	5075 mg/kg
2 Mn 257.610	38706.3	38269.3	0.511 mg/L	510.6 mg/kg
2 Mo 202.031	392.2	387.8	0.517 mg/L	517.5 mg/kg
2 Na 588.995	160100.8	158293.3	5.058 mg/L	5058 mg/kg
2 Ni 231.603	1002.0	987.0	0.508 mg/L	508.2 mg/kg
2 P 178.221	57.4	56.8	2.711 mg/L	2711 mg/kg
2 Pb 220.353	136.5	135.0	0.471 mg/L	470.8 mg/kg
2 Sb 206.833	378.8	374.5	2.520 mg/L	2520 mg/kg
2 Se 196.026	198.8	196.5	2.677 mg/L	2677 mg/kg
2 Si 251.611	10779.2	10657.5	2.527 mg/L	2527 mg/kg
2 Sn 189.933	500.9	495.3	2.506 mg/L	2506 mg/kg
2 Sr 407.771	414851.0	410167.4	0.506 mg/L	505.8 mg/kg
2 Ti 334.941	51284.0	50705.0	0.514 mg/L	514.4 mg/kg
2 Tl 190.800	89.4	88.4	2.361 mg/L	2361 mg/kg
2 V 292.402	6963.6	6885.0	0.508 mg/L	507.6 mg/kg
2 Zn 206.200	1038.0	1026.3	0.508 mg/L	508.1 mg/kg

Mean Data

ID: CCV
Sample Qty: 1.0000 g

Seq. No.: 40
Prep. Vol.:
Data: Original

Sample No.: 9
1.0 L

A/S Pos: 4
Dilution: 1.0: 1.0
Date: 5/20/02 16:30:30

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	531987.4	102	0.7	mg/kg				0.74%
Y 360.064	270844.7	102	0.9	mg/kg				0.84%
Ag 328.068	11437.8	0.582	0.0063	mg/L	581.7	6.27	mg/kg	1.08%
*QC exceeds upper limit for Ag 328.068		Recovery = 116.33%			Action = Continue			
Al 396.140	7775.3	2.531	0.0302	mg/L	2531	30.2	mg/kg	1.19%
As 188.979	320.0	2.546	0.0133	mg/L	2546	13.3	mg/kg	0.52%
B 249.773	4949.8	0.425	0.0044	mg/L	425.5	4.36	mg/kg	1.03%
*QC exceeds lower limit for B 249.773		Recovery = 85.09%			Action = Continue			
Ba 455.403	188920.2	0.506	0.0016	mg/L	505.9	1.64	mg/kg	0.33%
Be 234.861	4843.7	0.049	0.0006	mg/L	48.71	0.632	mg/kg	1.30%
Ca 315.887	50327.5	5.081	0.0613	mg/L	5081	61.3	mg/kg	1.21%
Cd 214.438	2650.9	0.505	0.0059	mg/L	505.2	5.95	mg/kg	1.18%
Co 228.616	1815.5	0.507	0.0056	mg/L	507.1	5.60	mg/kg	1.10%
Cr 205.558	534.1	0.504	0.0043	mg/L	503.7	4.30	mg/kg	0.85%
Cu 324.764	7611.6	0.496	0.0041	mg/L	495.7	4.14	mg/kg	0.83%
Fe 238.204	4807.1	0.507	0.0088	mg/L	506.7	8.76	mg/kg	1.73%
K 766.514	10378.2	5.083	0.0350	mg/L	5083	35.0	mg/kg	0.69%
Li 670.781	62942.9	0.505	0.0015	mg/L	505.4	1.48	mg/kg	0.29%
Mg 279.074	6090.2	5.022	0.0763	mg/L	5022	76.3	mg/kg	1.52%

Mn 257.610	38003.2	0.507	0.0050 mg/L	507.0	5.03 mg/kg	0.99%
Mo 202.031	383.6	0.511	0.0088 mg/L	511.3	8.80 mg/kg	1.72%
Na 588.995	157454.3	5.008	0.0710 mg/L	5008	71.0 mg/kg	1.42%
Ni 231.603	986.0	0.508	0.0007 mg/L	507.7	0.75 mg/kg	0.15%
P 178.221	53.6	2.557	0.2180 mg/L	2557	218.0 mg/kg	8.53%
Pb 220.353	139.9	0.488	0.0245 mg/L	488.2	24.53 mg/kg	5.03%
Sb 206.833	373.0	2.511	0.0131 mg/L	2511	13.1 mg/kg	0.52%
Se 196.026	191.0	2.600	0.1086 mg/L	2600	108.6 mg/kg	4.18%
Si 251.611	10552.4	2.500	0.0379 mg/L	2500	37.9 mg/kg	1.52%
Sn 189.933	490.1	2.475	0.0434 mg/L	2475	43.4 mg/kg	1.75%
Sr 407.771	409063.7	0.504	0.0019 mg/L	504.5	1.92 mg/kg	0.38%
Ti 334.941	50310.7	0.510	0.0058 mg/L	510.3	5.77 mg/kg	1.13%
Tl 190.800	88.9	2.375	0.0200 mg/L	2375	20.0 mg/kg	0.84%
V 292.402	6827.1	0.503	0.0060 mg/L	503.4	5.99 mg/kg	1.19%
Zn 206.200	1022.3	0.506	0.0029 mg/L	506.1	2.85 mg/kg	0.56%

Replicate Data ----------

ID: CCB Date: 5/20/02 16:34:38

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	528152.6	528152.6	101	mg/kg		
1	Y 360.064	269007.8	269007.8	101	mg/kg		
1	Ag 328.068	118.1	117.0	-0.014	mg/L	-14.11	mg/kg
1	Al 396.140	-128.8	-127.6	-0.015	mg/L	-15.16	mg/kg
1	As 188.979	3.5	3.5	0.072	mg/L	72.47	mg/kg
1	B 249.773	433.2	429.2	-0.065	mg/L	-64.56	mg/kg
1	Ba 455.403	824.0	816.3	0.001	mg/L	0.599	mg/kg
1	Be 234.861	-24.5	-24.3	0.000	mg/L	0.258	mg/kg
1	Ca 315.887	845.0	837.2	-0.011	mg/L	-11.01	mg/kg
1	Cd 214.438	-62.6	-62.0	0.001	mg/L	0.604	mg/kg
1	Co 228.616	8.4	8.3	0.000	mg/L	0.330	mg/kg
1	Cr 205.558	22.0	21.8	0.000	mg/L	-0.461	mg/kg
1	Cu 324.764	-53.2	-52.7	-0.003	mg/L	-3.486	mg/kg
1	Fe 238.204	170.6	169.0	0.005	mg/L	4.718	mg/kg
1	K 766.514	-2912.9	-2885.9	-0.043	mg/L	-43.11	mg/kg
1	Li 670.781	-91.9	-91.1	0.002	mg/L	1.868	mg/kg
1	Mg 279.074	25.0	24.8	0.012	mg/L	11.54	mg/kg
1	Mn 257.610	-53.2	-52.7	-0.002	mg/L	-2.006	mg/kg
1	Mo 202.031	37.9	37.5	-0.001	mg/L	-1.211	mg/kg
1	Na 588.995	74655.9	73962.2	0.013	mg/L	12.67	mg/kg
1	Ni 231.603	-9.1	-9.0	-0.004	mg/L	-4.244	mg/kg
1	P 178.221	0.8	0.8	0.015	mg/L	14.53	mg/kg
1	Pb 220.353	11.4	11.3	0.035	mg/L	35.36	mg/kg
1	Sb 206.833	-45.9	-45.4	-0.033	mg/L	-33.27	mg/kg
1	Se 196.026	-0.7	-0.7	-0.039	mg/L	-38.70	mg/kg
1	Si 251.611	581.3	575.9	-0.043	mg/L	-42.81	mg/kg
1	Sn 189.933	77.2	76.5	0.011	mg/L	10.62	mg/kg
1	Sr 407.771	-1909.4	-1891.6	0.000	mg/L	-0.395	mg/kg
1	Ti 334.941	761.5	754.4	-0.003	mg/L	-2.701	mg/kg
1	Tl 190.800	-1.5	-1.5	-0.046	mg/L	-45.96	mg/kg
1	V 292.402	-26.2	-25.9	0.002	mg/L	1.589	mg/kg
1	Zn 206.200	15.0	14.9	0.000	mg/L	0.406	mg/kg
2	Sc 357.253	520436.1	520436.1	99	mg/kg		
2	Y 360.064	265071.2	265071.2	100	mg/kg		
2	Ag 328.068	183.2	184.2	-0.011	mg/L	-10.57	mg/kg
2	Al 396.140	-109.2	-109.8	-0.009	mg/L	-9.372	mg/kg
2	As 188.979	-2.7	-2.7	0.024	mg/L	24.05	mg/kg
2	B 249.773	425.4	427.7	-0.065	mg/L	-64.72	mg/kg
2	Ba 455.403	748.9	752.9	0.000	mg/L	0.429	mg/kg
2	Be 234.861	-12.3	-12.4	0.000	mg/L	0.376	mg/kg
2	Ca 315.887	818.1	822.5	-0.013	mg/L	-12.51	mg/kg
2	Cd 214.438	-69.7	-70.1	-0.001	mg/L	-0.895	mg/kg
2	Co 228.616	5.9	6.0	0.000	mg/L	-0.320	mg/kg
2	Cr 205.558	22.0	22.1	0.000	mg/L	-0.137	mg/kg
2	Cu 324.764	-54.7	-55.0	-0.004	mg/L	-3.638	mg/kg
2	Fe 238.204	220.0	221.2	0.010	mg/L	10.37	mg/kg
2	K 766.514	-2947.0	-2962.9	-0.073	mg/L	-72.89	mg/kg
2	Li 670.781	-223.2	-224.4	0.001	mg/L	0.803	mg/kg
2	Mg 279.074	2.0	2.0	-0.007	mg/L	-7.308	mg/kg

2 Mn 257.610	-44.3	-44.6	-0.002 mg/L	-1.897 mg/kg
2 Mo 202.031	43.7	43.9	0.008 mg/L	8.187 mg/kg
2 Na 588.995	74756.9	75160.4	0.084 mg/L	84.35 mg/kg
2 Ni 231.603	5.1	5.1	0.003 mg/L	3.027 mg/kg
2 P 178.221	4.7	4.8	0.205 mg/L	205.3 mg/kg
2 Pb 220.353	4.7	4.8	0.012 mg/L	12.31 mg/kg
2 Sb 206.833	-38.7	-39.0	0.006 mg/L	6.100 mg/kg
2 Se 196.026	5.6	5.7	0.050 mg/L	49.55 mg/kg
2 Si 251.611	579.2	582.3	-0.041 mg/L	-41.17 mg/kg
2 Sn 189.933	73.0	73.4	-0.009 mg/L	-8.630 mg/kg
2 Sr 407.771	-1922.9	-1933.3	0.000 mg/L	-0.446 mg/kg
2 Ti 334.941	689.2	692.9	-0.003 mg/L	-3.337 mg/kg
2 Tl 190.800	0.7	0.7	0.013 mg/L	13.17 mg/kg
2 V 292.402	-16.3	-16.4	0.002 mg/L	2.290 mg/kg
2 Zn 206.200	17.5	17.6	0.002 mg/L	1.781 mg/kg

Mean Data

ID: CCB
Sample Qty: 1.0000 g
Seq. No.: 41 Sample No.: 10
Prep. Vol.: 1.0 L
Data: Original
A/S Pos: 1
Dilution: 1.0: 1.0
Date: 5/20/02 16:34:38

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	524294.4	100	1.0	mg/kg				1.04%
Y 360.064	267039.5	101	1.0	mg/kg				1.04%
Ag 328.068	150.6	-0.012	0.0025	mg/L	-12.34	2.499	mg/kg	20.25%
*QC exceeds lower limit for Ag 328.068 Action = Continue								
Al 396.140	-118.7	-0.012	0.0041	mg/L	-12.27	4.095	mg/kg	33.38%
As 188.979	0.4	0.048	0.0342	mg/L	48.26	34.242	mg/kg	70.95%
B 249.773	428.4	-0.065	0.0001	mg/L	-64.64	0.116	mg/kg	0.18%
Ba 455.403	784.6	0.001	0.0001	mg/L	0.514	0.1204	mg/kg	23.44%
Be 234.861	-18.3	0.000	0.0001	mg/L	0.317	0.0837	mg/kg	26.40%
Ca 315.887	829.8	-0.012	0.0011	mg/L	-11.76	1.066	mg/kg	9.06%
Cd 214.438	-66.0	0.000	0.0011	mg/L	-0.145	1.0601	mg/kg	729.59%
Co 228.616	7.1	0.000	0.0005	mg/L	0.005	0.4598	mg/kg	>999.9%
Cr 205.558	22.0	0.000	0.0002	mg/L	-0.299	0.2290	mg/kg	76.61%
Cu 324.764	-53.8	-0.004	0.0001	mg/L	-3.562	0.1069	mg/kg	3.00%
Fe 238.204	195.1	0.008	0.0040	mg/L	7.543	3.9961	mg/kg	52.98%
K 766.514	-2924.4	-0.058	0.0211	mg/L	-58.00	21.055	mg/kg	36.30%
Li 670.781	-157.7	0.001	0.0008	mg/L	1.336	0.7528	mg/kg	56.37%
Mg 279.074	13.4	0.002	0.0133	mg/L	2.114	13.3241	mg/kg	630.40%
Mn 257.610	-48.7	-0.002	0.0001	mg/L	-1.951	0.0772	mg/kg	3.96%
Mo 202.031	40.7	0.003	0.0066	mg/L	3.488	6.6454	mg/kg	190.50%
Na 588.995	74561.3	0.049	0.0507	mg/L	48.51	50.692	mg/kg	104.50%
Ni 231.603	-1.9	-0.001	0.0051	mg/L	-0.609	5.1419	mg/kg	844.95%
P 178.221	2.8	0.110	0.1349	mg/L	109.9	134.89	mg/kg	122.72%
Pb 220.353	8.0	0.024	0.0163	mg/L	23.83	16.296	mg/kg	68.37%
Sb 206.833	-42.2	-0.014	0.0278	mg/L	-13.58	27.839	mg/kg	204.93%
Se 196.026	2.5	0.005	0.0624	mg/L	5.424	62.4010	mg/kg	>999.9%
Si 251.611	579.1	-0.042	0.0012	mg/L	-41.99	1.159	mg/kg	2.76%
Sn 189.933	74.9	0.001	0.0136	mg/L	0.994	13.6104	mg/kg	>999.9%
Sr 407.771	-1912.5	0.000	0.0000	mg/L	-0.420	0.0362	mg/kg	8.62%
Ti 334.941	723.6	-0.003	0.0005	mg/L	-3.019	0.4502	mg/kg	14.91%
Tl 190.800	-0.4	-0.016	0.0418	mg/L	-16.40	41.812	mg/kg	254.97%
V 292.402	-21.1	0.002	0.0005	mg/L	1.939	0.4956	mg/kg	25.56%
Zn 206.200	16.3	0.001	0.0010	mg/L	1.093	0.9716	mg/kg	88.86%

Replicate Data

ID: 305317
Date: 5/20/02 16:38:52

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	526800.4	526800.4	101	mg/kg		
1 Y 360.064	272159.7	272159.7	103	mg/kg		
1 Ag 328.068	-71.8	-71.3	-0.024	mg/L	-2.402	mg/kg
1 Al 396.140	416369.9	413560.1	134.2	mg/L	13420	mg/kg
1 As 188.979	5.4	5.4	0.087	mg/L	8.749	mg/kg
1 B 249.773	4537.6	4507.0	0.163	mg/L	16.26	mg/kg
1 Ba 455.403	566357.9	562535.9	1.525	mg/L	152.5	mg/kg
1 Be 234.861	2323.1	2307.5	0.009	mg/L	0.854	mg/kg
1 Ca 315.887	638892.7	634581.2	65.19	mg/L	6519	mg/kg

1	Cd 214.438	97.7	97.1	-0.007 mg/L	-0.726 mg/kg
1	Co 228.616	320.6	318.4	0.075 mg/L	7.524 mg/kg
1	Cr 205.558	203.6	202.2	0.261 mg/L	26.12 mg/kg
1	Cu 324.764	1442.6	1432.9	0.089 mg/L	8.864 mg/kg
1	Fe 238.204	1503456.3	1493310.6	161.6 mg/L	16160 mg/kg
1	K 766.514	29584.5	29384.9	12.43 mg/L	1243 mg/kg
1	Li 670.781	9464.0	9400.1	0.078 mg/L	7.769 mg/kg
1	Mg 279.074	52748.1	52392.2	43.27 mg/L	4327 mg/kg
1	Mn 257.610	521895.2	518373.3	6.932 mg/L	693.2 mg/kg
1	Mo 202.031	51.2	50.9	0.018 mg/L	1.850 mg/kg
1	Na 588.995	87440.6	86850.6	0.784 mg/L	78.38 mg/kg
1	Ni 231.603	255.9	249.3	0.129 mg/L	12.87 mg/kg
1	P 178.221	58.9	58.5	2.792 mg/L	279.2 mg/kg
1	Pb 220.353	15.0	14.9	0.048 mg/L	4.807 mg/kg
1	Sb 206.833	-64.9	-64.4	-0.149 mg/L	-14.89 mg/kg
1	Se 196.026	13.0	12.9	0.149 mg/L	14.93 mg/kg
1	Si 251.611	68003.3	67544.4	16.83 mg/L	1683 mg/kg
1	Sn 189.933	86.4	85.8	-0.215 mg/L	-21.46 mg/kg
1	Sr 407.771	205884.2	204494.8	0.253 mg/L	25.32 mg/kg
1	Ti 334.941	310818.6	308721.1	3.215 mg/L	321.5 mg/kg
1	Tl 190.800	-0.6	-0.6	0.044 mg/L	4.373 mg/kg
1	V 292.402	4681.7	4650.1	0.344 mg/L	34.40 mg/kg
1	Zn 206.200	792.7	787.3	0.388 mg/L	38.81 mg/kg
2	Sc 357.253	523665.7	523665.7	100 mg/kg	
2	Y 360.064	270485.9	270485.9	102 mg/kg	
2	Ag 328.068	-27.6	-27.6	-0.022 mg/L	-2.172 mg/kg
2	Al 396.140	417607.1	417271.8	135.4 mg/L	13540 mg/kg
2	As 188.979	-16.2	-16.2	-0.081 mg/L	-8.139 mg/kg
2	B 249.773	4541.7	4538.0	0.164 mg/L	16.39 mg/kg
2	Ba 455.403	567364.6	566909.2	1.537 mg/L	153.7 mg/kg
2	Be 234.861	2343.1	2341.3	0.009 mg/L	0.874 mg/kg
2	Ca 315.887	641086.8	640572.1	65.81 mg/L	6581 mg/kg
2	Cd 214.438	109.0	108.9	-0.005 mg/L	-0.535 mg/kg
2	Co 228.616	312.7	312.4	0.073 mg/L	7.345 mg/kg
2	Cr 205.558	197.0	196.8	0.257 mg/L	25.67 mg/kg
2	Cu 324.764	1399.4	1398.3	0.086 mg/L	8.637 mg/kg
2	Fe 238.204	1508635.3	1507424.2	163.1 mg/L	16310 mg/kg
2	K 766.514	29366.7	29343.1	12.41 mg/L	1241 mg/kg
2	Li 670.781	9159.6	9152.3	0.076 mg/L	7.571 mg/kg
2	Mg 279.074	52660.8	52618.5	43.45 mg/L	4345 mg/kg
2	Mn 257.610	523096.9	522677.0	6.990 mg/L	699.0 mg/kg
2	Mo 202.031	53.7	53.6	0.023 mg/L	2.258 mg/kg
2	Na 588.995	87761.8	87691.4	0.834 mg/L	83.41 mg/kg
2	Ni 231.603	280.5	275.0	0.142 mg/L	14.19 mg/kg
2	P 178.221	62.0	62.0	2.961 mg/L	296.1 mg/kg
2	Pb 220.353	31.3	31.3	0.106 mg/L	10.56 mg/kg
2	Sb 206.833	-73.0	-73.0	-0.201 mg/L	-20.07 mg/kg
2	Se 196.026	4.0	4.0	0.026 mg/L	2.607 mg/kg
2	Si 251.611	67875.2	67820.7	16.90 mg/L	1690 mg/kg
2	Sn 189.933	81.0	80.9	-0.244 mg/L	-24.44 mg/kg
2	Sr 407.771	206171.8	206006.3	0.255 mg/L	25.50 mg/kg
2	Ti 334.941	311424.6	311174.6	3.240 mg/L	324.0 mg/kg
2	Tl 190.800	3.6	3.6	0.155 mg/L	15.49 mg/kg
2	V 292.402	4646.5	4642.8	0.343 mg/L	34.35 mg/kg
2	Zn 206.200	803.2	802.5	0.396 mg/L	39.58 mg/kg

Mean Data ----------

ID: 305317 Seq. No.: 42 Sample No.: 21 A/S Pos: 37

Sample Qty: 0.5000 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 16:38:52

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	525233.0	100	0.4	mg/kg				0.42%
Y 360.064	271322.8	102	0.4	mg/kg				0.44%
Ag 328.068	-49.5	-0.023	0.0016	mg/L	-2.287	0.1626	mg/kg	7.11%
Al 396.140	415416.0	134.8	0.85	mg/L	13480	85.2	mg/kg	0.63%
As 188.979	-5.4	0.003	0.1194	mg/L	0.305	11.9415	mg/kg	>999.9%
B 249.773	4522.5	0.163	0.0009	mg/L	16.33	0.094	mg/kg	0.58%
Ba 455.403	564722.5	1.531	0.0084	mg/L	153.1	0.84	mg/kg	0.55%
Be 234.861	2324.4	0.009	0.0001	mg/L	0.864	0.0138	mg/kg	1.60%

Ca 315.887	637576.7	65.50	0.436 mg/L	6550	43.6 mg/kg	0.67%
Cd 214.438	103.0	-0.006	0.0013 mg/L	-0.631	0.1349 mg/kg	21.40%
Co 228.616	315.4	0.074	0.0013 mg/L	7.434	0.1265 mg/kg	1.70%
Cr 205.558	199.5	0.259	0.0032 mg/L	25.90	0.319 mg/kg	1.23%
Cu 324.764	1415.6	0.088	0.0016 mg/L	8.750	0.1607 mg/kg	1.84%
Fe 238.204	1500367.4	162.4	1.08 mg/L	16240	108.0 mg/kg	0.67%
K 766.514	29364.0	12.42	0.011 mg/L	1242	1.1 mg/kg	0.09%
Li 670.781	9276.2	0.077	0.0014 mg/L	7.670	0.1400 mg/kg	1.83%
Mg 279.074	52505.3	43.36	0.132 mg/L	4336	13.2 mg/kg	0.30%
Mn 257.610	520525.1	6.961	0.0407 mg/L	696.1	4.07 mg/kg	0.58%
Mo 202.031	52.2	0.021	0.0029 mg/L	2.054	0.2885 mg/kg	14.05%
Na 588.995	87271.0	0.809	0.0356 mg/L	80.89	3.557 mg/kg	4.40%
Ni 231.603	262.2	0.135	0.0093 mg/L	13.53	0.934 mg/kg	6.90%
P 178.221	60.2	2.876	0.1195 mg/L	287.6	11.95 mg/kg	4.16%
Pb 220.353	23.1	0.077	0.0407 mg/L	7.685	4.0700 mg/kg	52.96%
Sb 206.833	-68.7	-0.175	0.0367 mg/L	-17.48	3.668 mg/kg	20.98%
Se 196.026	8.4	0.088	0.0871 mg/L	8.767	8.7114 mg/kg	99.36%
Si 251.611	67682.5	16.86	0.049 mg/L	1686	4.9 mg/kg	0.29%
Sn 189.933	83.4	-0.230	0.0211 mg/L	-22.95	2.108 mg/kg	9.19%
Sr 407.771	205250.6	0.254	0.0013 mg/L	25.41	0.131 mg/kg	0.52%
Ti 334.941	309947.9	3.228	0.0181 mg/L	322.8	1.81 mg/kg	0.56%
Tl 190.800	1.5	0.099	0.0786 mg/L	9.932	7.8622 mg/kg	79.16%
V 292.402	4646.5	0.344	0.0004 mg/L	34.37	0.038 mg/kg	0.11%
Zn 206.200	794.9	0.392	0.0054 mg/L	39.20	0.540 mg/kg	1.38%

Replicate Data ---------- Date: 5/20/02 16:43:08

ID: 305318

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	538244.0	538244.0	103	mg/kg		
1	Y 360.064	277145.6	277145.6	105	mg/kg		
1	Ag 328.068	-48.7	-47.4	-0.023	mg/L	-2.275	mg/kg
1	Al 396.140	235060.6	228510.4	74.19	mg/L	7416	mg/kg
1	As 188.979	-1.1	-1.1	0.037	mg/L	3.668	mg/kg
1	B 249.773	3054.7	2969.5	0.074	mg/L	7.407	mg/kg
1	Ba 455.403	275041.4	267377.1	0.725	mg/L	72.42	mg/kg
1	Be 234.861	1441.2	1401.0	0.005	mg/L	0.545	mg/kg
1	Ca 315.887	100893.0	98081.6	9.994	mg/L	999.0	mg/kg
1	Cd 214.438	42.1	40.9	-0.004	mg/L	-0.446	mg/kg
1	Co 228.616	193.6	188.2	0.051	mg/L	5.075	mg/kg
1	Cr 205.558	129.2	125.6	0.150	mg/L	15.00	mg/kg
1	Cu 324.764	880.6	856.1	0.056	mg/L	5.568	mg/kg
1	Fe 238.204	977386.0	950150.3	102.8	mg/L	10280	mg/kg
1	K 766.514	15831.8	15390.6	7.020	mg/L	701.7	mg/kg
1	Li 670.781	4831.9	4697.2	0.040	mg/L	4.010	mg/kg
1	Mg 279.074	18653.6	18133.8	14.97	mg/L	1496	mg/kg
1	Mn 257.610	232016.7	225551.4	3.016	mg/L	301.4	mg/kg
1	Mo 202.031	54.8	53.3	0.022	mg/L	2.214	mg/kg
1	Na 588.995	80805.6	78553.8	0.287	mg/L	28.73	mg/kg
1	Ni 231.603	167.5	160.3	0.083	mg/L	8.285	mg/kg
1	P 178.221	40.3	39.1	1.861	mg/L	186.0	mg/kg
1	Pb 220.353	7.6	7.4	0.022	mg/L	2.165	mg/kg
1	Sb 206.833	-58.7	-57.0	-0.104	mg/L	-10.37	mg/kg
1	Se 196.026	5.2	5.0	0.041	mg/L	4.092	mg/kg
1	Si 251.611	65911.6	64074.9	16.07	mg/L	1607	mg/kg
1	Sn 189.933	80.9	78.6	-0.132	mg/L	-13.19	mg/kg
1	Sr 407.771	82352.1	80057.2	0.100	mg/L	10.02	mg/kg
1	Ti 334.941	197369.5	191869.6	1.989	mg/L	198.9	mg/kg
1	Tl 190.800	-2.0	-1.9	-0.016	mg/L	-1.552	mg/kg
1	V 292.402	2921.4	2840.0	0.211	mg/L	21.14	mg/kg
1	Zn 206.200	451.8	439.2	0.213	mg/L	21.33	mg/kg
2	Sc 357.253	533687.2	533687.2	102	mg/kg		
2	Y 360.064	274670.4	274670.4	104	mg/kg		
2	Ag 328.068	92.2	90.4	-0.016	mg/L	-1.551	mg/kg
2	Al 396.140	234746.2	230153.3	74.73	mg/L	7470	mg/kg
2	As 188.979	-6.1	-6.0	-0.002	mg/L	-0.169	mg/kg
2	B 249.773	3046.5	2986.9	0.075	mg/L	7.475	mg/kg
2	Ba 455.403	274581.1	269208.8	0.729	mg/L	72.92	mg/kg
2	Be 234.861	1426.8	1398.8	0.005	mg/L	0.535	mg/kg

2 Ca 315.887	100540.3	98573.2	10.04 mg/L	1004 mg/kg
2 Cd 214.438	49.5	48.5	-0.003 mg/L	-0.323 mg/kg
2 Co 228.616	193.4	189.6	0.051 mg/L	5.115 mg/kg
2 Cr 205.558	125.5	123.1	0.148 mg/L	14.80 mg/kg
2 Cu 324.764	874.9	857.8	0.056 mg/L	5.579 mg/kg
2 Fe 238.204	977652.2	958524.1	103.7 mg/L	10370 mg/kg
2 K 766.514	15767.4	15458.9	7.046 mg/L	704.3 mg/kg
2 Li 670.781	5014.1	4916.0	0.042 mg/L	4.185 mg/kg
2 Mg 279.074	18504.2	18142.1	14.98 mg/L	1497 mg/kg
2 Mn 257.610	232097.0	227555.9	3.042 mg/L	304.1 mg/kg
2 Mo 202.031	47.8	46.9	0.013 mg/L	1.265 mg/kg
2 Na 588.995	80946.5	79362.8	0.336 mg/L	33.56 mg/kg
2 Ni 231.603	178.8	172.6	0.089 mg/L	8.919 mg/kg
2 P 178.221	38.9	38.1	1.812 mg/L	181.1 mg/kg
2 Pb 220.353	10.5	10.3	0.032 mg/L	3.163 mg/kg
2 Sb 206.833	-65.0	-63.8	-0.145 mg/L	-14.46 mg/kg
2 Se 196.026	8.0	7.9	0.080 mg/L	7.989 mg/kg
2 Si 251.611	65748.3	64461.9	16.17 mg/L	1617 mg/kg
2 Sn 189.933	89.7	88.0	-0.075 mg/L	-7.504 mg/kg
2 Sr 407.771	82200.4	80592.1	0.101 mg/L	10.09 mg/kg
2 Ti 334.941	196764.0	192914.3	2.000 mg/L	200.0 mg/kg
2 Tl 190.800	1.0	1.0	0.063 mg/L	6.301 mg/kg
2 V 292.402	2959.6	2901.7	0.216 mg/L	21.59 mg/kg
2 Zn 206.200	451.6	442.8	0.215 mg/L	21.51 mg/kg

Mean Data ----------

ID: 305318
Sample Qty: 0.5002 g
Seq. No.: 43 Sample No.: 22
Prep. Vol.: 50.0 mL
Data: Original
A/S Pos: 38
Dilution: 1.0: 1.0
Date: 5/20/02 16:43:08

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Std.Dev.	Sample Units	RSD
Sc 357.253	535965.6	102	0.6	mg/kg				0.60%
Y 360.064	275908.0	104	0.7	mg/kg				0.63%
Ag 328.068	21.5	-0.019	0.0051	mg/L	-1.913	0.5124	mg/kg	26.79%
Al 396.140	229331.8	74.46	0.377	mg/L	7443	37.7	mg/kg	0.51%
As 188.979	-3.6	0.018	0.0271	mg/L	1.749	2.7130	mg/kg	155.08%
B 249.773	2978.2	0.074	0.0005	mg/L	7.441	0.0481	mg/kg	0.65%
Ba 455.403	268293.0	0.727	0.0035	mg/L	72.67	0.352	mg/kg	0.48%
Be 234.861	1399.9	0.005	0.0001	mg/L	0.540	0.0071	mg/kg	1.32%
Ca 315.887	98327.4	10.02	0.036	mg/L	1002	3.6	mg/kg	0.36%
Cd 214.438	44.7	-0.004	0.0009	mg/L	-0.384	0.0867	mg/kg	22.54%
Co 228.616	188.9	0.051	0.0003	mg/L	5.095	0.0281	mg/kg	0.55%
Cr 205.558	124.3	0.149	0.0014	mg/L	14.90	0.144	mg/kg	0.97%
Cu 324.764	857.0	0.056	0.0001	mg/L	5.573	0.0078	mg/kg	0.14%
Fe 238.204	954337.2	103.3	0.64	mg/L	10320	64.1	mg/kg	0.62%
K 766.514	15424.8	7.033	0.0187	mg/L	703.0	1.87	mg/kg	0.27%
Li 670.781	4806.6	0.041	0.0012	mg/L	4.098	0.1235	mg/kg	3.01%
Mg 279.074	18138.0	14.97	0.005	mg/L	1497	0.5	mg/kg	0.03%
Mn 257.610	226553.6	3.029	0.0190	mg/L	302.8	1.90	mg/kg	0.63%
Mo 202.031	50.1	0.017	0.0067	mg/L	1.739	0.6706	mg/kg	38.55%
Na 588.995	78958.3	0.312	0.0342	mg/L	31.15	3.421	mg/kg	10.98%
Ni 231.603	166.5	0.086	0.0045	mg/L	8.602	0.4483	mg/kg	5.21%
P 178.221	38.6	1.836	0.0345	mg/L	183.6	3.44	mg/kg	1.88%
Pb 220.353	8.8	0.027	0.0071	mg/L	2.664	0.7054	mg/kg	26.48%
Sb 206.833	-60.4	-0.124	0.0290	mg/L	-12.42	2.895	mg/kg	23.32%
Se 196.026	6.5	0.060	0.0276	mg/L	6.041	2.7558	mg/kg	45.62%
Si 251.611	64268.4	16.12	0.070	mg/L	1612	7.0	mg/kg	0.43%
Sn 189.933	83.3	-0.104	0.0402	mg/L	-10.35	4.019	mg/kg	38.84%
Sr 407.771	80324.7	0.101	0.0005	mg/L	10.06	0.046	mg/kg	0.46%
Ti 334.941	192391.9	1.995	0.0077	mg/L	199.4	0.77	mg/kg	0.39%
Tl 190.800	-0.5	0.024	0.0555	mg/L	2.375	5.5527	mg/kg	233.85%
V 292.402	2870.8	0.214	0.0032	mg/L	21.36	0.319	mg/kg	1.50%
Zn 206.200	441.0	0.214	0.0013	mg/L	21.42	0.126	mg/kg	0.59%

Replicate Data ----------

ID: 305319
Date: 5/20/02 16:47:23

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	522550.0	522550.0	100	mg/kg		

1 Y 360.064	269397.1	269397.1	102 mg/kg	
1 Ag 328.068	-5.4	-5.4	-0.021 mg/L	-2.054 mg/kg
1 Al 396.140	324726.7	325158.7	105.6 mg/L	10550 mg/kg
1 As 188.979	17.9	17.9	0.185 mg/L	18.52 mg/kg
1 B 249.773	3869.1	3874.2	0.130 mg/L	12.97 mg/kg
1 Ba 455.403	335655.8	336102.5	0.912 mg/L	91.19 mg/kg
1 Be 234.861	1884.9	1887.4	0.007 mg/L	0.688 mg/kg
1 Ca 315.887	154910.7	155116.8	15.86 mg/L	1586 mg/kg
1 Cd 214.438	81.0	81.1	-0.003 mg/L	-0.327 mg/kg
1 Co 228.616	256.1	256.4	0.065 mg/L	6.452 mg/kg
1 Cr 205.558	166.1	166.3	0.206 mg/L	20.59 mg/kg
1 Cu 324.764	1117.5	1119.0	0.071 mg/L	7.054 mg/kg
1 Fe 238.204	1243075.7	1244729.7	134.7 mg/L	13470 mg/kg
1 K 766.514	22815.6	22846.0	9.901 mg/L	989.7 mg/kg
1 Li 670.781	7072.5	7082.0	0.059 mg/L	5.914 mg/kg
1 Mg 279.074	25522.7	25556.7	21.10 mg/L	2109 mg/kg
1 Mn 257.610	349531.6	349996.7	4.680 mg/L	467.8 mg/kg
1 Mo 202.031	50.2	50.3	0.018 mg/L	1.768 mg/kg
1 Na 588.995	82937.6	83047.9	0.556 mg/L	55.60 mg/kg
1 Ni 231.603	243.8	240.0	0.124 mg/L	12.38 mg/kg
1 P 178.221	43.9	44.0	2.093 mg/L	209.2 mg/kg
1 Pb 220.353	28.3	28.3	0.095 mg/L	9.511 mg/kg
1 Sb 206.833	-56.4	-56.5	-0.101 mg/L	-10.05 mg/kg
1 Se 196.026	-0.0	-0.0	-0.029 mg/L	-2.861 mg/kg
1 Si 251.611	68796.5	68888.1	17.27 mg/L	1727 mg/kg
1 Sn 189.933	87.6	87.7	-0.140 mg/L	-14.01 mg/kg
1 Sr 407.771	113703.8	113855.1	0.142 mg/L	14.17 mg/kg
1 Ti 334.941	257384.1	257726.6	2.677 mg/L	267.6 mg/kg
1 Tl 190.800	1.3	1.3	0.084 mg/L	8.385 mg/kg
1 V 292.402	3998.2	4003.5	0.297 mg/L	29.65 mg/kg
1 Zn 206.200	612.4	613.2	0.301 mg/L	30.06 mg/kg
2 Sc 357.253	522382.3	522382.3	100 mg/kg	
2 Y 360.064	269355.9	269355.9	102 mg/kg	
2 Ag 328.068	-15.1	-15.1	-0.021 mg/L	-2.106 mg/kg
2 Al 396.140	327601.2	328142.5	106.5 mg/L	10650 mg/kg
2 As 188.979	-1.5	-1.5	0.033 mg/L	3.327 mg/kg
2 B 249.773	3845.9	3852.3	0.126 mg/L	12.59 mg/kg
2 Ba 455.403	338372.8	338931.9	0.920 mg/L	91.96 mg/kg
2 Be 234.861	1902.1	1905.2	0.007 mg/L	0.696 mg/kg
2 Ca 315.887	156029.0	156286.8	15.98 mg/L	1598 mg/kg
2 Cd 214.438	82.3	82.4	-0.003 mg/L	-0.337 mg/kg
2 Co 228.616	257.0	257.4	0.065 mg/L	6.475 mg/kg
2 Cr 205.558	171.0	171.3	0.211 mg/L	21.13 mg/kg
2 Cu 324.764	1166.0	1168.0	0.074 mg/L	7.369 mg/kg
2 Fe 238.204	1252534.0	1254603.4	135.8 mg/L	13570 mg/kg
2 K 766.514	23337.9	23376.5	10.11 mg/L	1010 mg/kg
2 Li 670.781	7362.6	7374.8	0.062 mg/L	6.148 mg/kg
2 Mg 279.074	25887.8	25930.6	21.41 mg/L	2140 mg/kg
2 Mn 257.610	352188.3	352770.1	4.717 mg/L	471.5 mg/kg
2 Mo 202.031	51.3	51.4	0.019 mg/L	1.930 mg/kg
2 Na 588.995	83138.0	83275.3	0.570 mg/L	56.96 mg/kg
2 Ni 231.603	243.7	240.0	0.124 mg/L	12.38 mg/kg
2 P 178.221	39.7	39.8	1.892 mg/L	189.1 mg/kg
2 Pb 220.353	25.6	25.7	0.086 mg/L	8.592 mg/kg
2 Sb 206.833	-55.0	-55.1	-0.092 mg/L	-9.178 mg/kg
2 Se 196.026	6.1	6.2	0.056 mg/L	5.610 mg/kg
2 Si 251.611	70000.6	70116.3	17.58 mg/L	1758 mg/kg
2 Sn 189.933	88.3	88.5	-0.139 mg/L	-13.87 mg/kg
2 Sr 407.771	114666.1	114855.5	0.143 mg/L	14.30 mg/kg
2 Ti 334.941	259223.1	259651.4	2.697 mg/L	269.6 mg/kg
2 Tl 190.800	4.0	4.1	0.157 mg/L	15.72 mg/kg
2 V 292.402	4015.1	4021.7	0.298 mg/L	29.79 mg/kg
2 Zn 206.200	612.6	613.6	0.301 mg/L	30.08 mg/kg

Mean Data ID: 305319 Sample Qty: 0.5002 g
Seq. No.: 44 Prep. Vol.: Data: Original
Sample No.: 23 50.0 mL
A/S Pos: 39 Dilution: 1.0: 1.0 Date: 5/20/02 16:47:23

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Std.Dev.	Sample Units	RSD

Sc 357.253	522466.2	100	0.0 mg/kg			0.02%
Y 360.064	269376.5	102	0.0 mg/kg			0.01%
Ag 328.068	-10.3	-0.021	0.0004 mg/L	-2.080	0.0363 mg/kg	1.75%
Al 396.140	326650.6	106.0	0.68 mg/L	10600	68.4 mg/kg	0.65%
As 188.979	8.2	0.109	0.1075 mg/L	10.92	10.744 mg/kg	98.35%
B 249.773	3863.3	0.128	0.0027 mg/L	12.78	0.268 mg/kg	2.10%
Ba 455.403	337517.2	0.916	0.0054 mg/L	91.58	0.544 mg/kg	0.59%
Be 234.861	1896.3	0.007	0.0001 mg/L	0.692	0.0055 mg/kg	0.80%
Ca 315.887	155701.8	15.92	0.085 mg/L	1592	8.5 mg/kg	0.53%
Cd 214.438	81.8	-0.003	0.0001 mg/L	-0.332	0.0071 mg/kg	2.14%
Co 228.616	256.9	0.065	0.0002 mg/L	6.464	0.0159 mg/kg	0.25%
Cr 205.558	168.8	0.209	0.0038 mg/L	20.86	0.383 mg/kg	1.84%
Cu 324.764	1143.5	0.072	0.0022 mg/L	7.211	0.2232 mg/kg	3.10%
Fe 238.204	1249666.6	135.2	0.76 mg/L	13520	75.5 mg/kg	0.56%
K 766.514	23111.2	10.00	0.145 mg/L	999.9	14.49 mg/kg	1.45%
Li 670.781	7228.4	0.060	0.0017 mg/L	6.031	0.1653 mg/kg	2.74%
Mg 279.074	25743.6	21.26	0.218 mg/L	2125	21.8 mg/kg	1.03%
Mn 257.610	351383.4	4.699	0.0262 mg/L	469.7	2.62 mg/kg	0.56%
Mo 202.031	50.9	0.018	0.0011 mg/L	1.849	0.1146 mg/kg	6.20%
Na 588.995	83161.6	0.563	0.0096 mg/L	56.28	0.962 mg/kg	1.71%
Ni 231.603	240.0	0.124	0.0000 mg/L	12.38	0.001 mg/kg	0.01%
P 178.221	41.9	1.992	0.1420 mg/L	199.2	14.20 mg/kg	7.13%
Pb 220.353	27.0	0.091	0.0065 mg/L	9.052	0.6500 mg/kg	7.18%
Sb 206.833	-55.8	-0.096	0.0062 mg/L	-9.616	0.6192 mg/kg	6.44%
Se 196.026	3.1	0.014	0.0599 mg/L	1.374	5.9896 mg/kg	435.82%
Si 251.611	69502.2	17.43	0.220 mg/L	1742	22.0 mg/kg	1.26%
Sn 189.933	88.1	-0.139	0.0010 mg/L	-13.94	0.103 mg/kg	0.74%
Sr 407.771	114355.3	0.142	0.0009 mg/L	14.24	0.087 mg/kg	0.61%
Ti 334.941	258689.0	2.687	0.0146 mg/L	268.6	1.46 mg/kg	0.54%
Tl 190.800	2.7	0.121	0.0519 mg/L	12.05	5.188 mg/kg	43.04%
V 292.402	4012.6	0.297	0.0009 mg/L	29.72	0.094 mg/kg	0.32%
Zn 206.200	613.4	0.301	0.0002 mg/L	30.07	0.015 mg/kg	0.05%

Replicate Data ----------

ID: 305320 Date: 5/20/02 16:51:36

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	519047.8	519047.8	99	mg/kg		
1	Y 360.064	268219.6	268219.6	101	mg/kg		
1	Ag 328.068	-22.4	-22.5	-0.021	mg/L	-2.145	mg/kg
1	Al 396.140	376566.6	379611.9	123.2	mg/L	12320	mg/kg
1	As 188.979	6.7	6.8	0.098	mg/L	9.801	mg/kg
1	B 249.773	4553.2	4590.0	0.167	mg/L	16.70	mg/kg
1	Ba 455.403	466000.5	469769.1	1.275	mg/L	127.5	mg/kg
1	Be 234.861	2343.2	2362.1	0.009	mg/L	0.885	mg/kg
1	Ca 315.887	526467.4	530725.0	54.51	mg/L	5450	mg/kg
1	Cd 214.438	105.5	106.4	-0.006	mg/L	-0.575	mg/kg
1	Co 228.616	264.1	266.2	0.061	mg/L	6.128	mg/kg
1	Cr 205.558	192.7	194.3	0.253	mg/L	25.27	mg/kg
1	Cu 324.764	5208.4	5250.5	0.337	mg/L	33.69	mg/kg
1	Fe 238.204	1513060.9	1525297.1	165.1	mg/L	16500	mg/kg
1	K 766.514	35319.2	35604.8	14.83	mg/L	1483	mg/kg
1	Li 670.781	8587.1	8656.5	0.072	mg/L	7.173	mg/kg
1	Mg 279.074	54998.3	55443.1	45.79	mg/L	4578	mg/kg
1	Mn 257.610	384713.4	387824.6	5.186	mg/L	518.5	mg/kg
1	Mo 202.031	57.7	58.2	0.029	mg/L	2.933	mg/kg
1	Na 588.995	89070.5	89790.8	0.960	mg/L	95.95	mg/kg
1	Ni 231.603	269.1	266.1	0.137	mg/L	13.73	mg/kg
1	P 178.221	60.4	60.8	2.906	mg/L	290.5	mg/kg
1	Pb 220.353	34.8	35.1	0.119	mg/L	11.90	mg/kg
1	Sb 206.833	-75.1	-75.7	-0.217	mg/L	-21.74	mg/kg
1	Se 196.026	12.9	13.0	0.151	mg/L	15.08	mg/kg
1	Si 251.611	72028.9	72611.4	18.11	mg/L	1810	mg/kg
1	Sn 189.933	82.2	82.9	-0.286	mg/L	-28.58	mg/kg
1	Sr 407.771	145039.2	146212.1	0.182	mg/L	18.15	mg/kg
1	Ti 334.941	298691.2	301106.7	3.135	mg/L	313.4	mg/kg
1	Tl 190.800	4.9	4.9	0.192	mg/L	19.16	mg/kg
1	V 292.402	4816.4	4855.4	0.359	mg/L	35.89	mg/kg
1	Zn 206.200	706.8	712.5	0.351	mg/L	35.05	mg/kg

2 Sc 357.253	517287.0	517287.0	99	mg/kg	
2 Y 360.064	267523.2	267523.2	101	mg/kg	
2 Ag 328.068	-16.5	-16.7	-0.021	mg/L	-2.114 mg/kg
2 Al 396.140	378275.2	382632.4	124.2	mg/L	12420 mg/kg
2 As 188.979	13.1	13.2	0.149	mg/L	14.88 mg/kg
2 B 249.773	4537.3	4589.6	0.166	mg/L	16.56 mg/kg
2 Ba 455.403	467760.2	473148.1	1.284	mg/L	128.4 mg/kg
2 Be 234.861	2365.3	2392.5	0.009	mg/L	0.906 mg/kg
2 Ca 315.887	528107.0	534190.0	54.86	mg/L	5485 mg/kg
2 Cd 214.438	116.8	118.2	-0.004	mg/L	-0.385 mg/kg
2 Co 228.616	255.5	258.4	0.059	mg/L	5.900 mg/kg
2 Cr 205.558	199.5	201.8	0.261	mg/L	26.07 mg/kg
2 Cu 324.764	5194.1	5254.0	0.337	mg/L	33.71 mg/kg
2 Fe 238.204	1517126.4	1534601.5	166.1	mg/L	16600 mg/kg
2 K 766.514	35700.6	36111.9	15.03	mg/L	1502 mg/kg
2 Li 670.781	8696.4	8796.6	0.073	mg/L	7.285 mg/kg
2 Mg 279.074	55492.6	56131.8	46.36	mg/L	4635 mg/kg
2 Mn 257.610	385868.6	390313.3	5.220	mg/L	521.8 mg/kg
2 Mo 202.031	51.9	52.5	0.021	mg/L	2.091 mg/kg
2 Na 588.995	88808.3	89831.3	0.962	mg/L	96.19 mg/kg
2 Ni 231.603	289.2	286.7	0.148	mg/L	14.79 mg/kg
2 P 178.221	57.2	57.9	2.763	mg/L	276.3 mg/kg
2 Pb 220.353	27.0	27.3	0.092	mg/L	9.177 mg/kg
2 Sb 206.833	-71.8	-72.6	-0.199	mg/L	-19.86 mg/kg
2 Se 196.026	12.8	12.9	0.149	mg/L	14.94 mg/kg
2 Si 251.611	72441.1	73275.5	18.27	mg/L	1827 mg/kg
2 Sn 189.933	77.6	78.5	-0.317	mg/L	-31.74 mg/kg
2 Sr 407.771	145513.9	147190.0	0.183	mg/L	18.27 mg/kg
2 Ti 334.941	299894.9	303349.3	3.158	mg/L	315.7 mg/kg
2 Tl 190.800	0.9	0.9	0.084	mg/L	8.414 mg/kg
2 V 292.402	4879.8	4936.1	0.365	mg/L	36.49 mg/kg
2 Zn 206.200	688.7	696.7	0.343	mg/L	34.26 mg/kg

Mean Data

ID: 305320 Seq. No.: 45 Sample No.: 24 A/S Pos: 40
Sample Qty: 0.5001 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 16:51:36

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Std.Dev.	Sample Units	RSD
Sc 357.253	518167.4	99	0.2	mg/kg				0.24%
Y 360.064	267871.4	101	0.2	mg/kg				0.18%
Ag 328.068	-19.6	-0.021	0.0002	mg/L	-2.130	0.0216	mg/kg	1.01%
Al 396.140	381122.1	123.7	0.69	mg/L	12370	69.3	mg/kg	0.56%
As 188.979	10.0	0.123	0.0359	mg/L	12.34	3.589	mg/kg	29.09%
B 249.773	4589.8	0.166	0.0010	mg/L	16.63	0.098	mg/kg	0.59%
Ba 455.403	471458.6	1.280	0.0065	mg/L	128.0	0.65	mg/kg	0.51%
Be 234.861	2377.3	0.009	0.0001	mg/L	0.895	0.0148	mg/kg	1.65%
Ca 315.887	532457.5	54.68	0.252	mg/L	5467	25.2	mg/kg	0.46%
Cd 214.438	112.3	-0.005	0.0013	mg/L	-0.480	0.1344	mg/kg	27.99%
Co 228.616	262.3	0.060	0.0016	mg/L	6.014	0.1612	mg/kg	2.68%
Cr 205.558	198.1	0.257	0.0056	mg/L	25.67	0.561	mg/kg	2.19%
Cu 324.764	5252.2	0.337	0.0001	mg/L	33.70	0.012	mg/kg	0.03%
Fe 238.204	1529949.3	165.6	0.71	mg/L	16550	71.2	mg/kg	0.43%
K 766.514	35858.3	14.93	0.139	mg/L	1493	13.9	mg/kg	0.93%
Li 670.781	8726.5	0.072	0.0008	mg/L	7.229	0.0791	mg/kg	1.09%
Mg 279.074	55787.5	46.07	0.402	mg/L	4606	40.2	mg/kg	0.87%
Mn 257.610	389068.9	5.203	0.0235	mg/L	520.2	2.35	mg/kg	0.45%
Mo 202.031	55.3	0.025	0.0060	mg/L	2.512	0.5957	mg/kg	23.71%
Na 588.995	89811.0	0.961	0.0017	mg/L	96.07	0.171	mg/kg	0.18%
Ni 231.603	276.4	0.143	0.0075	mg/L	14.26	0.749	mg/kg	5.26%
P 178.221	59.4	2.834	0.1007	mg/L	283.4	10.07	mg/kg	3.55%
Pb 220.353	31.2	0.105	0.0192	mg/L	10.54	1.924	mg/kg	18.26%
Sb 206.833	-74.2	-0.208	0.0133	mg/L	-20.80	1.334	mg/kg	6.41%
Se 196.026	13.0	0.150	0.0010	mg/L	15.01	0.100	mg/kg	0.66%
Si 251.611	72943.5	18.19	0.118	mg/L	1819	11.8	mg/kg	0.65%
Sn 189.933	80.7	-0.302	0.0223	mg/L	-30.16	2.230	mg/kg	7.39%
Sr 407.771	146701.1	0.182	0.0008	mg/L	18.21	0.085	mg/kg	0.47%
Ti 334.941	302228.0	3.146	0.0166	mg/L	314.6	1.66	mg/kg	0.53%
Tl 190.800	2.9	0.138	0.0760	mg/L	13.79	7.601	mg/kg	55.12%
V 292.402	4895.7	0.362	0.0042	mg/L	36.19	0.418	mg/kg	1.15%
Zn 206.200	704.6	0.347	0.0056	mg/L	34.65	0.561	mg/kg	1.62%

Replicate Data
ID: 305321 Date: 5/20/02 16:55:46

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	507044.1	507044.1	97	mg/kg		
1	Y 360.064	261970.5	261970.5	99	mg/kg		
1	Ag 328.068	-93.5	-96.5	-0.025	mg/L	-2.537	mg/kg
1	Al 396.140	397349.4	410045.6	133.1	mg/L	13320	mg/kg
1	As 188.979	13.2	13.6	0.152	mg/L	15.19	mg/kg
1	B 249.773	4808.7	4962.4	0.192	mg/L	19.19	mg/kg
1	Ba 455.403	459899.5	474594.4	1.292	mg/L	129.4	mg/kg
1	Be 234.861	2503.2	2583.2	0.009	mg/L	0.912	mg/kg
1	Ca 315.887	1109019.8	1144455.6	117.7	mg/L	11780	mg/kg
1	Cd 214.438	117.3	121.0	-0.008	mg/L	-0.815	mg/kg
1	Co 228.616	338.9	349.7	0.084	mg/L	8.388	mg/kg
1	Cr 205.558	212.9	219.7	0.290	mg/L	28.99	mg/kg
1	Cu 324.764	2445.4	2523.6	0.156	mg/L	15.63	mg/kg
1	Fe 238.204	1583285.3	1633875.1	176.8	mg/L	17700	mg/kg
1	K 766.514	32075.1	33100.0	13.86	mg/L	1388	mg/kg
1	Li 670.781	9494.1	9797.4	0.081	mg/L	8.094	mg/kg
1	Mg 279.074	89960.3	92834.7	76.67	mg/L	7675	mg/kg
1	Mn 257.610	513787.1	530203.8	7.091	mg/L	709.8	mg/kg
1	Mo 202.031	41.3	42.6	0.006	mg/L	0.624	mg/kg
1	Na 588.995	92872.6	95840.1	1.322	mg/L	132.3	mg/kg
1	Ni 231.603	315.7	319.6	0.165	mg/L	16.50	mg/kg
1	P 178.221	62.9	65.0	3.103	mg/L	310.7	mg/kg
1	Pb 220.353	87.9	90.7	0.315	mg/L	31.53	mg/kg
1	Sb 206.833	-79.0	-81.6	-0.253	mg/L	-25.33	mg/kg
1	Se 196.026	10.1	10.4	0.114	mg/L	11.46	mg/kg
1	Si 251.611	82732.9	85376.5	21.22	mg/L	2124	mg/kg
1	Sn 189.933	79.7	82.3	-0.448	mg/L	-44.81	mg/kg
1	Sr 407.771	211337.4	218090.2	0.270	mg/L	27.01	mg/kg
1	Ti 334.941	314306.6	324349.5	3.384	mg/L	338.7	mg/kg
1	Tl 190.800	1.8	1.9	0.116	mg/L	11.59	mg/kg
1	V 292.402	5262.5	5430.7	0.401	mg/L	40.15	mg/kg
1	Zn 206.200	892.4	920.9	0.455	mg/L	45.56	mg/kg
2	Sc 357.253	506221.8	506221.8	97	mg/kg		
2	Y 360.064	261436.4	261436.4	99	mg/kg		
2	Ag 328.068	-7.5	-7.8	-0.021	mg/L	-2.070	mg/kg
2	Al 396.140	397747.0	411122.7	133.4	mg/L	13360	mg/kg
2	As 188.979	4.3	4.4	0.080	mg/L	8.000	mg/kg
2	B 249.773	4786.3	4947.2	0.190	mg/L	18.98	mg/kg
2	Ba 455.403	459803.0	475265.5	1.294	mg/L	129.5	mg/kg
2	Be 234.861	2505.3	2589.6	0.009	mg/L	0.915	mg/kg
2	Ca 315.887	1109102.9	1146400.5	117.9	mg/L	11800	mg/kg
2	Cd 214.438	133.3	137.8	-0.005	mg/L	-0.490	mg/kg
2	Co 228.616	335.7	347.0	0.083	mg/L	8.308	mg/kg
2	Cr 205.558	206.1	213.0	0.283	mg/L	28.35	mg/kg
2	Cu 324.764	2430.7	2512.5	0.155	mg/L	15.56	mg/kg
2	Fe 238.204	1583872.6	1637136.0	177.2	mg/L	17740	mg/kg
2	K 766.514	31451.7	32509.4	13.64	mg/L	1365	mg/kg
2	Li 670.781	9313.0	9626.2	0.079	mg/L	7.957	mg/kg
2	Mg 279.074	88698.5	91681.3	75.72	mg/L	7580	mg/kg
2	Mn 257.610	513762.8	531039.9	7.102	mg/L	710.9	mg/kg
2	Mo 202.031	51.2	53.0	0.022	mg/L	2.165	mg/kg
2	Na 588.995	92851.8	95974.3	1.330	mg/L	133.1	mg/kg
2	Ni 231.603	312.4	316.9	0.163	mg/L	16.36	mg/kg
2	P 178.221	65.4	67.6	3.228	mg/L	323.2	mg/kg
2	Pb 220.353	80.6	83.3	0.289	mg/L	28.91	mg/kg
2	Sb 206.833	-68.2	-70.5	-0.186	mg/L	-18.60	mg/kg
2	Se 196.026	15.0	15.5	0.185	mg/L	18.50	mg/kg
2	Si 251.611	81582.6	84326.2	20.95	mg/L	2097	mg/kg
2	Sn 189.933	76.1	78.7	-0.459	mg/L	-45.99	mg/kg
2	Sr 407.771	211271.8	218376.6	0.270	mg/L	27.05	mg/kg
2	Ti 334.941	314901.7	325491.4	3.396	mg/L	339.9	mg/kg
2	Tl 190.800	-0.5	-0.5	0.052	mg/L	5.233	mg/kg
2	V 292.402	5135.5	5308.2	0.392	mg/L	39.26	mg/kg
2	Zn 206.200	886.2	916.0	0.453	mg/L	45.32	mg/kg

Mean Data

ID: 305321 Seq. No.: 46 Sample No.: 25 A/S Pos: 41
Sample Qty: 0.4995 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 16:55:46

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Std.Dev.	Sample Units	RSD
Sc 357.253	506633.0	97	0.1	mg/kg				0.11%
Y 360.064	261703.4	99	0.1	mg/kg				0.14%
Ag 328.068	-52.1	-0.023	0.0033	mg/L	-2.303	0.3304	mg/kg	14.35%
Al 396.140	410584.1	133.3	0.25	mg/L	13340	24.7	mg/kg	0.19%
As 188.979	9.0	0.116	0.0508	mg/L	11.60	5.087	mg/kg	43.86%
B 249.773	4954.8	0.191	0.0015	mg/L	19.09	0.149	mg/kg	0.78%
Ba 455.403	474930.0	1.293	0.0013	mg/L	129.4	0.13	mg/kg	0.10%
Be 234.861	2586.4	0.009	0.0000	mg/L	0.914	0.0021	mg/kg	0.23%
Ca 315.887	1145428.1	117.8	0.14	mg/L	11790	14.2	mg/kg	0.12%
Cd 214.438	129.4	-0.007	0.0023	mg/L	-0.653	0.2295	mg/kg	35.17%
Co 228.616	348.3	0.083	0.0006	mg/L	8.348	0.0568	mg/kg	0.68%
Cr 205.558	216.3	0.286	0.0045	mg/L	28.67	0.451	mg/kg	1.57%
Cu 324.764	2518.0	0.156	0.0004	mg/L	15.59	0.044	mg/kg	0.28%
Fe 238.204	1635505.5	177.0	0.25	mg/L	17720	25.0	mg/kg	0.14%
K 766.514	32804.7	13.75	0.161	mg/L	1376	16.2	mg/kg	1.17%
Li 670.781	9711.8	0.080	0.0010	mg/L	8.026	0.0968	mg/kg	1.21%
Mg 279.074	92258.0	76.20	0.674	mg/L	7627	67.4	mg/kg	0.88%
Mn 257.610	530621.9	7.096	0.0079	mg/L	710.3	0.79	mg/kg	0.11%
Mo 202.031	47.8	0.014	0.0109	mg/L	1.394	1.0901	mg/kg	78.18%
Na 588.995	95907.2	1.326	0.0057	mg/L	132.7	0.57	mg/kg	0.43%
Ni 231.603	318.3	0.164	0.0010	mg/L	16.43	0.100	mg/kg	0.61%
P 178.221	66.3	3.166	0.0884	mg/L	316.9	8.85	mg/kg	2.79%
Pb 220.353	87.0	0.302	0.0185	mg/L	30.22	1.854	mg/kg	6.13%
Sb 206.833	-76.0	-0.219	0.0475	mg/L	-21.97	4.758	mg/kg	21.66%
Se 196.026	12.9	0.150	0.0498	mg/L	14.98	4.982	mg/kg	33.26%
Si 251.611	84851.3	21.08	0.186	mg/L	2111	18.6	mg/kg	0.88%
Sn 189.933	80.5	-0.454	0.0083	mg/L	-45.40	0.832	mg/kg	1.83%
Sr 407.771	218233.4	0.270	0.0002	mg/L	27.03	0.025	mg/kg	0.09%
Ti 334.941	324920.5	3.390	0.0084	mg/L	339.3	0.84	mg/kg	0.25%
Tl 190.800	0.7	0.084	0.0449	mg/L	8.411	4.4942	mg/kg	53.43%
V 292.402	5369.4	0.397	0.0063	mg/L	39.71	0.635	mg/kg	1.60%
Zn 206.200	918.4	0.454	0.0017	mg/L	45.44	0.175	mg/kg	0.38%

Replicate Data

ID: 305322 Date: 5/20/02 16:59:58

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	514196.1	514196.1	98	mg/kg		
1	Y 360.064	263661.6	263661.6	99	mg/kg		
1	Ag 328.068	-63.8	-64.9	-0.024	mg/L	-2.367	mg/kg
1	Al 396.140	322885.0	328567.4	106.6	mg/L	10660	mg/kg
1	As 188.979	15.0	15.3	0.164	mg/L	16.44	mg/kg
1	B 249.773	4249.4	4324.2	0.155	mg/L	15.46	mg/kg
1	Ba 455.403	342835.7	348869.2	0.955	mg/L	95.48	mg/kg
1	Be 234.861	2100.8	2137.8	0.006	mg/L	0.624	mg/kg
1	Ca 315.887	1597049.8	1625156.0	167.1	mg/L	16700	mg/kg
1	Cd 214.438	101.7	103.5	-0.007	mg/L	-0.718	mg/kg
1	Co 228.616	236.8	240.9	0.060	mg/L	6.013	mg/kg
1	Cr 205.558	178.3	181.4	0.246	mg/L	24.62	mg/kg
1	Cu 324.764	2001.8	2037.0	0.122	mg/L	12.15	mg/kg
1	Fe 238.204	1422544.6	1447579.8	156.7	mg/L	15660	mg/kg
1	K 766.514	28482.3	28983.6	12.27	mg/L	1227	mg/kg
1	Li 670.781	7699.7	7835.2	0.065	mg/L	6.516	mg/kg
1	Mg 279.074	123153.5	125320.8	103.5	mg/L	10350	mg/kg
1	Mn 257.610	436949.3	444639.2	5.946	mg/L	594.4	mg/kg
1	Mo 202.031	54.1	55.1	0.025	mg/L	2.472	mg/kg
1	Na 588.995	95128.8	96803.0	1.379	mg/L	137.9	mg/kg
1	Ni 231.603	265.0	266.6	0.138	mg/L	13.75	mg/kg
1	P 178.221	57.0	58.0	2.767	mg/L	276.6	mg/kg
1	Pb 220.353	37.2	37.9	0.129	mg/L	12.89	mg/kg
1	Sb 206.833	-74.5	-75.8	-0.218	mg/L	-21.79	mg/kg
1	Se 196.026	11.5	11.7	0.132	mg/L	13.21	mg/kg

1	Si 251.611	72940.1	74223.8	18.25 mg/L	1824 mg/kg
1	Sn 189.933	80.6	82.0	-0.601 mg/L	-60.06 mg/kg
1	Sr 407.771	143812.3	146343.2	0.182 mg/L	18.16 mg/kg
1	Ti 334.941	275819.2	280673.3	2.934 mg/L	293.3 mg/kg
1	Tl 190.800	3.7	3.8	0.193 mg/L	19.27 mg/kg
1	V 292.402	4474.8	4553.5	0.337 mg/L	33.68 mg/kg
1	Zn 206.200	657.8	669.3	0.329 mg/L	32.88 mg/kg
2	Sc 357.253	509407.3	509407.3	97 mg/kg	
2	Y 360.064	261077.8	261077.8	98 mg/kg	
2	Ag 328.068	-35.6	-36.6	-0.022 mg/L	-2.218 mg/kg
2	Al 396.140	322014.8	330762.3	107.4 mg/L	10730 mg/kg
2	As 188.979	4.4	4.5	0.081 mg/L	8.048 mg/kg
2	B 249.773	4213.4	4327.9	0.154 mg/L	15.37 mg/kg
2	Ba 455.403	341213.7	350482.8	0.960 mg/L	95.92 mg/kg
2	Be 234.861	2106.1	2163.3	0.006 mg/L	0.640 mg/kg
2	Ca 315.887	1592965.6	1636238.4	168.2 mg/L	16820 mg/kg
2	Cd 214.438	115.2	118.3	-0.005 mg/L	-0.466 mg/kg
2	Co 228.616	249.5	256.3	0.064 mg/L	6.440 mg/kg
2	Cr 205.558	178.5	183.4	0.249 mg/L	24.86 mg/kg
2	Cu 324.764	2004.1	2058.5	0.123 mg/L	12.28 mg/kg
2	Fe 238.204	1418057.7	1456579.1	157.6 mg/L	15760 mg/kg
2	K 766.514	28285.7	29054.1	12.30 mg/L	1230 mg/kg
2	Li 670.781	7791.1	8002.7	0.067 mg/L	6.650 mg/kg
2	Mg 279.074	122719.6	126053.3	104.1 mg/L	10410 mg/kg
2	Mn 257.610	435192.9	447014.9	5.978 mg/L	597.6 mg/kg
2	Mo 202.031	53.2	54.6	0.024 mg/L	2.403 mg/kg
2	Na 588.995	95128.8	97713.0	1.434 mg/L	143.3 mg/kg
2	Ni 231.603	231.0	234.7	0.121 mg/L	12.11 mg/kg
2	P 178.221	60.9	62.6	2.989 mg/L	298.7 mg/kg
2	Pb 220.353	34.5	35.5	0.120 mg/L	12.04 mg/kg
2	Sb 206.833	-66.1	-67.9	-0.170 mg/L	-17.01 mg/kg
2	Se 196.026	7.8	8.1	0.082 mg/L	8.231 mg/kg
2	Si 251.611	72691.3	74666.0	18.36 mg/L	1835 mg/kg
2	Sn 189.933	74.6	76.7	-0.637 mg/L	-63.65 mg/kg
2	Sr 407.771	143015.8	146900.8	0.182 mg/L	18.23 mg/kg
2	Ti 334.941	274685.6	282147.4	2.950 mg/L	294.9 mg/kg
2	Tl 190.800	-1.8	-1.9	0.041 mg/L	4.134 mg/kg
2	V 292.402	4512.3	4634.9	0.343 mg/L	34.27 mg/kg
2	Zn 206.200	662.3	680.3	0.334 mg/L	33.43 mg/kg

Mean Data ----------

ID: 305322 Seq. No.: 47 Sample No.: 26 A/S Pos: 42
Sample Qty: 0.5002 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 16:59:58

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	511801.7	98	0.6	mg/kg				0.66%
Y 360.064	262369.7	99	0.7	mg/kg				0.70%
Ag 328.068	-50.7	-0.023	0.0011	mg/L	-2.293	0.1053	mg/kg	4.59%
Al 396.140	329664.8	107.0	0.50	mg/L	10700	50.3	mg/kg	0.47%
As 188.979	9.9	0.123	0.0594	mg/L	12.25	5.936	mg/kg	48.48%
B 249.773	4326.0	0.154	0.0006	mg/L	15.41	0.061	mg/kg	0.40%
Ba 455.403	349676.0	0.957	0.0032	mg/L	95.70	0.315	mg/kg	0.33%
Be 234.861	2150.5	0.006	0.0001	mg/L	0.632	0.0111	mg/kg	1.76%
Ca 315.887	1630697.2	167.7	0.81	mg/L	16760	80.6	mg/kg	0.48%
Cd 214.438	110.9	-0.006	0.0018	mg/L	-0.592	0.1783	mg/kg	30.10%
Co 228.616	248.6	0.062	0.0030	mg/L	6.226	0.3014	mg/kg	4.84%
Cr 205.558	182.4	0.247	0.0017	mg/L	24.74	0.174	mg/kg	0.71%
Cu 324.764	2047.8	0.122	0.0009	mg/L	12.22	0.095	mg/kg	0.77%
Fe 238.204	1452079.5	157.1	0.69	mg/L	15710	68.8	mg/kg	0.44%
K 766.514	29018.8	12.29	0.019	mg/L	1228	1.9	mg/kg	0.16%
Li 670.781	7919.0	0.066	0.0009	mg/L	6.583	0.0946	mg/kg	1.44%
Mg 279.074	125687.1	103.8	0.43	mg/L	10380	42.8	mg/kg	0.41%
Mn 257.610	445827.0	5.962	0.0225	mg/L	596.0	2.25	mg/kg	0.38%
Mo 202.031	54.8	0.024	0.0005	mg/L	2.438	0.0490	mg/kg	2.01%
Na 588.995	97258.0	1.406	0.0385	mg/L	140.6	3.85	mg/kg	2.74%
Ni 231.603	250.6	0.129	0.0116	mg/L	12.93	1.160	mg/kg	8.97%
P 178.221	60.3	2.878	0.1569	mg/L	287.7	15.68	mg/kg	5.45%
Pb 220.353	36.7	0.125	0.0060	mg/L	12.46	0.601	mg/kg	4.82%
Sb 206.833	-71.9	-0.194	0.0338	mg/L	-19.40	3.382	mg/kg	17.43%

Se 196.026	9.9	0.107	0.0353 mg/L	10.72	3.524 mg/kg	32.87%
Si 251.611	74444.9	18.30	0.078 mg/L	1830	7.8 mg/kg	0.42%
Sn 189.933	79.3	-0.619	0.0254 mg/L	-61.86	2.535 mg/kg	4.10%
Sr 407.771	146622.0	0.182	0.0005 mg/L	18.20	0.048 mg/kg	0.27%
Ti 334.941	281410.4	2.942	0.0110 mg/L	294.1	1.10 mg/kg	0.37%
Tl 190.800	0.9	0.117	0.1071 mg/L	11.70	10.706 mg/kg	91.47%
V 292.402	4594.2	0.340	0.0042 mg/L	33.98	0.421 mg/kg	1.24%
Zn 206.200	674.8	0.332	0.0039 mg/L	33.15	0.387 mg/kg	1.17%

Replicate Data ----------

ID: 305323 Date: 5/20/02 17:04:14

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	518876.3	518876.3	99	mg/kg		
1	Y 360.064	267311.4	267311.4	101	mg/kg		
1	Ag 328.068	-103.1	-104.0	-0.026	mg/L	-2.575	mg/kg
1	Al 396.140	528171.9	532619.3	172.9	mg/L	17290	mg/kg
1	As 188.979	-0.5	-0.5	0.041	mg/L	4.149	mg/kg
1	B 249.773	5998.9	6049.4	0.258	mg/L	25.82	mg/kg
1	Ba 455.403	633720.9	639057.0	1.734	mg/L	173.5	mg/kg
1	Be 234.861	3156.2	3182.8	0.012	mg/L	1.232	mg/kg
1	Ca 315.887	535620.4	540130.5	55.47	mg/L	5550	mg/kg
1	Cd 214.438	134.9	136.0	-0.010	mg/L	-0.987	mg/kg
1	Co 228.616	533.9	538.4	0.134	mg/L	13.37	mg/kg
1	Cr 205.558	263.7	265.9	0.348	mg/L	34.85	mg/kg
1	Cu 324.764	3031.4	3056.9	0.194	mg/L	19.38	mg/kg
1	Fe 238.204	1974660.8	1991288.0	215.5	mg/L	21560	mg/kg
1	K 766.514	31581.1	31847.0	13.38	mg/L	1338	mg/kg
1	Li 670.781	12126.9	12229.0	0.100	mg/L	10.03	mg/kg
1	Mg 279.074	59560.4	60061.9	49.60	mg/L	4962	mg/kg
1	Mn 257.610	631963.1	637284.4	8.523	mg/L	852.6	mg/kg
1	Mo 202.031	58.4	58.9	0.030	mg/L	3.043	mg/kg
1	Na 588.995	94427.1	95222.2	1.285	mg/L	128.5	mg/kg
1	Ni 231.603	329.1	326.5	0.168	mg/L	16.84	mg/kg
1	P 178.221	69.2	69.8	3.335	mg/L	333.7	mg/kg
1	Pb 220.353	50.5	50.9	0.175	mg/L	17.49	mg/kg
1	Sb 206.833	-90.4	-91.2	-0.312	mg/L	-31.18	mg/kg
1	Se 196.026	7.0	7.1	0.069	mg/L	6.865	mg/kg
1	Si 251.611	75484.0	76119.6	18.98	mg/L	1899	mg/kg
1	Sn 189.933	86.6	87.3	-0.296	mg/L	-29.61	mg/kg
1	Sr 407.771	201144.7	202838.4	0.251	mg/L	25.12	mg/kg
1	Ti 334.941	381020.2	384228.5	4.003	mg/L	400.4	mg/kg
1	Tl 190.800	4.1	4.1	0.191	mg/L	19.13	mg/kg
1	V 292.402	6268.9	6321.6	0.466	mg/L	46.66	mg/kg
1	Zn 206.200	906.7	914.4	0.452	mg/L	45.21	mg/kg
2	Sc 357.253	516959.5	516959.5	99	mg/kg		
2	Y 360.064	266058.7	266058.7	100	mg/kg		
2	Ag 328.068	-103.1	-104.4	-0.026	mg/L	-2.577	mg/kg
2	Al 396.140	528576.4	535003.5	173.7	mg/L	17370	mg/kg
2	As 188.979	8.4	8.5	0.111	mg/L	11.14	mg/kg
2	B 249.773	5990.7	6063.5	0.258	mg/L	25.85	mg/kg
2	Ba 455.403	633073.5	640771.2	1.739	mg/L	173.9	mg/kg
2	Be 234.861	3100.9	3138.6	0.012	mg/L	1.179	mg/kg
2	Ca 315.887	536295.5	542816.4	55.75	mg/L	5577	mg/kg
2	Cd 214.438	140.1	141.8	-0.009	mg/L	-0.910	mg/kg
2	Co 228.616	531.3	537.8	0.133	mg/L	13.35	mg/kg
2	Cr 205.558	257.8	260.9	0.344	mg/L	34.40	mg/kg
2	Cu 324.764	3029.1	3065.9	0.194	mg/L	19.43	mg/kg
2	Fe 238.204	1976199.2	2000228.3	216.5	mg/L	21660	mg/kg
2	K 766.514	31645.9	32030.7	13.45	mg/L	1346	mg/kg
2	Li 670.781	12430.8	12581.9	0.103	mg/L	10.31	mg/kg
2	Mg 279.074	59970.2	60699.4	50.13	mg/L	5015	mg/kg
2	Mn 257.610	631606.1	639286.0	8.550	mg/L	855.3	mg/kg
2	Mo 202.031	51.1	51.7	0.020	mg/L	1.974	mg/kg
2	Na 588.995	94327.0	95473.9	1.300	mg/L	130.0	mg/kg
2	Ni 231.603	312.9	311.9	0.161	mg/L	16.09	mg/kg
2	P 178.221	66.0	66.8	3.193	mg/L	319.4	mg/kg
2	Pb 220.353	35.7	36.1	0.123	mg/L	12.28	mg/kg
2	Sb 206.833	-73.4	-74.3	-0.209	mg/L	-20.87	mg/kg

2	Se 196.026	9.4	9.6	0.103 mg/L	10.30 mg/kg
2	Si 251.611	76169.5	77095.7	19.23 mg/L	1924 mg/kg
2	Sn 189.933	90.5	91.6	-0.275 mg/L	-27.48 mg/kg
2	Sr 407.771	201022.3	203466.6	0.252 mg/L	25.20 mg/kg
2	Ti 334.941	381472.0	386110.5	4.022 mg/L	402.4 mg/kg
2	Tl 190.800	0.9	0.9	0.104 mg/L	10.45 mg/kg
2	V 292.402	6248.4	6324.4	0.467 mg/L	46.68 mg/kg
2	Zn 206.200	918.1	929.2	0.459 mg/L	45.96 mg/kg

Mean Data

ID: 305323 Seq. No.: 48 Sample No.: 27 A/S Pos: 43
Sample Qty: 0.4998 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 17:04:14

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	517917.9	99	0.3	mg/kg				0.26%
Y 360.064	266685.1	101	0.3	mg/kg				0.33%
Ag 328.068	-104.2	-0.026	0.0000	mg/L	-2.576	0.0013	mg/kg	0.05%
Al 396.140	533811.4	173.3	0.55	mg/L	17330	54.7	mg/kg	0.32%
As 188.979	4.0	0.076	0.0494	mg/L	7.646	4.9456	mg/kg	64.68%
B 249.773	6056.5	0.258	0.0002	mg/L	25.83	0.017	mg/kg	0.07%
Ba 455.403	639914.1	1.736	0.0033	mg/L	173.7	0.33	mg/kg	0.19%
Be 234.861	3160.7	0.012	0.0004	mg/L	1.205	0.0374	mg/kg	3.11%
Ca 315.887	541473.5	55.61	0.195	mg/L	5563	19.5	mg/kg	0.35%
Cd 214.438	138.9	-0.009	0.0005	mg/L	-0.948	0.0542	mg/kg	5.71%
Co 228.616	538.1	0.134	0.0002	mg/L	13.36	0.017	mg/kg	0.13%
Cr 205.558	263.4	0.346	0.0031	mg/L	34.62	0.313	mg/kg	0.91%
Cu 324.764	3061.4	0.194	0.0004	mg/L	19.41	0.037	mg/kg	0.19%
Fe 238.204	1995758.2	216.0	0.68	mg/L	21610	68.4	mg/kg	0.32%
K 766.514	31938.8	13.41	0.050	mg/L	1342	5.0	mg/kg	0.37%
Li 670.781	12405.5	0.102	0.0020	mg/L	10.17	0.199	mg/kg	1.96%
Mg 279.074	60380.6	49.87	0.372	mg/L	4989	37.2	mg/kg	0.75%
Mn 257.610	638285.2	8.536	0.0189	mg/L	854.0	1.89	mg/kg	0.22%
Mo 202.031	55.3	0.025	0.0076	mg/L	2.509	0.7559	mg/kg	30.13%
Na 588.995	95348.0	1.292	0.0107	mg/L	129.3	1.07	mg/kg	0.82%
Ni 231.603	319.2	0.165	0.0053	mg/L	16.47	0.531	mg/kg	3.22%
P 178.221	68.3	3.264	0.1008	mg/L	326.5	10.09	mg/kg	3.09%
Pb 220.353	43.5	0.149	0.0368	mg/L	14.88	3.681	mg/kg	24.73%
Sb 206.833	-82.7	-0.260	0.0728	mg/L	-26.02	7.286	mg/kg	28.00%
Se 196.026	8.3	0.086	0.0243	mg/L	8.583	2.4307	mg/kg	28.32%
Si 251.611	76607.6	19.11	0.174	mg/L	1911	17.4	mg/kg	0.91%
Sn 189.933	89.4	-0.285	0.0151	mg/L	-28.54	1.507	mg/kg	5.28%
Sr 407.771	203152.5	0.252	0.0005	mg/L	25.16	0.055	mg/kg	0.22%
Ti 334.941	385169.5	4.012	0.0139	mg/L	401.4	1.39	mg/kg	0.35%
Tl 190.800	2.5	0.148	0.0613	mg/L	14.79	6.133	mg/kg	41.47%
V 292.402	6323.0	0.466	0.0001	mg/L	46.67	0.014	mg/kg	0.03%
Zn 206.200	921.8	0.456	0.0053	mg/L	45.58	0.527	mg/kg	1.16%

Replicate Data

ID: 305324 Date: 5/20/02 17:08:28

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	492467.5	492467.5	94	mg/kg		
1	Y 360.064	239216.4	239216.4	90	mg/kg		
1	Ag 328.068	-144.2	-153.2	-0.028	mg/L	-2.836	mg/kg
1	Al 396.140	74167.3	78802.6	25.50	mg/L	2552	mg/kg
1	As 188.979	3.0	3.1	0.070	mg/L	6.988	mg/kg
1	B 249.773	1657.2	1760.8	0.033	mg/L	3.341	mg/kg
1	Ba 455.403	49914.8	53034.3	0.176	mg/L	17.62	mg/kg
1	Be 234.861	620.4	659.2	-0.002	mg/L	-0.162	mg/kg
1	Ca 315.887	5609686.1	5960276.0	613.1	mg/L	61370	mg/kg
1	Cd 214.438	91.5	97.2	-0.004	mg/L	-0.407	mg/kg
1	Co 228.616	91.5	97.3	0.025	mg/L	2.531	mg/kg
1	Cr 205.558	78.4	83.3	0.140	mg/L	14.02	mg/kg
1	Cu 324.764	1205.1	1280.5	0.045	mg/L	4.509	mg/kg
1	Fe 238.204	422993.8	449429.7	48.63	mg/L	4868	mg/kg
1	K 766.514	11232.6	11934.6	5.684	mg/L	569.0	mg/kg
1	Li 670.781	1920.3	2040.4	0.019	mg/L	1.891	mg/kg
1	Mg 279.074	407758.6	433242.4	357.8	mg/L	35820	mg/kg

1	Mn 257.610	217891.1	231508.7	3.095 mg/L	309.8 mg/kg
1	Mo 202.031	60.6	64.4	0.039 mg/L	3.859 mg/kg
1	Na 588.995	115114.7	122309.1	2.905 mg/L	290.8 mg/kg
1	Ni 231.603	41.4	45.9	0.024 mg/L	2.403 mg/kg
1	P 178.221	42.5	45.2	2.151 mg/L	215.3 mg/kg
1	Pb 220.353	24.2	25.7	0.086 mg/L	8.601 mg/kg
1	Sb 206.833	-67.9	-72.1	-0.196 mg/L	-19.58 mg/kg
1	Se 196.026	9.3	9.9	0.108 mg/L	10.78 mg/kg
1	Si 251.611	72339.4	76860.5	17.74 mg/L	1776 mg/kg
1	Sn 189.933	47.7	50.7	-2.285 mg/L	-228.8 mg/kg
1	Sr 407.771	212006.6	225256.4	0.279 mg/L	27.89 mg/kg
1	Ti 334.941	129001.3	137063.6	1.487 mg/L	148.9 mg/kg
1	Tl 190.800	2.5	2.6	0.184 mg/L	18.41 mg/kg
1	V 292.402	1523.5	1618.7	0.122 mg/L	12.21 mg/kg
1	Zn 206.200	335.1	356.0	0.172 mg/L	17.18 mg/kg
2	Sc 357.253	488852.6	488852.6	93 mg/kg	
2	Y 360.064	239142.7	239142.7	90 mg/kg	
2	Ag 328.068	-118.5	-126.8	-0.027 mg/L	-2.697 mg/kg
2	Al 396.140	74422.4	79658.4	25.78 mg/L	2580 mg/kg
2	As 188.979	10.3	11.0	0.131 mg/L	13.15 mg/kg
2	B 249.773	1654.9	1771.3	0.034 mg/L	3.403 mg/kg
2	Ba 455.403	50241.9	53776.6	0.178 mg/L	17.84 mg/kg
2	Be 234.861	596.5	638.5	-0.002 mg/L	-0.189 mg/kg
2	Ca 315.887	5601932.4	5996050.8	616.8 mg/L	61740 mg/kg
2	Cd 214.438	81.2	86.9	-0.006 mg/L	-0.627 mg/kg
2	Co 228.616	85.6	91.6	0.024 mg/L	2.372 mg/kg
2	Cr 205.558	63.7	68.1	0.126 mg/L	12.58 mg/kg
2	Cu 324.764	1181.6	1264.7	0.044 mg/L	4.387 mg/kg
2	Fe 238.204	423940.1	453766.0	49.10 mg/L	4915 mg/kg
2	K 766.514	11313.6	12109.6	5.752 mg/L	575.8 mg/kg
2	Li 670.781	1939.5	2075.9	0.019 mg/L	1.920 mg/kg
2	Mg 279.074	406891.4	435517.9	359.7 mg/L	36010 mg/kg
2	Mn 257.610	218612.0	233992.3	3.129 mg/L	313.2 mg/kg
2	Mo 202.031	54.4	58.2	0.029 mg/L	2.941 mg/kg
2	Na 588.995	115214.7	123320.5	2.966 mg/L	296.9 mg/kg
2	Ni 231.603	45.5	50.5	0.026 mg/L	2.638 mg/kg
2	P 178.221	45.4	48.5	2.313 mg/L	231.6 mg/kg
2	Pb 220.353	29.8	31.9	0.108 mg/L	10.78 mg/kg
2	Sb 206.833	-64.8	-69.3	-0.179 mg/L	-17.89 mg/kg
2	Se 196.026	13.2	14.2	0.166 mg/L	16.66 mg/kg
2	Si 251.611	72678.8	77792.0	17.97 mg/L	1798 mg/kg
2	Sn 189.933	49.9	53.5	-2.278 mg/L	-228.1 mg/kg
2	Sr 407.771	211434.7	226310.0	0.280 mg/L	28.02 mg/kg
2	Ti 334.941	129258.3	138352.1	1.501 mg/L	150.3 mg/kg
2	Tl 190.800	3.9	4.2	0.226 mg/L	22.65 mg/kg
2	V 292.402	1576.4	1687.3	0.127 mg/L	12.72 mg/kg
2	Zn 206.200	347.0	371.4	0.179 mg/L	17.96 mg/kg

Mean Data ----------

ID: 305324 Seq. No.: 49 Sample No.: 28 A/S Pos: 44
Sample Qty: 0.4995 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 17:08:28

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	490660.1	94	0.5	mg/kg				0.52%
Y 360.064	239179.5	90	0.0	mg/kg				0.02%
Ag 328.068	-140.0	-0.028	0.0010	mg/L	-2.766	0.0983	mg/kg	3.55%
Al 396.140	79230.5	25.64	0.196	mg/L	2566	19.6	mg/kg	0.76%
As 188.979	7.1	0.101	0.0436	mg/L	10.07	4.360	mg/kg	43.29%
B 249.773	1766.1	0.034	0.0004	mg/L	3.372	0.0435	mg/kg	1.29%
Ba 455.403	53405.5	0.177	0.0016	mg/L	17.73	0.157	mg/kg	0.88%
Be 234.861	648.8	-0.002	0.0002	mg/L	-0.176	0.0194	mg/kg	11.05%
Ca 315.887	5978163.4	615.0	2.60	mg/L	61560	260.5	mg/kg	0.42%
Cd 214.438	92.1	-0.005	0.0016	mg/L	-0.517	0.1553	mg/kg	30.05%
Co 228.616	94.4	0.024	0.0011	mg/L	2.451	0.1123	mg/kg	4.58%
Cr 205.558	75.7	0.133	0.0102	mg/L	13.30	1.017	mg/kg	7.65%
Cu 324.764	1272.6	0.044	0.0009	mg/L	4.448	0.0869	mg/kg	1.95%
Fe 238.204	451597.9	48.86	0.332	mg/L	4891	33.2	mg/kg	0.68%
K 766.514	12022.1	5.718	0.0478	mg/L	572.4	4.79	mg/kg	0.84%
Li 670.781	2058.1	0.019	0.0002	mg/L	1.906	0.0201	mg/kg	1.05%

Mg 279.074	434380.1	358.8	1.33 mg/L	35910	133.0 mg/kg	0.37%
Mn 257.610	232750.5	3.112	0.0235 mg/L	311.5	2.35 mg/kg	0.75%
Mo 202.031	61.3	0.034	0.0065 mg/L	3.400	0.6486 mg/kg	19.08%
Na 588.995	122814.8	2.936	0.0428 mg/L	293.8	4.28 mg/kg	1.46%
Ni 231.603	48.2	0.025	0.0017 mg/L	2.521	0.1666 mg/kg	6.61%
P 178.221	46.9	2.232	0.1152 mg/L	223.4	11.53 mg/kg	5.16%
Pb 220.353	28.8	0.097	0.0154 mg/L	9.692	1.5429 mg/kg	15.92%
Sb 206.833	-70.7	-0.187	0.0119 mg/L	-18.73	1.195 mg/kg	6.38%
Se 196.026	12.0	0.137	0.0415 mg/L	13.72	4.157 mg/kg	30.31%
Si 251.611	77326.2	17.85	0.162 mg/L	1787	16.2 mg/kg	0.91%
Sn 189.933	52.1	-2.282	0.0048 mg/L	-228.4	0.48 mg/kg	0.21%
Sr 407.771	225783.2	0.279	0.0009 mg/L	27.96	0.092 mg/kg	0.33%
Ti 334.941	137707.8	1.494	0.0098 mg/L	149.6	0.98 mg/kg	0.65%
Tl 190.800	3.4	0.205	0.0300 mg/L	20.53	3.004 mg/kg	14.63%
V 292.402	1653.0	0.125	0.0036 mg/L	12.47	0.356 mg/kg	2.85%
Zn 206.200	363.7	0.176	0.0055 mg/L	17.57	0.547 mg/kg	3.12%

Replicate Data ----------

ID: 305325 Date: 5/20/02 17:12:41

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	497006.2	497006.2	95	mg/kg		
1	Y 360.064	251030.2	251030.2	95	mg/kg		
1	Ag 328.068	6.1	6.5	-0.020	mg/L	-1.992	mg/kg
1	Al 396.140	81046.8	85325.6	27.67	mg/L	2766	mg/kg
1	As 188.979	6.2	6.6	0.096	mg/L	9.642	mg/kg
1	B 249.773	1668.6	1756.7	0.017	mg/L	1.703	mg/kg
1	Ba 455.403	63021.4	66348.5	0.196	mg/L	19.56	mg/kg
1	Be 234.861	612.5	644.8	0.000	mg/L	0.012	mg/kg
1	Ca 315.887	2716439.2	2859852.1	294.1	mg/L	29400	mg/kg
1	Cd 214.438	69.6	73.3	-0.001	mg/L	-0.083	mg/kg
1	Co 228.616	143.5	151.1	0.040	mg/L	4.035	mg/kg
1	Cr 205.558	70.7	74.5	0.102	mg/L	10.18	mg/kg
1	Cu 324.764	1227.2	1292.0	0.066	mg/L	6.575	mg/kg
1	Fe 238.204	469006.9	493767.9	53.43	mg/L	5341	mg/kg
1	K 766.514	10510.0	11064.9	5.348	mg/L	534.6	mg/kg
1	Li 670.781	2255.0	2374.1	0.022	mg/L	2.155	mg/kg
1	Mg 279.074	196830.2	207221.7	171.2	mg/L	17110	mg/kg
1	Mn 257.610	187594.2	197498.1	2.640	mg/L	263.9	mg/kg
1	Mo 202.031	51.6	54.3	0.024	mg/L	2.355	mg/kg
1	Na 588.995	98788.1	104003.6	1.810	mg/L	180.9	mg/kg
1	Ni 231.603	86.8	91.7	0.048	mg/L	4.755	mg/kg
1	P 178.221	29.1	30.7	1.453	mg/L	145.2	mg/kg
1	Pb 220.353	24.1	25.4	0.085	mg/L	8.497	mg/kg
1	Sb 206.833	-64.0	-67.4	-0.167	mg/L	-16.67	mg/kg
1	Se 196.026	8.2	8.6	0.090	mg/L	8.997	mg/kg
1	Si 251.611	79787.9	84000.3	20.43	mg/L	2042	mg/kg
1	Sn 189.933	62.7	66.0	-1.074	mg/L	-107.4	mg/kg
1	Sr 407.771	139601.2	146971.4	0.182	mg/L	18.24	mg/kg
1	Ti 334.941	136866.5	144092.3	1.522	mg/L	152.2	mg/kg
1	Tl 190.800	2.9	3.1	0.134	mg/L	13.40	mg/kg
1	V 292.402	1667.6	1755.6	0.132	mg/L	13.20	mg/kg
1	Zn 206.200	244.0	256.9	0.122	mg/L	12.18	mg/kg
2	Sc 357.253	493737.0	493737.0	94	mg/kg		
2	Y 360.064	249524.4	249524.4	94	mg/kg		
2	Ag 328.068	6.1	6.5	-0.020	mg/L	-1.992	mg/kg
2	Al 396.140	81262.0	86118.7	27.93	mg/L	2792	mg/kg
2	As 188.979	4.5	4.7	0.082	mg/L	8.231	mg/kg
2	B 249.773	1633.6	1731.2	0.014	mg/L	1.377	mg/kg
2	Ba 455.403	62909.6	66669.4	0.197	mg/L	19.66	mg/kg
2	Be 234.861	628.0	665.5	0.000	mg/L	0.028	mg/kg
2	Ca 315.887	2719297.2	2881817.1	296.4	mg/L	29630	mg/kg
2	Cd 214.438	59.6	63.2	-0.003	mg/L	-0.286	mg/kg
2	Co 228.616	122.9	130.2	0.035	mg/L	3.451	mg/kg
2	Cr 205.558	72.2	76.5	0.104	mg/L	10.42	mg/kg
2	Cu 324.764	1241.8	1316.1	0.067	mg/L	6.719	mg/kg
2	Fe 238.204	469560.0	497623.4	53.85	mg/L	5382	mg/kg
2	K 766.514	10640.8	11276.7	5.430	mg/L	542.8	mg/kg
2	Li 670.781	2231.6	2365.0	0.021	mg/L	2.148	mg/kg

2 Mg 279.074	196920.4	208689.5	172.4 mg/L	17230 mg/kg
2 Mn 257.610	187494.1	198699.7	2.656 mg/L	265.5 mg/kg
2 Mo 202.031	42.9	45.4	0.010 mg/L	1.045 mg/kg
2 Na 588.995	98988.1	104904.2	1.864 mg/L	186.3 mg/kg
2 Ni 231.603	74.4	79.0	0.041 mg/L	4.104 mg/kg
2 P 178.221	33.8	35.8	1.702 mg/L	170.1 mg/kg
2 Pb 220.353	16.8	17.8	0.058 mg/L	5.804 mg/kg
2 Sb 206.833	-49.4	-52.4	-0.075 mg/L	-7.534 mg/kg
2 Se 196.026	-0.3	-0.3	-0.032 mg/L	-3.230 mg/kg
2 Si 251.611	79554.5	84309.1	20.50 mg/L	2049 mg/kg
2 Sn 189.933	52.1	55.2	-1.146 mg/L	-114.6 mg/kg
2 Sr 407.771	139859.0	148217.7	0.184 mg/L	18.39 mg/kg
2 Ti 334.941	137467.7	145683.5	1.539 mg/L	153.9 mg/kg
2 Tl 190.800	-1.8	-2.0	0.000 mg/L	0.012 mg/kg
2 V 292.402	1661.3	1760.5	0.132 mg/L	13.23 mg/kg
2 Zn 206.200	246.0	260.7	0.124 mg/L	12.37 mg/kg

Mean Data

ID: 305325 Seq. No.: 50 Sample No.: 29 A/S Pos: 45
Sample Qty: 0.5002 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 17:12:41

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	495371.6	95	0.4	mg/kg				0.47%
Y 360.064	250277.3	94	0.4	mg/kg				0.43%
Ag 328.068	6.5	-0.020	0.0000	mg/L	-1.992	0.0000	mg/kg	0.00%
Al 396.140	85722.2	27.80	0.182	mg/L	2779	18.2	mg/kg	0.65%
As 188.979	5.6	0.089	0.0100	mg/L	8.936	0.9977	mg/kg	11.16%
B 249.773	1744.0	0.015	0.0023	mg/L	1.540	0.2303	mg/kg	14.95%
Ba 455.403	66509.0	0.196	0.0007	mg/L	19.61	0.071	mg/kg	0.36%
Be 234.861	655.2	0.000	0.0001	mg/L	0.020	0.0108	mg/kg	54.55%
Ca 315.887	2870834.6	295.3	1.60	mg/L	29520	159.7	mg/kg	0.54%
Cd 214.438	68.2	-0.002	0.0014	mg/L	-0.184	0.1435	mg/kg	77.82%
Co 228.616	140.7	0.037	0.0041	mg/L	3.743	0.4127	mg/kg	11.03%
Cr 205.558	75.5	0.103	0.0017	mg/L	10.30	0.169	mg/kg	1.64%
Cu 324.764	1304.0	0.066	0.0010	mg/L	6.647	0.1016	mg/kg	1.53%
Fe 238.204	495695.7	53.64	0.295	mg/L	5362	29.5	mg/kg	0.55%
K 766.514	11170.8	5.389	0.0579	mg/L	538.7	5.79	mg/kg	1.07%
Li 670.781	2369.5	0.022	0.0001	mg/L	2.152	0.0051	mg/kg	0.24%
Mg 279.074	207955.6	171.8	0.86	mg/L	17170	85.7	mg/kg	0.50%
Mn 257.610	198098.9	2.648	0.0114	mg/L	264.7	1.14	mg/kg	0.43%
Mo 202.031	49.8	0.017	0.0093	mg/L	1.700	0.9267	mg/kg	54.51%
Na 588.995	104453.9	1.837	0.0381	mg/L	183.6	3.81	mg/kg	2.07%
Ni 231.603	85.4	0.044	0.0046	mg/L	4.429	0.4600	mg/kg	10.39%
P 178.221	33.3	1.577	0.1763	mg/L	157.7	17.62	mg/kg	11.18%
Pb 220.353	21.6	0.072	0.0191	mg/L	7.151	1.9048	mg/kg	26.64%
Sb 206.833	-59.9	-0.121	0.0646	mg/L	-12.10	6.457	mg/kg	53.36%
Se 196.026	4.2	0.029	0.0865	mg/L	2.884	8.6464	mg/kg	299.86%
Si 251.611	84154.7	20.46	0.052	mg/L	2045	5.2	mg/kg	0.25%
Sn 189.933	60.6	-1.110	0.0510	mg/L	-111.0	5.10	mg/kg	4.60%
Sr 407.771	147594.5	0.183	0.0011	mg/L	18.32	0.108	mg/kg	0.59%
Ti 334.941	144887.9	1.531	0.0119	mg/L	153.0	1.19	mg/kg	0.78%
Tl 190.800	0.6	0.067	0.0947	mg/L	6.705	9.4653	mg/kg	141.16%
V 292.402	1758.1	0.132	0.0003	mg/L	13.22	0.025	mg/kg	0.19%
Zn 206.200	258.8	0.123	0.0013	mg/L	12.28	0.134	mg/kg	1.09%

Replicate Data

ID: 305325d Date: 5/20/02 17:16:53

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	501096.3	501096.3	96	mg/kg		
1 Y 360.064	253284.9	253284.9	96	mg/kg		
1 Ag 328.068	-17.5	-18.3	-0.021	mg/L	-2.121	mg/kg
1 Al 396.140	80696.0	84262.9	27.34	mg/L	2731	mg/kg
1 As 188.979	20.5	21.4	0.213	mg/L	21.24	mg/kg
1 B 249.773	1587.2	1657.3	0.007	mg/L	0.650	mg/kg
1 Ba 455.403	55058.0	57491.6	0.170	mg/L	16.94	mg/kg
1 Be 234.861	611.8	638.9	0.000	mg/L	0.046	mg/kg
1 Ca 315.887	2344625.3	2448260.6	251.8	mg/L	25150	mg/kg

1	Cd 214.438	49.2	51.3	-0.002 mg/L	-0.179 mg/kg
1	Co 228.616	98.6	103.0	0.027 mg/L	2.686 mg/kg
1	Cr 205.558	70.2	73.3	0.096 mg/L	9.609 mg/kg
1	Cu 324.764	1276.2	1332.6	0.071 mg/L	7.075 mg/kg
1	Fe 238.204	463671.3	484166.1	52.39 mg/L	5234 mg/kg
1	K 766.514	8892.7	9285.8	4.661 mg/L	465.6 mg/kg
1	Li 670.781	2488.9	2598.9	0.023 mg/L	2.333 mg/kg
1	Mg 279.074	172511.8	180137.1	148.8 mg/L	14860 mg/kg
1	Mn 257.610	149012.2	155598.7	2.080 mg/L	207.8 mg/kg
1	Mo 202.031	49.2	51.3	0.019 mg/L	1.919 mg/kg
1	Na 588.995	98086.3	102421.8	1.715 mg/L	171.4 mg/kg
1	Ni 231.603	62.9	65.8	0.034 mg/L	3.423 mg/kg
1	P 178.221	30.1	31.5	1.491 mg/L	148.9 mg/kg
1	Pb 220.353	26.7	27.9	0.094 mg/L	9.376 mg/kg
1	Sb 206.833	-48.4	-50.5	-0.064 mg/L	-6.424 mg/kg
1	Se 196.026	4.2	4.4	0.033 mg/L	3.250 mg/kg
1	Si 251.611	66358.3	69291.4	16.78 mg/L	1676 mg/kg
1	Sn 189.933	56.3	58.8	-0.994 mg/L	-99.34 mg/kg
1	Sr 407.771	123605.0	129068.5	0.160 mg/L	16.03 mg/kg
1	Ti 334.941	141549.1	147805.7	1.556 mg/L	155.4 mg/kg
1	Tl 190.800	2.8	3.0	0.124 mg/L	12.36 mg/kg
1	V 292.402	1575.5	1645.1	0.124 mg/L	12.38 mg/kg
1	Zn 206.200	244.8	255.6	0.121 mg/L	12.11 mg/kg
2	Sc 357.253	498772.7	498772.7	95 mg/kg	
2	Y 360.064	252205.7	252205.7	95 mg/kg	
2	Ag 328.068	41.4	43.4	-0.018 mg/L	-1.796 mg/kg
2	Al 396.140	81346.7	85338.1	27.69 mg/L	2766 mg/kg
2	As 188.979	0.7	0.7	0.051 mg/L	5.090 mg/kg
2	B 249.773	1601.6	1680.2	0.008 mg/L	0.838 mg/kg
2	Ba 455.403	54807.4	57496.5	0.170 mg/L	16.96 mg/kg
2	Be 234.861	643.6	675.2	0.001 mg/L	0.076 mg/kg
2	Ca 315.887	2355929.8	2471525.3	254.2 mg/L	25390 mg/kg
2	Cd 214.438	48.2	50.5	-0.002 mg/L	-0.211 mg/kg
2	Co 228.616	103.4	108.5	0.028 mg/L	2.840 mg/kg
2	Cr 205.558	77.9	81.7	0.105 mg/L	10.48 mg/kg
2	Cu 324.764	1287.1	1350.3	0.072 mg/L	7.176 mg/kg
2	Fe 238.204	465886.1	488745.2	52.88 mg/L	5283 mg/kg
2	K 766.514	8863.9	9298.8	4.666 mg/L	466.1 mg/kg
2	Li 670.781	2441.0	2560.8	0.023 mg/L	2.303 mg/kg
2	Mg 279.074	173153.4	181649.3	150.0 mg/L	14990 mg/kg
2	Mn 257.610	148511.1	155797.9	2.083 mg/L	208.1 mg/kg
2	Mo 202.031	47.5	49.9	0.017 mg/L	1.700 mg/kg
2	Na 588.995	97935.7	102741.0	1.735 mg/L	173.3 mg/kg
2	Ni 231.603	59.5	62.6	0.033 mg/L	3.255 mg/kg
2	P 178.221	27.2	28.5	1.348 mg/L	134.7 mg/kg
2	Pb 220.353	16.9	17.8	0.058 mg/L	5.800 mg/kg
2	Sb 206.833	-42.0	-44.1	-0.025 mg/L	-2.499 mg/kg
2	Se 196.026	4.7	4.9	0.039 mg/L	3.898 mg/kg
2	Si 251.611	66253.1	69503.8	16.83 mg/L	1681 mg/kg
2	Sn 189.933	65.4	68.6	-0.942 mg/L	-94.06 mg/kg
2	Sr 407.771	124380.1	130482.9	0.162 mg/L	16.21 mg/kg
2	Ti 334.941	142407.4	149394.8	1.572 mg/L	157.1 mg/kg
2	Tl 190.800	-1.9	-2.0	-0.009 mg/L	-0.917 mg/kg
2	V 292.402	1580.7	1658.2	0.125 mg/L	12.48 mg/kg
2	Zn 206.200	231.6	242.9	0.115 mg/L	11.48 mg/kg

Mean Data

ID: 305325d Seq. No.: 51 Sample No.: 30 A/S Pos: 46

Sample Qty: 0.5005 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 17:16:53

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	499934.5	96	0.3	mg/kg				0.33%
Y 360.064	252745.3	95	0.3	mg/kg				0.30%
Ag 328.068	12.6	-0.020	0.0023	mg/L	-1.959	0.2293	mg/kg	11.71%
Al 396.140	84800.5	27.51	0.246	mg/L	2748	24.6	mg/kg	0.90%
As 188.979	11.1	0.132	0.1143	mg/L	13.16	11.418	mg/kg	86.74%
B 249.773	1668.8	0.007	0.0013	mg/L	0.744	0.1331	mg/kg	17.90%
Ba 455.403	57494.1	0.170	0.0001	mg/L	16.95	0.012	mg/kg	0.07%
Be 234.861	657.0	0.001	0.0002	mg/L	0.061	0.0212	mg/kg	34.85%

Ca 315.887	2459893.0	253.0	1.69 mg/L	25270	169.1 mg/kg	0.67%
Cd 214.438	50.9	-0.002	0.0002 mg/L	-0.195	0.0224 mg/kg	11.49%
Co 228.616	105.7	0.028	0.0011 mg/L	2.763	0.1084 mg/kg	3.92%
Cr 205.558	77.5	0.101	0.0061 mg/L	10.04	0.614 mg/kg	6.11%
Cu 324.764	1341.5	0.071	0.0007 mg/L	7.125	0.0719 mg/kg	1.01%
Fe 238.204	486455.6	52.64	0.350 mg/L	5258	35.0 mg/kg	0.67%
K 766.514	9292.3	4.663	0.0036 mg/L	465.8	0.36 mg/kg	0.08%
Li 670.781	2579.9	0.023	0.0002 mg/L	2.318	0.0215 mg/kg	0.93%
Mg 279.074	180893.2	149.4	0.88 mg/L	14930	88.2 mg/kg	0.59%
Mn 257.610	155698.3	2.081	0.0019 mg/L	207.9	0.19 mg/kg	0.09%
Mo 202.031	50.6	0.018	0.0015 mg/L	1.809	0.1546 mg/kg	8.54%
Na 588.995	102581.4	1.725	0.0135 mg/L	172.3	1.35 mg/kg	0.78%
Ni 231.603	64.2	0.033	0.0012 mg/L	3.339	0.1187 mg/kg	3.55%
P 178.221	30.0	1.419	0.1010 mg/L	141.8	10.09 mg/kg	7.11%
Pb 220.353	22.8	0.076	0.0253 mg/L	7.588	2.5288 mg/kg	33.33%
Sb 206.833	-47.3	-0.045	0.0278 mg/L	-4.461	2.7747 mg/kg	62.19%
Se 196.026	4.7	0.036	0.0046 mg/L	3.574	0.4588 mg/kg	12.84%
Si 251.611	69397.6	16.80	0.034 mg/L	1679	3.4 mg/kg	0.20%
Sn 189.933	63.7	-0.968	0.0374 mg/L	-96.70	3.739 mg/kg	3.87%
Sr 407.771	129775.7	0.161	0.0012 mg/L	16.12	0.123 mg/kg	0.76%
Ti 334.941	148600.2	1.564	0.0119 mg/L	156.2	1.19 mg/kg	0.76%
Tl 190.800	0.5	0.057	0.0940 mg/L	5.723	9.3901 mg/kg	164.09%
V 292.402	1651.7	0.124	0.0007 mg/L	12.43	0.068 mg/kg	0.54%
Zn 206.200	249.3	0.118	0.0045 mg/L	11.79	0.449 mg/kg	3.81%

Replicate Data ----------

ID: CCV Date: 5/20/02 17:21:04

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	520937.5	520937.5	100	mg/kg		
1	Y 360.064	264820.6	264820.6	100	mg/kg		
1	Ag 328.068	11443.6	11494.3	0.585	mg/L	584.6	mg/kg
1	Al 396.140	7817.0	7851.7	2.556	mg/L	2556	mg/kg
1	As 188.979	331.9	333.4	2.651	mg/L	2651	mg/kg
1	B 249.773	4862.5	4884.1	0.418	mg/L	418.3	mg/kg
1	Ba 455.403	187066.0	187894.8	0.503	mg/L	503.1	mg/kg
1	Be 234.861	4852.7	4874.2	0.049	mg/L	49.01	mg/kg
1	Ca 315.887	50535.4	50759.3	5.125	mg/L	5125	mg/kg
1	Cd 214.438	2658.0	2669.8	0.509	mg/L	508.7	mg/kg
1	Co 228.616	1817.5	1825.6	0.510	mg/L	509.9	mg/kg
1	Cr 205.558	532.9	535.2	0.505	mg/L	504.8	mg/kg
1	Cu 324.764	7575.5	7609.1	0.496	mg/L	495.5	mg/kg
1	Fe 238.204	4728.1	4749.0	0.500	mg/L	500.4	mg/kg
1	K 766.514	10315.6	10361.3	5.076	mg/L	5076	mg/kg
1	Li 670.781	62270.2	62546.1	0.502	mg/L	502.2	mg/kg
1	Mg 279.074	6133.5	6160.7	5.080	mg/L	5080	mg/kg
1	Mn 257.610	38016.6	38185.0	0.509	mg/L	509.5	mg/kg
1	Mo 202.031	387.6	389.3	0.520	mg/L	519.8	mg/kg
1	Na 588.995	158367.5	159069.1	5.105	mg/L	5105	mg/kg
1	Ni 231.603	995.5	996.9	0.513	mg/L	513.3	mg/kg
1	P 178.221	53.2	53.5	2.551	mg/L	2551	mg/kg
1	Pb 220.353	152.8	153.4	0.536	mg/L	535.8	mg/kg
1	Sb 206.833	387.4	389.1	2.609	mg/L	2609	mg/kg
1	Se 196.026	187.3	188.1	2.561	mg/L	2561	mg/kg
1	Si 251.611	10666.1	10713.3	2.541	mg/L	2541	mg/kg
1	Sn 189.933	488.4	490.5	2.477	mg/L	2477	mg/kg
1	Sr 407.771	405440.1	407236.3	0.502	mg/L	502.2	mg/kg
1	Ti 334.941	50279.5	50502.2	0.512	mg/L	512.3	mg/kg
1	Tl 190.800	87.0	87.4	2.334	mg/L	2334	mg/kg
1	V 292.402	6855.4	6885.8	0.508	mg/L	507.7	mg/kg
1	Zn 206.200	1010.2	1014.7	0.502	mg/L	502.3	mg/kg
2	Sc 357.253	532301.9	532301.9	102	mg/kg		
2	Y 360.064	270932.2	270932.2	102	mg/kg		
2	Ag 328.068	11598.1	11400.8	0.580	mg/L	579.7	mg/kg
2	Al 396.140	7850.5	7716.9	2.512	mg/L	2512	mg/kg
2	As 188.979	331.6	325.9	2.593	mg/L	2593	mg/kg
2	B 249.773	5013.5	4928.2	0.423	mg/L	423.1	mg/kg
2	Ba 455.403	192941.1	189658.4	0.508	mg/L	507.9	mg/kg
2	Be 234.861	4955.9	4871.6	0.049	mg/L	48.99	mg/kg

2 Ca 315.887	51353.9	50480.2	5.097 mg/L	5097 mg/kg
2 Cd 214.438	2698.6	2652.7	0.505 mg/L	505.5 mg/kg
2 Co 228.616	1862.6	1830.9	0.511 mg/L	511.4 mg/kg
2 Cr 205.558	541.4	532.1	0.502 mg/L	501.7 mg/kg
2 Cu 324.764	7746.2	7614.4	0.496 mg/L	495.9 mg/kg
2 Fe 238.204	4833.2	4750.9	0.501 mg/L	500.6 mg/kg
2 K 766.514	10558.6	10378.9	5.083 mg/L	5083 mg/kg
2 Li 670.781	64434.9	63338.6	0.509 mg/L	508.6 mg/kg
2 Mg 279.074	6183.8	6078.6	5.012 mg/L	5012 mg/kg
2 Mn 257.610	38504.7	37849.6	0.505 mg/L	505.0 mg/kg
2 Mo 202.031	395.3	388.6	0.519 mg/L	518.7 mg/kg
2 Na 588.995	160059.0	157335.8	5.001 mg/L	5001 mg/kg
2 Ni 231.603	1002.2	981.0	0.505 mg/L	505.1 mg/kg
2 P 178.221	50.5	49.6	2.364 mg/L	2364 mg/kg
2 Pb 220.353	155.2	152.6	0.533 mg/L	532.7 mg/kg
2 Sb 206.833	384.2	377.6	2.539 mg/L	2539 mg/kg
2 Se 196.026	199.9	196.5	2.677 mg/L	2677 mg/kg
2 Si 251.611	10798.8	10615.1	2.516 mg/L	2516 mg/kg
2 Sn 189.933	502.4	493.8	2.498 mg/L	2498 mg/kg
2 Sr 407.771	417469.5	410366.8	0.506 mg/L	506.1 mg/kg
2 Ti 334.941	51053.5	50184.9	0.509 mg/L	509.0 mg/kg
2 Tl 190.800	88.3	86.8	2.317 mg/L	2317 mg/kg
2 V 292.402	6955.7	6837.4	0.504 mg/L	504.1 mg/kg
2 Zn 206.200	1046.5	1028.7	0.509 mg/L	509.3 mg/kg

Mean Data

ID: CCV
Sample Qty: 1.0000 g
Seq. No.: 52 Sample No.: 9 A/S Pos: 4
Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 17:21:04

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	526619.7	101	1.5	mg/kg				1.53%
Y 360.064	267876.4	101	1.6	mg/kg				1.61%
Ag 328.068	11447.5	0.582	0.0035	mg/L	582.2	3.48	mg/kg	0.60%
*QC exceeds upper limit for Ag 328.068 Recovery = 116.43% Action = Continue								
Al 396.140	7784.3	2.534	0.0309	mg/L	2534	30.9	mg/kg	1.22%
As 188.979	329.7	2.622	0.0413	mg/L	2622	41.3	mg/kg	1.58%
B 249.773	4906.2	0.421	0.0034	mg/L	420.7	3.39	mg/kg	0.80%
*QC exceeds lower limit for B 249.773 Recovery = 84.15% Action = Continue								
Ba 455.403	188776.6	0.505	0.0033	mg/L	505.5	3.35	mg/kg	0.66%
Be 234.861	4872.9	0.049	0.0000	mg/L	49.00	0.018	mg/kg	0.04%
Ca 315.887	50619.7	5.111	0.0203	mg/L	5111	20.3	mg/kg	0.40%
Cd 214.438	2661.2	0.507	0.0022	mg/L	507.1	2.25	mg/kg	0.44%
Co 228.616	1828.2	0.511	0.0011	mg/L	510.6	1.05	mg/kg	0.21%
Cr 205.558	533.7	0.503	0.0022	mg/L	503.3	2.16	mg/kg	0.43%
Cu 324.764	7611.7	0.496	0.0002	mg/L	495.7	0.25	mg/kg	0.05%
Fe 238.204	4750.0	0.501	0.0001	mg/L	500.5	0.15	mg/kg	0.03%
K 766.514	10370.1	5.080	0.0048	mg/L	5080	4.8	mg/kg	0.09%
Li 670.781	62942.4	0.505	0.0045	mg/L	505.4	4.48	mg/kg	0.89%
Mg 279.074	6119.7	5.046	0.0479	mg/L	5046	47.9	mg/kg	0.95%
Mn 257.610	38017.3	0.507	0.0032	mg/L	507.2	3.17	mg/kg	0.63%
Mo 202.031	388.9	0.519	0.0008	mg/L	519.2	0.79	mg/kg	0.15%
Na 588.995	158202.4	5.053	0.0733	mg/L	5053	73.3	mg/kg	1.45%
Ni 231.603	989.0	0.509	0.0058	mg/L	509.2	5.78	mg/kg	1.14%
P 178.221	51.5	2.458	0.1319	mg/L	2458	131.9	mg/kg	5.37%
Pb 220.353	153.0	0.534	0.0022	mg/L	534.3	2.16	mg/kg	0.40%
Sb 206.833	383.4	2.574	0.0492	mg/L	2574	49.2	mg/kg	1.91%
Se 196.026	192.3	2.619	0.0818	mg/L	2619	81.8	mg/kg	3.12%
Si 251.611	10664.2	2.529	0.0177	mg/L	2529	17.7	mg/kg	0.70%
Sn 189.933	492.2	2.487	0.0148	mg/L	2487	14.8	mg/kg	0.59%
Sr 407.771	408801.5	0.504	0.0027	mg/L	504.2	2.72	mg/kg	0.54%
Ti 334.941	50343.6	0.511	0.0023	mg/L	510.7	2.32	mg/kg	0.45%
Tl 190.800	87.1	2.326	0.0119	mg/L	2326	11.9	mg/kg	0.51%
V 292.402	6861.6	0.506	0.0025	mg/L	505.9	2.51	mg/kg	0.50%
Zn 206.200	1021.7	0.506	0.0050	mg/L	505.8	4.98	mg/kg	0.98%

Replicate Data

ID: CCB Date: 5/20/02 17:25:12

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units

1	Sc 357.253	519070.9	519070.9	99 mg/kg	
1	Y 360.064	264292.4	264292.4	100 mg/kg	
1	Ag 328.068	177.9	179.4	-0.011 mg/L	-10.83 mg/kg
1	Al 396.140	-155.5	-156.8	-0.025 mg/L	-24.61 mg/kg
1	As 188.979	-1.6	-1.6	0.032 mg/L	32.49 mg/kg
1	B 249.773	346.1	348.9	-0.073 mg/L	-73.26 mg/kg
1	Ba 455.403	829.7	836.4	0.001 mg/L	0.653 mg/kg
1	Be 234.861	-48.4	-48.8	0.000 mg/L	0.014 mg/kg
1	Ca 315.887	880.1	887.1	-0.006 mg/L	-5.866 mg/kg
1	Cd 214.438	-73.5	-74.1	-0.002 mg/L	-1.650 mg/kg
1	Co 228.616	13.2	13.3	0.002 mg/L	1.725 mg/kg
1	Cr 205.558	32.6	32.9	0.010 mg/L	10.40 mg/kg
1	Cu 324.764	-70.7	-71.3	-0.005 mg/L	-4.698 mg/kg
1	Fe 238.204	189.6	191.1	0.007 mg/L	7.112 mg/kg
1	K 766.514	-2965.5	-2989.3	-0.083 mg/L	-83.10 mg/kg
1	Li 670.781	-173.4	-174.8	0.001 mg/L	1.199 mg/kg
1	Mg 279.074	10.4	10.5	0.000 mg/L	-0.265 mg/kg
1	Mn 257.610	-26.9	-27.1	-0.002 mg/L	-1.663 mg/kg
1	Mo 202.031	38.1	38.4	0.000 mg/L	0.018 mg/kg
1	Na 588.995	74635.8	75236.0	0.089 mg/L	88.88 mg/kg
1	Ni 231.603	3.1	3.1	0.002 mg/L	2.013 mg/kg
1	P 178.221	2.0	2.0	0.075 mg/L	74.68 mg/kg
1	Pb 220.353	8.8	8.9	0.027 mg/L	26.80 mg/kg
1	Sb 206.833	-35.0	-35.3	0.028 mg/L	28.22 mg/kg
1	Se 196.026	2.9	2.9	0.012 mg/L	11.62 mg/kg
1	Si 251.611	526.3	530.6	-0.054 mg/L	-54.36 mg/kg
1	Sn 189.933	75.1	75.7	0.006 mg/L	5.685 mg/kg
1	Sr 407.771	-1917.5	-1932.9	0.000 mg/L	-0.445 mg/kg
1	Ti 334.941	725.3	731.1	-0.003 mg/L	-2.942 mg/kg
1	Tl 190.800	3.5	3.5	0.089 mg/L	88.91 mg/kg
1	V 292.402	-26.3	-26.5	0.002 mg/L	1.549 mg/kg
1	Zn 206.200	20.0	20.2	0.003 mg/L	3.052 mg/kg
2	Sc 357.253	506914.8	506914.8	97 mg/kg	
2	Y 360.064	257717.2	257717.2	97 mg/kg	
2	Ag 328.068	133.7	138.0	-0.013 mg/L	-13.00 mg/kg
2	Al 396.140	-131.3	-135.5	-0.018 mg/L	-17.71 mg/kg
2	As 188.979	-5.7	-5.9	-0.001 mg/L	-0.841 mg/kg
2	B 249.773	335.4	346.2	-0.074 mg/L	-73.55 mg/kg
2	Ba 455.403	828.7	855.4	0.001 mg/L	0.704 mg/kg
2	Be 234.861	-27.4	-28.2	0.000 mg/L	0.218 mg/kg
2	Ca 315.887	912.2	941.6	0.000 mg/L	-0.262 mg/kg
2	Cd 214.438	-75.9	-78.4	-0.002 mg/L	-2.446 mg/kg
2	Co 228.616	-20.0	-20.7	-0.008 mg/L	-7.788 mg/kg
2	Cr 205.558	23.3	24.0	0.002 mg/L	1.699 mg/kg
2	Cu 324.764	-68.6	-70.9	-0.005 mg/L	-4.671 mg/kg
2	Fe 238.204	192.2	198.4	0.008 mg/L	7.904 mg/kg
2	K 766.514	-2862.6	-2954.9	-0.070 mg/L	-69.78 mg/kg
2	Li 670.781	-65.0	-67.1	0.002 mg/L	2.060 mg/kg
2	Mg 279.074	26.5	27.4	0.014 mg/L	13.66 mg/kg
2	Mn 257.610	-29.4	-30.3	-0.002 mg/L	-1.706 mg/kg
2	Mo 202.031	49.9	51.5	0.019 mg/L	19.50 mg/kg
2	Na 588.995	75320.9	77747.4	0.239 mg/L	239.1 mg/kg
2	Ni 231.603	0.2	0.3	0.001 mg/L	0.525 mg/kg
2	P 178.221	0.3	0.3	-0.008 mg/L	-8.176 mg/kg
2	Pb 220.353	-0.7	-0.8	-0.007 mg/L	-7.164 mg/kg
2	Sb 206.833	-45.9	-47.4	-0.045 mg/L	-45.09 mg/kg
2	Se 196.026	4.8	4.9	0.039 mg/L	38.95 mg/kg
2	Si 251.611	555.4	573.3	-0.043 mg/L	-43.46 mg/kg
2	Sn 189.933	81.2	83.8	0.055 mg/L	55.12 mg/kg
2	Sr 407.771	-1891.9	-1952.9	0.000 mg/L	-0.470 mg/kg
2	Ti 334.941	755.2	779.6	-0.002 mg/L	-2.440 mg/kg
2	Tl 190.800	6.4	6.7	0.173 mg/L	173.0 mg/kg
2	V 292.402	-44.6	-46.1	0.000 mg/L	0.115 mg/kg
2	Zn 206.200	14.8	15.3	0.001 mg/L	0.630 mg/kg

Mean Data

ID: CCB
Sample Qty: 1.0000 g

Seq. No.: 53 Sample No.: 10
Prep. Vol.: 1.0 L
Data: Original

A/S Pos: 1
Dilution: 1.0: 1.0
Date: 5/20/02 17:25:12

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	512992.9	98	1.6	mg/kg				1.68%
Y 360.064	261004.8	98	1.8	mg/kg				1.78%
Ag 328.068	158.7	-0.012	0.0015	mg/L	-11.92	1.539	mg/kg	12.91%
*QC exceeds lower limit for Ag 328.068		Action. = Continue						
Al 396.140	-146.1	-0.021	0.0049	mg/L	-21.16	4.877	mg/kg	23.04%
As 188.979	-3.8	0.016	0.0236	mg/L	15.82	23.566	mg/kg	148.94%
B 249.773	347.5	-0.073	0.0002	mg/L	-73.40	0.204	mg/kg	0.28%
Ba 455.403	845.9	0.001	0.0000	mg/L	0.678	0.0361	mg/kg	5.33%
Be 234.861	-38.5	0.000	0.0001	mg/L	0.116	0.1446	mg/kg	124.65%
Ca 315.887	914.4	-0.003	0.0040	mg/L	-3.064	3.9625	mg/kg	129.34%
Cd 214.438	-76.3	-0.002	0.0006	mg/L	-2.048	0.5626	mg/kg	27.47%
Co 228.616	-3.7	-0.003	0.0067	mg/L	-3.032	6.7265	mg/kg	221.87%
Cr 205.558	28.4	0.006	0.0062	mg/L	6.052	6.1558	mg/kg	101.71%
Cu 324.764	-71.1	-0.005	0.0000	mg/L	-4.685	0.0187	mg/kg	0.40%
Fe 238.204	194.8	0.008	0.0006	mg/L	7.508	0.5603	mg/kg	7.46%
K 766.514	-2972.1	-0.076	0.0094	mg/L	-76.44	9.421	mg/kg	12.32%
Li 670.781	-120.9	0.002	0.0006	mg/L	1.630	0.6084	mg/kg	37.33%
Mg 279.074	18.9	0.007	0.0098	mg/L	6.699	9.8487	mg/kg	147.01%
Mn 257.610	-28.7	-0.002	0.0000	mg/L	-1.685	0.0300	mg/kg	1.78%
Mo 202.031	45.0	0.010	0.0138	mg/L	9.759	13.7758	mg/kg	141.16%
Na 588.995	76491.7	0.164	0.1062	mg/L	164.0	106.25	mg/kg	64.78%
Ni 231.603	1.7	0.001	0.0011	mg/L	1.269	1.0521	mg/kg	82.92%
P 178.221	1.2	0.033	0.0586	mg/L	33.25	58.589	mg/kg	176.19%
Pb 220.353	4.1	0.010	0.0240	mg/L	9.820	24.0187	mg/kg	244.59%
Sb 206.833	-41.3	-0.008	0.0518	mg/L	-8.436	51.8394	mg/kg	614.51%
Se 196.026	3.9	0.025	0.0193	mg/L	25.29	19.328	mg/kg	76.43%
Si 251.611	551.9	-0.049	0.0077	mg/L	-48.91	7.711	mg/kg	15.77%
Sn 189.933	79.8	0.030	0.0350	mg/L	30.40	34.955	mg/kg	114.97%
Sr 407.771	-1942.9	0.000	0.0000	mg/L	-0.458	0.0173	mg/kg	3.78%
Ti 334.941	755.3	-0.003	0.0004	mg/L	-2.691	0.3546	mg/kg	13.18%
Tl 190.800	5.1	0.131	0.0595	mg/L	131.0	59.45	mg/kg	45.40%
*QC exceeds upper limit for Tl 190.800		Action = Continue						
V 292.402	-36.3	0.001	0.0010	mg/L	0.832	1.0135	mg/kg	121.81%
Zn 206.200	17.7	0.002	0.0017	mg/L	1.841	1.7126	mg/kg	93.04%

Replicate Data ----------

ID: 305325s Date: 5/20/02 17:29:24

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	493983.8	493983.8	94	mg/kg		
1	Y 360.064	249148.8	249148.8	94	mg/kg		
1	Ag 328.068	9073.3	9610.7	0.486	mg/L	48.59	mg/kg
1	Al 396.140	114119.8	120879.7	39.18	mg/L	3921	mg/kg
1	As 188.979	307.2	325.4	2.589	mg/L	259.1	mg/kg
1	B 249.773	6343.2	6718.9	0.551	mg/L	55.15	mg/kg
1	Ba 455.403	244515.0	258999.0	0.717	mg/L	71.72	mg/kg
1	Be 234.861	5636.3	5970.2	0.053	mg/L	5.279	mg/kg
1	Ca 315.887	2789911.2	2955173.8	303.9	mg/L	30420	mg/kg
1	Cd 214.438	2615.7	2770.6	0.497	mg/L	49.78	mg/kg
1	Co 228.616	1742.4	1845.6	0.515	mg/L	51.59	mg/kg
1	Cr 205.558	566.8	600.4	0.622	mg/L	62.23	mg/kg
1	Cu 324.764	8239.8	8727.9	0.548	mg/L	54.86	mg/kg
1	Fe 238.204	497148.1	526597.0	56.98	mg/L	5703	mg/kg
1	K 766.514	81613.6	86448.0	34.48	mg/L	3451	mg/kg
1	Li 670.781	64160.9	67961.5	0.545	mg/L	54.59	mg/kg
1	Mg 279.074	215847.3	228633.2	188.8	mg/L	18900	mg/kg
1	Mn 257.610	195121.2	206679.3	2.763	mg/L	276.5	mg/kg
1	Mo 202.031	685.4	726.0	1.018	mg/L	101.9	mg/kg
1	Na 588.995	512167.6	542506.2	28.05	mg/L	2807	mg/kg
1	Ni 231.603	965.5	1027.7	0.529	mg/L	52.96	mg/kg
1	P 178.221	78.4	83.0	3.972	mg/L	397.5	mg/kg
1	Pb 220.353	154.6	163.7	0.572	mg/L	57.25	mg/kg
1	Sb 206.833	706.5	748.4	4.794	mg/L	479.8	mg/kg
1	Se 196.026	176.7	187.2	2.548	mg/L	255.0	mg/kg
1	Si 251.611	89132.7	94412.6	23.00	mg/L	2302	mg/kg
1	Sn 189.933	846.2	896.4	3.820	mg/L	382.3	mg/kg
1	Sr 407.771	560663.0	593874.3	0.732	mg/L	73.21	mg/kg
1	Ti 334.941	241498.1	255803.5	2.686	mg/L	268.8	mg/kg

1	Tl 190.800	84.1	89.1	2.443 mg/L	244.5 mg/kg
1	V 292.402	8373.8	8869.8	0.653 mg/L	65.35 mg/kg
1	Zn 206.200	1188.4	1258.8	0.625 mg/L	62.53 mg/kg
2	Sc 357.253	494844.7	494844.7	95 mg/kg	
2	Y 360.064	249599.7	249599.7	94 mg/kg	
2	Ag 328.068	9073.3	9594.1	0.485 mg/L	48.50 mg/kg
2	Al 396.140	115272.2	121888.0	39.50 mg/L	3953 mg/kg
2	As 188.979	299.6	316.8	2.521 mg/L	252.3 mg/kg
2	B 249.773	6288.6	6649.6	0.543 mg/L	54.37 mg/kg
2	Ba 455.403	246843.9	261011.1	0.722 mg/L	72.27 mg/kg
2	Be 234.861	5646.4	5970.5	0.053 mg/L	5.275 mg/kg
2	Ca 315.887	2812840.9	2974278.4	305.9 mg/L	30620 mg/kg
2	Cd 214.438	2587.6	2736.2	0.491 mg/L	49.13 mg/kg
2	Co 228.616	1737.1	1836.8	0.513 mg/L	51.34 mg/kg
2	Cr 205.558	553.8	585.6	0.608 mg/L	60.80 mg/kg
2	Cu 324.764	8213.3	8684.7	0.545 mg/L	54.57 mg/kg
2	Fe 238.204	500622.6	529354.8	57.28 mg/L	5733 mg/kg
2	K 766.514	82298.9	87022.3	34.70 mg/L	3473 mg/kg
2	Li 670.781	64561.4	68266.8	0.548 mg/L	54.84 mg/kg
2	Mg 279.074	217317.5	229790.1	189.8 mg/L	18990 mg/kg
2	Mn 257.610	196625.2	207910.1	2.780 mg/L	278.2 mg/kg
2	Mo 202.031	704.8	745.2	1.047 mg/L	104.8 mg/kg
2	Na 588.995	516153.2	545776.8	28.24 mg/L	2826 mg/kg
2	Ni 231.603	944.1	1003.1	0.516 mg/L	51.69 mg/kg
2	P 178.221	79.3	83.8	4.011 mg/L	401.4 mg/kg
2	Pb 220.353	150.3	159.0	0.555 mg/L	55.57 mg/kg
2	Sb 206.833	712.8	753.7	4.826 mg/L	483.0 mg/kg
2	Se 196.026	180.8	191.2	2.603 mg/L	260.5 mg/kg
2	Si 251.611	88742.7	93835.9	22.85 mg/L	2286 mg/kg
2	Sn 189.933	838.9	887.0	3.759 mg/L	376.2 mg/kg
2	Sr 407.771	566066.0	598554.2	0.737 mg/L	73.79 mg/kg
2	Ti 334.941	243857.9	257853.7	2.707 mg/L	270.9 mg/kg
2	Tl 190.800	82.2	87.0	2.385 mg/L	238.7 mg/kg
2	V 292.402	8321.0	8798.6	0.648 mg/L	64.83 mg/kg
2	Zn 206.200	1188.8	1257.0	0.624 mg/L	62.44 mg/kg

Mean Data ----------

ID: 305325s Seq. No.: 54 Sample No.: 31 A/S Pos: 47
Sample Qty: 0.4996 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 17:29:24

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	494414.3	94	0.1	mg/kg				0.12%
Y 360.064	249374.3	94	0.1	mg/kg				0.13%
Ag 328.068	9602.4	0.485	0.0006	mg/L	48.55	0.062	mg/kg	0.13%
Al 396.140	121383.9	39.34	0.230	mg/L	3937	23.1	mg/kg	0.59%
As 188.979	321.1	2.555	0.0476	mg/L	255.7	4.76	mg/kg	1.86%
B 249.773	6684.2	0.547	0.0056	mg/L	54.76	0.557	mg/kg	1.02%
Ba 455.403	260005.0	0.719	0.0039	mg/L	72.00	0.391	mg/kg	0.54%
Be 234.861	5970.3	0.053	0.0000	mg/L	5.277	0.0027	mg/kg	0.05%
Ca 315.887	2964726.1	304.9	1.39	mg/L	30520	139.1	mg/kg	0.46%
Cd 214.438	2753.4	0.494	0.0046	mg/L	49.45	0.456	mg/kg	0.92%
Co 228.616	1841.2	0.514	0.0017	mg/L	51.47	0.174	mg/kg	0.34%
Cr 205.558	593.0	0.615	0.0101	mg/L	61.52	1.007	mg/kg	1.64%
Cu 324.764	8706.3	0.547	0.0021	mg/L	54.72	0.206	mg/kg	0.38%
Fe 238.204	527975.9	57.13	0.211	mg/L	5718	21.1	mg/kg	0.37%
K 766.514	86735.2	34.59	0.157	mg/L	3462	15.7	mg/kg	0.45%
Li 670.781	68114.2	0.547	0.0017	mg/L	54.72	0.173	mg/kg	0.32%
Mg 279.074	229211.6	189.3	0.68	mg/L	18950	67.6	mg/kg	0.36%
Mn 257.610	207294.7	2.771	0.0116	mg/L	277.4	1.17	mg/kg	0.42%
Mo 202.031	735.6	1.033	0.0202	mg/L	103.4	2.02	mg/kg	1.95%
Na 588.995	544141.5	28.14	0.138	mg/L	2817	13.8	mg/kg	0.49%
Ni 231.603	1015.4	0.523	0.0090	mg/L	52.32	0.897	mg/kg	1.71%
P 178.221	83.4	3.991	0.0277	mg/L	399.5	2.77	mg/kg	0.69%
Pb 220.353	161.3	0.564	0.0118	mg/L	56.41	1.182	mg/kg	2.10%
Sb 206.833	751.1	4.810	0.0228	mg/L	481.4	2.28	mg/kg	0.47%
Se 196.026	189.2	2.575	0.0389	mg/L	257.7	3.89	mg/kg	1.51%
Si 251.611	94124.3	22.92	0.107	mg/L	2294	10.7	mg/kg	0.47%
Sn 189.933	891.7	3.789	0.0437	mg/L	379.2	4.37	mg/kg	1.15%
Sr 407.771	596214.2	0.734	0.0041	mg/L	73.50	0.407	mg/kg	0.55%

Ti 334.941	256828.6	2.696	0.0152 mg/L	269.8	1.52 mg/kg	0.56%
Tl 190.800	88.0	2.414	0.0408 mg/L	241.6	4.08 mg/kg	1.69%
V 292.402	8834.2	0.650	0.0037 mg/L	65.09	0.369 mg/kg	0.57%
Zn 206.200	1257.9	0.624	0.0006 mg/L	62.49	0.064 mg/kg	0.10%

Replicate Data ----------

ID: 305325sd Date: 5/20/02 17:33:40

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	497419.4	497419.4	95	mg/kg		
1	Y 360.064	250852.3	250852.3	95	mg/kg		
1	Ag 328.068	9146.0	9620.9	0.486	mg/L	48.64	mg/kg
1	Al 396.140	114886.0	120850.9	39.17	mg/L	3920	mg/kg
1	As 188.979	304.5	320.4	2.549	mg/L	255.1	mg/kg
1	B 249.773	6222.6	6545.6	0.535	mg/L	53.56	mg/kg
1	Ba 455.403	248692.8	261605.0	0.722	mg/L	72.27	mg/kg
1	Be 234.861	5668.0	5962.3	0.053	mg/L	5.315	mg/kg
1	Ca 315.887	2560729.1	2693681.9	277.0	mg/L	27730	mg/kg
1	Cd 214.438	2582.1	2716.1	0.488	mg/L	48.84	mg/kg
1	Co 228.616	1734.8	1824.8	0.510	mg/L	51.01	mg/kg
1	Cr 205.558	568.3	597.8	0.616	mg/L	61.60	mg/kg
1	Cu 324.764	8352.0	8785.6	0.554	mg/L	55.41	mg/kg
1	Fe 238.204	476305.4	501035.1	54.21	mg/L	5426	mg/kg
1	K 766.514	82715.4	87009.9	34.70	mg/L	3472	mg/kg
1	Li 670.781	64661.6	68018.8	0.546	mg/L	54.64	mg/kg
1	Mg 279.074	199234.2	209578.5	173.1	mg/L	17320	mg/kg
1	Mn 257.610	187047.0	196758.5	2.631	mg/L	263.3	mg/kg
1	Mo 202.031	693.4	729.4	1.023	mg/L	102.4	mg/kg
1	Na 588.995	509390.5	535838.0	27.65	mg/L	2767	mg/kg
1	Ni 231.603	963.3	1018.4	0.524	mg/L	52.48	mg/kg
1	P 178.221	64.4	67.7	3.236	mg/L	323.9	mg/kg
1	Pb 220.353	150.4	158.2	0.552	mg/L	55.29	mg/kg
1	Sb 206.833	706.2	742.9	4.760	mg/L	476.4	mg/kg
1	Se 196.026	184.4	194.0	2.642	mg/L	264.4	mg/kg
1	Si 251.611	91752.3	96516.1	23.61	mg/L	2363	mg/kg
1	Sn 189.933	835.8	879.2	3.810	mg/L	381.3	mg/kg
1	Sr 407.771	555695.2	584546.9	0.720	mg/L	72.06	mg/kg
1	Ti 334.941	247723.1	260584.9	2.732	mg/L	273.4	mg/kg
1	Tl 190.800	83.9	88.3	2.415	mg/L	241.7	mg/kg
1	V 292.402	8365.7	8800.0	0.648	mg/L	64.84	mg/kg
1	Zn 206.200	1205.3	1267.9	0.629	mg/L	62.99	mg/kg
2	Sc 357.253	496355.1	496355.1	95	mg/kg		
2	Y 360.064	250301.2	250301.2	94	mg/kg		
2	Ag 328.068	9206.8	9705.6	0.491	mg/L	49.09	mg/kg
2	Al 396.140	115271.7	121516.6	39.38	mg/L	3942	mg/kg
2	As 188.979	303.2	319.6	2.543	mg/L	254.5	mg/kg
2	B 249.773	6226.7	6564.1	0.537	mg/L	53.75	mg/kg
2	Ba 455.403	249131.7	262628.5	0.725	mg/L	72.55	mg/kg
2	Be 234.861	5618.2	5922.6	0.053	mg/L	5.273	mg/kg
2	Ca 315.887	2566038.2	2705054.4	278.2	mg/L	27840	mg/kg
2	Cd 214.438	2585.9	2726.0	0.490	mg/L	49.02	mg/kg
2	Co 228.616	1732.9	1826.8	0.510	mg/L	51.06	mg/kg
2	Cr 205.558	566.6	597.3	0.615	mg/L	61.57	mg/kg
2	Cu 324.764	8226.1	8671.7	0.546	mg/L	54.66	mg/kg
2	Fe 238.204	476506.8	502321.8	54.35	mg/L	5440	mg/kg
2	K 766.514	82815.4	87302.0	34.81	mg/L	3484	mg/kg
2	Li 670.781	64713.7	68219.6	0.548	mg/L	54.80	mg/kg
2	Mg 279.074	199497.5	210305.4	173.7	mg/L	17380	mg/kg
2	Mn 257.610	187343.5	197492.9	2.640	mg/L	264.2	mg/kg
2	Mo 202.031	696.8	734.6	1.031	mg/L	103.2	mg/kg
2	Na 588.995	510502.3	538159.0	27.79	mg/L	2781	mg/kg
2	Ni 231.603	962.6	1019.9	0.525	mg/L	52.55	mg/kg
2	P 178.221	68.2	71.9	3.436	mg/L	343.8	mg/kg
2	Pb 220.353	158.7	167.3	0.584	mg/L	58.49	mg/kg
2	Sb 206.833	695.4	733.0	4.701	mg/L	470.4	mg/kg
2	Se 196.026	184.5	194.5	2.649	mg/L	265.1	mg/kg
2	Si 251.611	91131.7	96068.8	23.49	mg/L	2351	mg/kg
2	Sn 189.933	847.7	893.6	3.895	mg/L	389.8	mg/kg
2	Sr 407.771	556685.1	586843.7	0.723	mg/L	72.35	mg/kg

2 Ti 334.941	248174.2	261619.1	2.743 mg/L	274.5 mg/kg	
2 Tl 190.800	79.4	83.7	2.292 mg/L	229.4 mg/kg	
2 V 292.402	8365.8	8819.0	0.649 mg/L	64.98 mg/kg	
2 Zn 206.200	1193.5	1258.2	0.624 mg/L	62.50 mg/kg	

Mean Data ----------

ID: 305325sd Seq. No.: 55 Sample No.: 32 A/S Pos: 48
Sample Qty: 0.4996 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 17:33:40

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	496887.2	95	0.1	mg/kg				0.15%
Y 360.064	250576.7	94	0.1	mg/kg				0.16%
Ag 328.068	9663.2	0.488	0.0032	mg/L	48.87	0.315	mg/kg	0.65%
Al 396.140	121183.8	39.28	0.152	mg/L	3931	15.3	mg/kg	0.39%
As 188.979	320.0	2.546	0.0041	mg/L	254.8	0.41	mg/kg	0.16%
B 249.773	6554.8	0.536	0.0013	mg/L	53.65	0.130	mg/kg	0.24%
Ba 455.403	262116.7	0.724	0.0020	mg/L	72.41	0.200	mg/kg	0.28%
Be 234.861	5942.5	0.053	0.0003	mg/L	5.294	0.0295	mg/kg	0.56%
Ca 315.887	2699368.2	277.6	0.83	mg/L	27790	82.8	mg/kg	0.30%
Cd 214.438	2721.1	0.489	0.0013	mg/L	48.93	0.130	mg/kg	0.27%
Co 228.616	1825.8	0.510	0.0004	mg/L	51.04	0.040	mg/kg	0.08%
Cr 205.558	597.6	0.615	0.0003	mg/L	61.58	0.027	mg/kg	0.04%
Cu 324.764	8728.7	0.550	0.0053	mg/L	55.03	0.530	mg/kg	0.96%
Fe 238.204	501678.5	54.28	0.098	mg/L	5433	9.9	mg/kg	0.18%
K 766.514	87155.9	34.75	0.080	mg/L	3478	8.0	mg/kg	0.23%
Li 670.781	68119.2	0.547	0.0011	mg/L	54.72	0.114	mg/kg	0.21%
Mg 279.074	209941.9	173.4	0.42	mg/L	17350	42.5	mg/kg	0.24%
Mn 257.610	197125.7	2.635	0.0069	mg/L	263.8	0.70	mg/kg	0.26%
Mo 202.031	732.0	1.027	0.0055	mg/L	102.8	0.55	mg/kg	0.53%
Na 588.995	536998.5	27.72	0.098	mg/L	2774	9.8	mg/kg	0.35%
Ni 231.603	1019.2	0.525	0.0005	mg/L	52.52	0.052	mg/kg	0.10%
P 178.221	69.8	3.336	0.1408	mg/L	333.9	14.09	mg/kg	4.22%
Pb 220.353	162.7	0.568	0.0226	mg/L	56.89	2.265	mg/kg	3.98%
Sb 206.833	737.9	4.731	0.0422	mg/L	473.4	4.22	mg/kg	0.89%
Se 196.026	194.3	2.646	0.0050	mg/L	264.8	0.50	mg/kg	0.19%
Si 251.611	96292.5	23.55	0.083	mg/L	2357	8.3	mg/kg	0.35%
Sn 189.933	886.4	3.852	0.0597	mg/L	385.6	5.97	mg/kg	1.55%
Sr 407.771	585695.3	0.721	0.0020	mg/L	72.20	0.200	mg/kg	0.28%
Ti 334.941	261102.0	2.737	0.0077	mg/L	273.9	0.77	mg/kg	0.28%
Tl 190.800	86.0	2.354	0.0866	mg/L	235.6	8.67	mg/kg	3.68%
V 292.402	8809.5	0.649	0.0010	mg/L	64.91	0.098	mg/kg	0.15%
Zn 206.200	1263.0	0.627	0.0035	mg/L	62.74	0.346	mg/kg	0.55%

Replicate Data ----------

ID: 3053251 Date: 5/20/02 17:37:53

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	516679.9	516679.9	99	mg/kg		
1	Y 360.064	262871.4	262871.4	99	mg/kg		
1	Ag 328.068	75.9	76.9	-0.016	mg/L	-8.108	mg/kg
1	Al 396.140	15865.1	16066.7	5.219	mg/L	2609	mg/kg
1	As 188.979	-9.1	-9.3	-0.027	mg/L	-13.52	mg/kg
1	B 249.773	601.5	609.1	-0.059	mg/L	-29.45	mg/kg
1	Ba 455.403	13593.5	13766.2	0.038	mg/L	19.16	mg/kg
1	Be 234.861	110.3	111.7	0.001	mg/L	0.349	mg/kg
1	Ca 315.887	561157.9	568288.5	58.37	mg/L	29170	mg/kg
1	Cd 214.438	-48.9	-49.5	0.001	mg/L	0.429	mg/kg
1	Co 228.616	30.3	30.7	0.007	mg/L	3.302	mg/kg
1	Cr 205.558	26.9	27.3	0.011	mg/L	5.316	mg/kg
1	Cu 324.764	184.2	186.5	0.009	mg/L	4.313	mg/kg
1	Fe 238.204	95276.4	96487.1	10.43	mg/L	5213	mg/kg
1	K 766.514	-253.7	-257.0	0.973	mg/L	486.2	mg/kg
1	Li 670.781	400.2	405.3	0.006	mg/L	2.915	mg/kg
1	Mg 279.074	38701.9	39193.7	32.36	mg/L	16180	mg/kg
1	Mn 257.610	38429.8	38918.1	0.519	mg/L	259.5	mg/kg
1	Mo 202.031	38.1	38.6	0.000	mg/L	0.198	mg/kg
1	Na 588.995	79682.0	80694.5	0.415	mg/L	207.6	mg/kg
1	Ni 231.603	20.5	20.7	0.011	mg/L	5.520	mg/kg

1	P 178.221	-0.3	-0.3	-0.038 mg/L	-18.75 mg/kg
1	Pb 220.353	4.6	4.7	0.012 mg/L	6.036 mg/kg
1	Sb 206.833	-40.5	-41.0	-0.006 mg/L	-3.084 mg/kg
1	Se 196.026	13.2	13.4	0.156 mg/L	77.73 mg/kg
1	Si 251.611	16743.9	16956.7	3.982 mg/L	1990 mg/kg
1	Sn 189.933	74.4	75.3	-0.183 mg/L	-91.26 mg/kg
1	Sr 407.771	26470.2	26806.5	0.035 mg/L	17.42 mg/kg
1	Ti 334.941	27853.8	28207.8	0.289 mg/L	144.5 mg/kg
1	Tl 190.800	4.4	4.4	0.114 mg/L	56.97 mg/kg
1	V 292.402	347.9	352.3	0.029 mg/L	14.64 mg/kg
1	Zn 206.200	59.7	60.4	0.023 mg/L	11.63 mg/kg
2	Sc 357.253	512458.7	512458.7	98 mg/kg	
2	Y 360.064	260763.2	260763.2	98 mg/kg	
2	Ag 328.068	94.8	96.8	-0.015 mg/L	-7.585 mg/kg
2	Al 396.140	16080.8	16419.3	5.334 mg/L	2666 mg/kg
2	As 188.979	-7.1	-7.3	-0.012 mg/L	-5.876 mg/kg
2	B 249.773	609.6	622.4	-0.058 mg/L	-28.82 mg/kg
2	Ba 455.403	13753.6	14043.1	0.039 mg/L	19.55 mg/kg
2	Be 234.861	129.0	131.7	0.001 mg/L	0.442 mg/kg
2	Ca 315.887	561506.2	573325.2	58.89 mg/L	29430 mg/kg
2	Cd 214.438	-40.0	-40.9	0.002 mg/L	1.219 mg/kg
2	Co 228.616	24.8	25.3	0.005 mg/L	2.546 mg/kg
2	Cr 205.558	31.6	32.2	0.016 mg/L	7.793 mg/kg
2	Cu 324.764	201.1	205.3	0.010 mg/L	4.901 mg/kg
2	Fe 238.204	95855.3	97872.9	10.58 mg/L	5288 mg/kg
2	K 766.514	-274.4	-280.1	0.964 mg/L	481.7 mg/kg
2	Li 670.781	373.5	381.4	0.006 mg/L	2.820 mg/kg
2	Mg 279.074	38913.4	39732.4	32.81 mg/L	16400 mg/kg
2	Mn 257.610	38762.8	39578.7	0.528 mg/L	263.9 mg/kg
2	Mo 202.031	38.9	39.7	0.002 mg/L	1.002 mg/kg
2	Na 588.995	79842.8	81523.4	0.465 mg/L	232.4 mg/kg
2	Ni 231.603	16.9	17.1	0.009 mg/L	4.605 mg/kg
2	P 178.221	5.2	5.3	0.232 mg/L	116.1 mg/kg
2	Pb 220.353	12.7	13.0	0.041 mg/L	20.67 mg/kg
2	Sb 206.833	-42.3	-43.2	-0.019 mg/L	-9.698 mg/kg
2	Se 196.026	4.6	4.7	0.036 mg/L	17.80 mg/kg
2	Si 251.611	16857.4	17212.2	4.045 mg/L	2022 mg/kg
2	Sn 189.933	68.1	69.6	-0.221 mg/L	-110.5 mg/kg
2	Sr 407.771	26719.2	27281.6	0.035 mg/L	17.72 mg/kg
2	Ti 334.941	28160.5	28753.3	0.295 mg/L	147.3 mg/kg
2	Tl 190.800	3.6	3.7	0.093 mg/L	46.64 mg/kg
2	V 292.402	286.8	292.9	0.025 mg/L	12.46 mg/kg
2	Zn 206.200	63.0	64.4	0.025 mg/L	12.62 mg/kg

Mean Data ----------

ID: 3053251 Seq. No.: 56 Sample No.: 33 A/S Pos: 49
Sample Qty: 0.5002 g Prep. Vol.: 50.0 mL Dilution: 1.0: 5.0
Data: Original Date: 5/20/02 17:37:53

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	514569.3	98	0.6	mg/kg				0.58%
Y 360.064	261817.3	99	0.6	mg/kg				0.57%
Ag 328.068	86.8	-0.016	0.0007	mg/L	-7.846	0.3697	mg/kg	4.71%
Al 396.140	16243.0	5.277	0.0807	mg/L	2637	40.4	mg/kg	1.53%
As 188.979	-8.3	-0.019	0.0108	mg/L	-9.699	5.4055	mg/kg	55.73%
B 249.773	615.8	-0.058	0.0009	mg/L	-29.14	0.440	mg/kg	1.51%
Ba 455.403	13904.7	0.039	0.0005	mg/L	19.35	0.274	mg/kg	1.42%
Be 234.861	121.7	0.001	0.0001	mg/L	0.396	0.0656	mg/kg	16.57%
Ca 315.887	570806.9	58.63	0.366	mg/L	29300	183.1	mg/kg	0.62%
Cd 214.438	-45.2	0.002	0.0011	mg/L	0.824	0.5592	mg/kg	67.86%
Co 228.616	28.0	0.006	0.0011	mg/L	2.924	0.5348	mg/kg	18.29%
Cr 205.558	29.7	0.013	0.0035	mg/L	6.555	1.7513	mg/kg	26.72%
Cu 324.764	195.9	0.009	0.0008	mg/L	4.607	0.4158	mg/kg	9.03%
Fe 238.204	97180.0	10.50	0.106	mg/L	5250	53.0	mg/kg	1.01%
K 766.514	-268.6	0.968	0.0063	mg/L	484.0	3.17	mg/kg	0.65%
Li 670.781	393.3	0.006	0.0001	mg/L	2.868	0.0676	mg/kg	2.36%
Mg 279.074	39463.1	32.59	0.315	mg/L	16290	157.3	mg/kg	0.97%
Mn 257.610	39248.4	0.524	0.0062	mg/L	261.7	3.12	mg/kg	1.19%
Mo 202.031	39.2	0.001	0.0011	mg/L	0.600	0.5684	mg/kg	94.73%
Na 588.995	81108.9	0.440	0.0351	mg/L	220.0	17.53	mg/kg	7.97%

Ni 231.603	18.9	0.010	0.0013 mg/L	5.062	0.6464 mg/kg	12.77%
P 178.221	2.5	0.097	0.1908 mg/L	48.69	95.377 mg/kg	195.87%
Pb 220.353	8.9	0.027	0.0207 mg/L	13.35	10.348 mg/kg	77.49%
Sb 206.833	-42.1	-0.013	0.0094 mg/L	-6.391	4.6766 mg/kg	73.17%
Se 196.026	9.0	0.096	0.0848 mg/L	47.76	42.372 mg/kg	88.71%
Si 251.611	17084.4	4.014	0.0446 mg/L	2006	22.3 mg/kg	1.11%
Sn 189.933	72.4	-0.202	0.0272 mg/L	-100.9	13.58 mg/kg	13.46%
Sr 407.771	27044.0	0.035	0.0004 mg/L	17.57	0.206 mg/kg	1.17%
Ti 334.941	28480.5	0.292	0.0040 mg/L	145.9	2.02 mg/kg	1.39%
Tl 190.800	4.1	0.104	0.0146 mg/L	51.80	7.310 mg/kg	14.11%
V 292.402	322.6	0.027	0.0031 mg/L	13.55	1.538 mg/kg	11.35%
Zn 206.200	62.4	0.024	0.0014 mg/L	12.13	0.696 mg/kg	5.74%

Replicate Data ----------

ID: 305325pds Date: 5/20/02 17:42:06

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	496470.5	496470.5	95	mg/kg		
1	Y 360.064	250581.0	250581.0	94	mg/kg		
1	Ag 328.068	8925.3	9406.7	0.475	mg/L	47.46	mg/kg
1	Al 396.140	87421.8	92136.5	29.88	mg/L	2987	mg/kg
1	As 188.979	297.1	313.1	2.493	mg/L	249.2	mg/kg
1	B 249.773	6085.1	6413.3	0.523	mg/L	52.31	mg/kg
1	Ba 455.403	243265.3	256384.7	0.709	mg/L	70.91	mg/kg
1	Be 234.861	5545.1	5844.2	0.052	mg/L	5.174	mg/kg
1	Ca 315.887	2895718.1	3051885.3	313.9	mg/L	31380	mg/kg
1	Cd 214.438	2545.2	2682.4	0.483	mg/L	48.32	mg/kg
1	Co 228.616	1773.4	1869.1	0.522	mg/L	52.19	mg/kg
1	Cr 205.558	546.5	576.0	0.597	mg/L	59.70	mg/kg
1	Cu 324.764	8217.3	8660.5	0.543	mg/L	54.30	mg/kg
1	Fe 238.204	465785.9	490905.9	53.12	mg/L	5310	mg/kg
1	K 766.514	77707.0	81897.8	32.72	mg/L	3271	mg/kg
1	Li 670.781	63111.4	66515.0	0.534	mg/L	53.37	mg/kg
1	Mg 279.074	222655.3	234663.2	193.8	mg/L	19370	mg/kg
1	Mn 257.610	219410.3	231243.2	3.092	mg/L	309.1	mg/kg
1	Mo 202.031	62.8	66.2	0.041	mg/L	4.115	mg/kg
1	Na 588.995	494861.3	521549.4	26.79	mg/L	2678	mg/kg
1	Ni 231.603	959.6	1015.6	0.523	mg/L	52.27	mg/kg
1	P 178.221	75.3	79.4	3.798	mg/L	379.7	mg/kg
1	Pb 220.353	152.6	160.8	0.562	mg/L	56.16	mg/kg
1	Sb 206.833	-51.3	-54.0	-0.086	mg/L	-8.557	mg/kg
1	Se 196.026	174.2	183.6	2.498	mg/L	249.7	mg/kg
1	Si 251.611	78418.8	82647.9	19.98	mg/L	1997	mg/kg
1	Sn 189.933	52.5	55.3	-1.323	mg/L	-132.3	mg/kg
1	Sr 407.771	523881.8	552134.9	0.680	mg/L	68.00	mg/kg
1	Ti 334.941	129861.2	136864.7	1.454	mg/L	145.4	mg/kg
1	Tl 190.800	77.5	81.7	2.247	mg/L	224.6	mg/kg
1	V 292.402	8165.7	8606.1	0.634	mg/L	63.34	mg/kg
1	Zn 206.200	1158.1	1220.5	0.606	mg/L	60.54	mg/kg
2	Sc 357.253	493088.5	493088.5	94	mg/kg		
2	Y 360.064	248924.0	248924.0	94	mg/kg		
2	Ag 328.068	8918.2	9463.6	0.478	mg/L	47.76	mg/kg
2	Al 396.140	87972.5	93352.8	30.28	mg/L	3026	mg/kg
2	As 188.979	306.7	325.4	2.589	mg/L	258.8	mg/kg
2	B 249.773	6034.2	6403.3	0.522	mg/L	52.15	mg/kg
2	Ba 455.403	244059.9	258986.4	0.717	mg/L	71.63	mg/kg
2	Be 234.861	5537.8	5876.5	0.052	mg/L	5.199	mg/kg
2	Ca 315.887	2903624.6	3081207.6	316.9	mg/L	31680	mg/kg
2	Cd 214.438	2554.0	2710.2	0.488	mg/L	48.81	mg/kg
2	Co 228.616	1745.3	1852.1	0.517	mg/L	51.71	mg/kg
2	Cr 205.558	548.5	582.0	0.604	mg/L	60.34	mg/kg
2	Cu 324.764	8221.0	8723.8	0.547	mg/L	54.70	mg/kg
2	Fe 238.204	466994.0	495554.9	53.62	mg/L	5360	mg/kg
2	K 766.514	78097.1	82873.5	33.10	mg/L	3308	mg/kg
2	Li 670.781	63409.7	67287.7	0.540	mg/L	53.99	mg/kg
2	Mg 279.074	223287.5	236943.5	195.7	mg/L	19560	mg/kg
2	Mn 257.610	219957.7	233410.2	3.121	mg/L	312.0	mg/kg
2	Mo 202.031	46.1	48.9	0.016	mg/L	1.564	mg/kg
2	Na 588.995	496171.9	526517.3	27.09	mg/L	2708	mg/kg

2 Ni 231.603	944.3	1006.0	0.518 mg/L	51.78 mg/kg
2 P 178.221	81.2	86.1	4.123 mg/L	412.1 mg/kg
2 Pb 220.353	150.6	159.8	0.558 mg/L	55.80 mg/kg
2 Sb 206.833	-53.1	-56.3	-0.100 mg/L	-9.953 mg/kg
2 Se 196.026	185.8	197.1	2.685 mg/L	268.4 mg/kg
2 Si 251.611	78499.3	83300.2	20.13 mg/L	2013 mg/kg
2 Sn 189.933	55.8	59.2	-1.311 mg/L	-131.1 mg/kg
2 Sr 407.771	525744.4	557898.5	0.687 mg/L	68.70 mg/kg
2 Ti 334.941	129667.5	137597.9	1.462 mg/L	146.2 mg/kg
2 Tl 190.800	83.2	88.3	2.422 mg/L	242.1 mg/kg
2 V 292.402	8240.2	8744.2	0.644 mg/L	64.35 mg/kg
2 Zn 206.200	1172.2	1243.9	0.617 mg/L	61.71 mg/kg

Mean Data ----------

ID: 305325pds Seq. No.: 57 Sample No.: 34 A/S Pos: 50
Sample Qty: 0.5002 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 17:42:06

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	494779.5	95	0.5	mg/kg				0.48%
Y 360.064	249752.5	94	0.4	mg/kg				0.47%
Ag 328.068	9435.2	0.476	0.0021	mg/L	47.61	0.212	mg/kg	0.45%
Al 396.140	92744.6	30.08	0.279	mg/L	3007	27.9	mg/kg	0.93%
As 188.979	319.3	2.541	0.0678	mg/L	254.0	6.78	mg/kg	2.67%
B 249.773	6408.3	0.523	0.0012	mg/L	52.23	0.117	mg/kg	0.22%
Ba 455.403	257685.6	0.713	0.0051	mg/L	71.27	0.510	mg/kg	0.71%
Be 234.861	5860.4	0.052	0.0002	mg/L	5.186	0.0181	mg/kg	0.35%
Ca 315.887	3066546.4	315.4	2.13	mg/L	31530	213.2	mg/kg	0.68%
Cd 214.438	2696.3	0.486	0.0035	mg/L	48.56	0.347	mg/kg	0.71%
Co 228.616	1860.6	0.520	0.0034	mg/L	51.95	0.337	mg/kg	0.65%
Cr 205.558	579.0	0.600	0.0046	mg/L	60.02	0.456	mg/kg	0.76%
Cu 324.764	8692.1	0.545	0.0028	mg/L	54.50	0.277	mg/kg	0.51%
Fe 238.204	493230.4	53.37	0.356	mg/L	5335	35.6	mg/kg	0.67%
K 766.514	82385.6	32.91	0.267	mg/L	3290	26.7	mg/kg	0.81%
Li 670.781	66901.4	0.537	0.0044	mg/L	53.68	0.436	mg/kg	0.81%
Mg 279.074	235803.4	194.8	1.33	mg/L	19470	133.1	mg/kg	0.68%
Mn 257.610	232326.7	3.106	0.0205	mg/L	310.5	2.05	mg/kg	0.66%
Mo 202.031	57.5	0.028	0.0180	mg/L	2.840	1.8038	mg/kg	63.52%
Na 588.995	524033.4	26.94	0.210	mg/L	2693	21.0	mg/kg	0.78%
Ni 231.603	1010.8	0.520	0.0035	mg/L	52.02	0.347	mg/kg	0.67%
P 178.221	82.8	3.960	0.2295	mg/L	395.9	22.94	mg/kg	5.80%
Pb 220.353	160.3	0.560	0.0025	mg/L	55.98	0.251	mg/kg	0.45%
Sb 206.833	-55.2	-0.093	0.0099	mg/L	-9.255	0.9870	mg/kg	10.66%
Se 196.026	190.3	2.592	0.1321	mg/L	259.1	13.21	mg/kg	5.10%
Si 251.611	82974.1	20.05	0.111	mg/L	2005	11.1	mg/kg	0.56%
Sn 189.933	57.3	-1.317	0.0085	mg/L	-131.7	0.85	mg/kg	0.64%
Sr 407.771	555016.7	0.684	0.0050	mg/L	68.35	0.500	mg/kg	0.73%
Ti 334.941	137231.3	1.458	0.0057	mg/L	145.8	0.57	mg/kg	0.39%
Tl 190.800	85.0	2.334	0.1242	mg/L	233.4	12.42	mg/kg	5.32%
V 292.402	8675.2	0.639	0.0071	mg/L	63.85	0.715	mg/kg	1.12%
Zn 206.200	1232.2	0.611	0.0083	mg/L	61.12	0.830	mg/kg	1.36%

Replicate Data ----------

ID: 305326 Date: 5/20/02 17:46:22

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	492839.2	492839.2	94	mg/kg		
1	Y 360.064	249178.6	249178.6	94	mg/kg		
1	Ag 328.068	-35.1	-37.3	-0.022	mg/L	-2.225	mg/kg
1	Al 396.140	85319.0	90582.8	29.37	mg/L	2939	mg/kg
1	As 188.979	11.0	11.7	0.137	mg/L	13.70	mg/kg
1	B 249.773	1568.8	1665.5	0.012	mg/L	1.178	mg/kg
1	Ba 455.403	81144.3	86150.6	0.252	mg/L	25.18	mg/kg
1	Be 234.861	690.2	732.8	0.001	mg/L	0.076	mg/kg
1	Ca 315.887	3246054.2	3446322.4	354.5	mg/L	35480	mg/kg
1	Cd 214.438	46.1	49.0	-0.005	mg/L	-0.499	mg/kg
1	Co 228.616	85.8	91.0	0.024	mg/L	2.355	mg/kg
1	Cr 205.558	77.6	82.4	0.115	mg/L	11.48	mg/kg
1	Cu 324.764	1412.8	1500.0	0.076	mg/L	7.614	mg/kg

1	Fe 238.204	444952.8	472404.6	51.12 mg/L	5116 mg/kg
1	K 766.514	8175.5	8679.9	4.426 mg/L	443.0 mg/kg
1	Li 670.781	2030.1	2155.3	0.020 mg/L	1.983 mg/kg
1	Mg 279.074	229691.3	243862.4	201.4 mg/L	20160 mg/kg
1	Mn 257.610	175778.2	186623.0	2.495 mg/L	249.7 mg/kg
1	Mo 202.031	49.5	52.5	0.021 mg/L	2.102 mg/kg
1	Na 588.995	99690.1	105840.6	1.920 mg/L	192.1 mg/kg
1	Ni 231.603	67.1	71.4	0.037 mg/L	3.718 mg/kg
1	P 178.221	43.8	46.5	2.213 mg/L	221.5 mg/kg
1	Pb 220.353	18.3	19.5	0.064 mg/L	6.413 mg/kg
1	Sb 206.833	-53.0	-56.2	-0.099 mg/L	-9.907 mg/kg
1	Se 196.026	7.9	8.4	0.087 mg/L	8.678 mg/kg
1	Si 251.611	65997.7	70069.4	16.73 mg/L	1675 mg/kg
1	Sn 189.933	50.4	53.6	-1.309 mg/L	-131.0 mg/kg
1	Sr 407.771	129176.0	137145.6	0.170 mg/L	17.06 mg/kg
1	Ti 334.941	124650.7	132341.2	1.408 mg/L	140.9 mg/kg
1	Tl 190.800	2.1	2.2	0.121 mg/L	12.12 mg/kg
1	V 292.402	1577.5	1674.8	0.126 mg/L	12.62 mg/kg
1	Zn 206.200	251.8	267.3	0.127 mg/L	12.72 mg/kg
2	Sc 357.253	488505.0	488505.0	93 mg/kg	
2	Y 360.064	247144.5	247144.5	93 mg/kg	
2	Ag 328.068	-74.5	-79.8	-0.024 mg/L	-2.449 mg/kg
2	Al 396.140	85869.6	91976.3	29.82 mg/L	2984 mg/kg
2	As 188.979	11.6	12.4	0.143 mg/L	14.27 mg/kg
2	B 249.773	1549.9	1660.1	0.011 mg/L	1.054 mg/kg
2	Ba 455.403	81465.4	87258.9	0.255 mg/L	25.51 mg/kg
2	Be 234.861	676.3	724.4	0.001 mg/L	0.060 mg/kg
2	Ca 315.887	3256294.0	3487867.7	358.8 mg/L	35900 mg/kg
2	Cd 214.438	69.8	74.7	0.000 mg/L	-0.046 mg/kg
2	Co 228.616	94.7	101.5	0.026 mg/L	2.648 mg/kg
2	Cr 205.558	75.3	80.7	0.114 mg/L	11.37 mg/kg
2	Cu 324.764	1420.3	1521.3	0.077 mg/L	7.726 mg/kg
2	Fe 238.204	446059.4	477781.2	51.70 mg/L	5174 mg/kg
2	K 766.514	8177.0	8758.5	4.457 mg/L	446.0 mg/kg
2	Li 670.781	1956.8	2096.0	0.019 mg/L	1.935 mg/kg
2	Mg 279.074	230513.3	246906.4	203.9 mg/L	20410 mg/kg
2	Mn 257.610	175038.2	187486.1	2.507 mg/L	250.9 mg/kg
2	Mo 202.031	55.8	59.8	0.032 mg/L	3.177 mg/kg
2	Na 588.995	99589.7	106672.1	1.970 mg/L	197.1 mg/kg
2	Ni 231.603	64.0	68.7	0.036 mg/L	3.577 mg/kg
2	P 178.221	31.5	33.7	1.601 mg/L	160.2 mg/kg
2	Pb 220.353	5.1	5.5	0.015 mg/L	1.482 mg/kg
2	Sb 206.833	-50.9	-54.5	-0.089 mg/L	-8.877 mg/kg
2	Se 196.026	-6.1	-6.5	-0.119 mg/L	-11.88 mg/kg
2	Si 251.611	65815.3	70495.8	16.83 mg/L	1684 mg/kg
2	Sn 189.933	53.6	57.5	-1.300 mg/L	-130.1 mg/kg
2	Sr 407.771	129632.6	138851.5	0.173 mg/L	17.27 mg/kg
2	Ti 334.941	124239.6	133075.0	1.416 mg/L	141.7 mg/kg
2	Tl 190.800	1.1	1.2	0.095 mg/L	9.536 mg/kg
2	V 292.402	1536.3	1645.5	0.124 mg/L	12.41 mg/kg
2	Zn 206.200	256.5	274.8	0.131 mg/L	13.10 mg/kg

Mean Data ----------

ID: 305326 Seq. No.: 58 Sample No.: 35 A/S Pos: 51

Sample Qty: 0.4996 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 17:46:22

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	490672.1	94	0.6	mg/kg				0.62%
Y 360.064	248161.5	94	0.5	mg/kg				0.58%
Ag 328.068	-58.6	-0.023	0.0016	mg/L	-2.337	0.1585	mg/kg	6.78%
Al 396.140	91279.6	29.59	0.319	mg/L	2962	32.0	mg/kg	1.08%
As 188.979	12.1	0.140	0.0040	mg/L	13.98	0.400	mg/kg	2.86%
B 249.773	1662.8	0.011	0.0009	mg/L	1.116	0.0876	mg/kg	7.85%
Ba 455.403	86704.7	0.253	0.0023	mg/L	25.35	0.229	mg/kg	0.91%
Be 234.861	728.6	0.001	0.0001	mg/L	0.068	0.0117	mg/kg	17.12%
Ca 315.887	3467095.0	356.6	3.02	mg/L	35690	302.5	mg/kg	0.85%
Cd 214.438	61.8	-0.003	0.0032	mg/L	-0.273	0.3199	mg/kg	117.35%
Co 228.616	96.3	0.025	0.0021	mg/L	2.502	0.2070	mg/kg	8.27%
Cr 205.558	81.5	0.114	0.0007	mg/L	11.43	0.074	mg/kg	0.65%

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Cu 324.764	1510.6	0.077	0.0008 mg/L	7.670	0.0791 mg/kg	1.03%
Fe 238.204	475092.9	51.41	0.411 mg/L	5145	41.2 mg/kg	0.80%
K 766.514	8719.2	4.442	0.0215 mg/L	444.5	2.15 mg/kg	0.48%
Li 670.781	2125.6	0.020	0.0003 mg/L	1.959	0.0335 mg/kg	1.71%
Mg 279.074	245384.4	202.7	1.78 mg/L	20280	177.9 mg/kg	0.88%
Mn 257.610	187054.6	2.501	0.0082 mg/L	250.3	0.82 mg/kg	0.33%
Mo 202.031	56.2	0.026	0.0076 mg/L	2.640	0.7602 mg/kg	28.80%
Na 588.995	106256.3	1.945	0.0352 mg/L	194.6	3.52 mg/kg	1.81%
Ni 231.603	70.1	0.036	0.0010 mg/L	3.647	0.0995 mg/kg	2.73%
P 178.221	40.1	1.907	0.4333 mg/L	190.9	43.36 mg/kg	22.72%
Pb 220.353	12.5	0.039	0.0348 mg/L	3.947	3.4869 mg/kg	88.33%
Sb 206.833	-55.4	-0.094	0.0073 mg/L	-9.392	0.7285 mg/kg	7.76%
Se 196.026	0.9	-0.016	0.1453 mg/L	-1.602	14.5380 mg/kg	907.60%
Si 251.611	70282.6	16.78	0.069 mg/L	1680	6.9 mg/kg	0.41%
Sn 189.933	55.5	-1.305	0.0060 mg/L	-130.6	0.60 mg/kg	0.46%
Sr 407.771	137998.5	0.171	0.0015 mg/L	17.16	0.148 mg/kg	0.86%
Ti 334.941	132708.1	1.412	0.0058 mg/L	141.3	0.58 mg/kg	0.41%
Tl 190.800	1.7	0.108	0.0183 mg/L	10.83	1.827 mg/kg	16.88%
V 292.402	1660.2	0.125	0.0015 mg/L	12.52	0.152 mg/kg	1.21%
Zn 206.200	271.0	0.129	0.0026 mg/L	12.91	0.263 mg/kg	2.04%

Replicate Data ----------

ID: 305327 Date: 5/20/02 17:50:37

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	531243.6	531243.6	102	mg/kg		
1	Y 360.064	268885.7	268885.7	101	mg/kg		
1	Ag 328.068	61.3	60.3	-0.017	mg/L	-1.709	mg/kg
1	Al 396.140	35944.4	35403.2	11.48	mg/L	1148	mg/kg
1	As 188.979	5.5	5.4	0.088	mg/L	8.777	mg/kg
1	B 249.773	980.8	966.0	-0.036	mg/L	-3.585	mg/kg
1	Ba 455.403	23984.9	23623.8	0.073	mg/L	7.314	mg/kg
1	Be 234.861	309.2	304.6	0.000	mg/L	-0.025	mg/kg
1	Ca 315.887	2005350.8	1975158.8	203.1	mg/L	20310	mg/kg
1	Cd 214.438	7.6	7.5	0.000	mg/L	-0.035	mg/kg
1	Co 228.616	52.3	51.5	0.012	mg/L	1.245	mg/kg
1	Cr 205.558	52.8	52.0	0.060	mg/L	5.994	mg/kg
1	Cu 324.764	564.7	556.2	0.024	mg/L	2.427	mg/kg
1	Fe 238.204	248140.5	244404.5	26.44	mg/L	2643	mg/kg
1	K 766.514	5143.9	5066.5	3.030	mg/L	302.9	mg/kg
1	Li 670.781	818.3	806.0	0.009	mg/L	0.903	mg/kg
1	Mg 279.074	136583.0	134526.7	111.1	mg/L	11110	mg/kg
1	Mn 257.610	83625.8	82366.7	1.100	mg/L	110.0	mg/kg
1	Mo 202.031	49.0	48.3	0.015	mg/L	1.472	mg/kg
1	Na 588.995	97134.5	95672.1	1.312	mg/L	131.1	mg/kg
1	Ni 231.603	28.6	28.2	0.015	mg/L	1.491	mg/kg
1	P 178.221	25.4	25.1	1.182	mg/L	118.2	mg/kg
1	Pb 220.353	8.2	8.1	0.024	mg/L	2.411	mg/kg
1	Sb 206.833	-54.3	-53.5	-0.082	mg/L	-8.209	mg/kg
1	Se 196.026	-2.8	-2.7	-0.066	mg/L	-6.602	mg/kg
1	Si 251.611	46696.7	45993.7	11.02	mg/L	1102	mg/kg
1	Sn 189.933	55.5	54.7	-0.754	mg/L	-75.36	mg/kg
1	Sr 407.771	80219.5	79011.7	0.099	mg/L	9.898	mg/kg
1	Ti 334.941	79944.2	78740.6	0.831	mg/L	83.09	mg/kg
1	Tl 190.800	4.0	4.0	0.139	mg/L	13.85	mg/kg
1	V 292.402	910.6	896.8	0.069	mg/L	6.914	mg/kg
1	Zn 206.200	112.5	110.8	0.049	mg/L	4.853	mg/kg
2	Sc 357.253	531141.9	531141.9	102	mg/kg		
2	Y 360.064	268957.9	268957.9	101	mg/kg		
2	Ag 328.068	23.6	23.3	-0.019	mg/L	-1.904	mg/kg
2	Al 396.140	35434.6	34907.8	11.32	mg/L	1132	mg/kg
2	As 188.979	2.5	2.4	0.064	mg/L	6.430	mg/kg
2	B 249.773	969.3	954.9	-0.037	mg/L	-3.718	mg/kg
2	Ba 455.403	23566.4	23216.0	0.072	mg/L	7.201	mg/kg
2	Be 234.861	339.8	334.8	0.000	mg/L	0.005	mg/kg
2	Ca 315.887	2010330.7	1980442.7	203.7	mg/L	20360	mg/kg
2	Cd 214.438	12.8	12.6	0.001	mg/L	0.075	mg/kg
2	Co 228.616	63.0	62.1	0.015	mg/L	1.541	mg/kg
2	Cr 205.558	51.9	51.1	0.059	mg/L	5.909	mg/kg

2	Cu 324.764	515.7	508.0	0.021 mg/L	2.131 mg/kg
2	Fe 238.204	248391.0	244698.1	26.47 mg/L	2647 mg/kg
2	K 766.514	5064.1	4988.8	3.000 mg/L	299.9 mg/kg
2	Li 670.781	757.5	746.2	0.009 mg/L	0.855 mg/kg
2	Mg 279.074	134603.1	132601.9	109.5 mg/L	10950 mg/kg
2	Mn 257.610	82454.6	81228.8	1.085 mg/L	108.5 mg/kg
2	Mo 202.031	49.7	48.9	0.016 mg/L	1.564 mg/kg
2	Na 588.995	96984.0	95542.1	1.304 mg/L	130.4 mg/kg
2	Ni 231.603	33.8	33.3	0.018 mg/L	1.752 mg/kg
2	P 178.221	23.8	23.4	1.103 mg/L	110.3 mg/kg
2	Pb 220.353	12.5	12.3	0.039 mg/L	3.890 mg/kg
2	Sb 206.833	-40.9	-40.3	-0.002 mg/L	-0.192 mg/kg
2	Se 196.026	9.2	9.1	0.096 mg/L	9.624 mg/kg
2	Si 251.611	46089.1	45403.9	10.87 mg/L	1087 mg/kg
2	Sn 189.933	62.4	61.5	-0.694 mg/L	-69.42 mg/kg
2	Sr 407.771	80686.4	79486.8	0.100 mg/L	9.956 mg/kg
2	Ti 334.941	78886.5	77713.7	0.820 mg/L	82.03 mg/kg
2	Tl 190.800	-0.2	-0.2	0.026 mg/L	2.575 mg/kg
2	V 292.402	881.9	868.8	0.067 mg/L	6.709 mg/kg
2	Zn 206.200	127.0	125.1	0.056 mg/L	5.572 mg/kg

Mean Data

ID: 305327 Seq. No.: 59 Sample No.: 36 A/S Pos: 52
Sample Qty: 0.5001 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 17:50:37

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	531192.8	102	0.0	mg/kg				0.01%
Y 360.064	268921.8	101	0.0	mg/kg				0.02%
Ag 328.068	41.8	-0.018	0.0014	mg/L	-1.806	0.1379	mg/kg	7.64%
Al 396.140	35155.5	11.40	0.114	mg/L	1140	11.4	mg/kg	1.00%
As 188.979	3.9	0.076	0.0166	mg/L	7.604	1.6597	mg/kg	21.83%
B 249.773	960.4	-0.037	0.0009	mg/L	-3.651	0.0941	mg/kg	2.58%
Ba 455.403	23419.9	0.073	0.0008	mg/L	7.257	0.0799	mg/kg	1.10%
Be 234.861	319.7	0.000	0.0002	mg/L	-0.010	0.0208	mg/kg	207.06%
Ca 315.887	1977800.8	203.4	0.38	mg/L	20330	38.4	mg/kg	0.19%
Cd 214.438	10.0	0.000	0.0008	mg/L	0.020	0.0777	mg/kg	381.85%
Co 228.616	56.8	0.014	0.0021	mg/L	1.393	0.2093	mg/kg	15.02%
Cr 205.558	51.6	0.060	0.0006	mg/L	5.952	0.0602	mg/kg	1.01%
Cu 324.764	532.1	0.023	0.0021	mg/L	2.279	0.2098	mg/kg	9.21%
Fe 238.204	244551.3	26.45	0.022	mg/L	2645	2.2	mg/kg	0.08%
K 766.514	5027.6	3.015	0.0212	mg/L	301.4	2.12	mg/kg	0.70%
Li 670.781	776.1	0.009	0.0003	mg/L	0.879	0.0337	mg/kg	3.84%
Mg 279.074	133564.3	110.3	1.12	mg/L	11030	112.4	mg/kg	1.02%
Mn 257.610	81797.7	1.093	0.0108	mg/L	109.3	1.08	mg/kg	0.98%
Mo 202.031	48.6	0.015	0.0006	mg/L	1.518	0.0650	mg/kg	4.28%
Na 588.995	95607.1	1.308	0.0055	mg/L	130.7	0.55	mg/kg	0.42%
Ni 231.603	30.8	0.016	0.0018	mg/L	1.622	0.1845	mg/kg	11.37%
P 178.221	24.2	1.143	0.0558	mg/L	114.3	5.58	mg/kg	4.88%
Pb 220.353	10.2	0.032	0.0105	mg/L	3.150	1.0459	mg/kg	33.20%
Sb 206.833	-46.9	-0.042	0.0567	mg/L	-4.200	5.6691	mg/kg	134.97%
Se 196.026	3.2	0.015	0.1148	mg/L	1.511	11.4734	mg/kg	759.43%
Si 251.611	45698.8	10.95	0.101	mg/L	1094	10.1	mg/kg	0.92%
Sn 189.933	58.1	-0.724	0.0420	mg/L	-72.39	4.202	mg/kg	5.80%
Sr 407.771	79249.2	0.099	0.0004	mg/L	9.927	0.0413	mg/kg	0.42%
Ti 334.941	78227.2	0.826	0.0075	mg/L	82.56	0.753	mg/kg	0.91%
Tl 190.800	1.9	0.082	0.0797	mg/L	8.212	7.9726	mg/kg	97.08%
V 292.402	882.8	0.068	0.0015	mg/L	6.812	0.1454	mg/kg	2.13%
Zn 206.200	117.9	0.052	0.0051	mg/L	5.212	0.5086	mg/kg	9.76%

Replicate Data

ID: 305328 Date: 5/20/02 17:54:51

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	488139.1	488139.1	93	mg/kg		
1	Y 360.064	234441.1	234441.1	88	mg/kg		
1	Ag 328.068	-246.9	-264.7	-0.034	mg/L	-3.422	mg/kg
1	Al 396.140	61523.6	65948.3	21.33	mg/L	2135	mg/kg
1	As 188.979	0.7	0.8	0.051	mg/L	5.123	mg/kg

1	B 249.773	1432.8	1535.8	0.014 mg/L	1.360 mg/kg
1	Ba 455.403	44407.6	47601.4	0.159 mg/L	15.88 mg/kg
1	Be 234.861	552.7	592.5	-0.002 mg/L	-0.163 mg/kg
1	Ca 315.887	5268908.7	5647841.1	581.0 mg/L	58140 mg/kg
1	Cd 214.438	75.3	80.8	-0.001 mg/L	-0.080 mg/kg
1	Co 228.616	94.8	101.7	0.027 mg/L	2.653 mg/kg
1	Cr 205.558	66.0	70.7	0.123 mg/L	12.27 mg/kg
1	Cu 324.764	1073.4	1150.6	0.040 mg/L	4.041 mg/kg
1	Fe 238.204	377787.2	404957.1	43.82 mg/L	4385 mg/kg
1	K 766.514	8498.6	9109.8	4.593 mg/L	459.6 mg/kg
1	Li 670.781	1438.4	1541.8	0.015 mg/L	1.492 mg/kg
1	Mg 279.074	364139.5	390327.9	322.4 mg/L	32270 mg/kg
1	Mn 257.610	202759.5	217341.7	2.906 mg/L	290.8 mg/kg
1	Mo 202.031	43.7	46.8	0.013 mg/L	1.253 mg/kg
1	Na 588.995	110008.6	117920.2	2.643 mg/L	264.5 mg/kg
1	Ni 231.603	61.0	69.0	0.036 mg/L	3.591 mg/kg
1	P 178.221	41.2	44.2	2.104 mg/L	210.6 mg/kg
1	Pb 220.353	26.5	28.4	0.095 mg/L	9.545 mg/kg
1	Sb 206.833	-61.4	-65.9	-0.158 mg/L	-15.77 mg/kg
1	Se 196.026	-9.1	-9.7	-0.162 mg/L	-16.23 mg/kg
1	Si 251.611	56773.2	60856.2	13.82 mg/L	1383 mg/kg
1	Sn 189.933	54.6	58.5	-1.952 mg/L	-195.4 mg/kg
1	Sr 407.771	193759.5	207694.4	0.257 mg/L	25.73 mg/kg
1	Ti 334.941	110551.4	118502.1	1.290 mg/L	129.1 mg/kg
1	Tl 190.800	-3.6	-3.9	-0.001 mg/L	-0.076 mg/kg
1	V 292.402	1392.3	1492.4	0.113 mg/L	11.29 mg/kg
1	Zn 206.200	273.5	293.1	0.140 mg/L	14.02 mg/kg
2	Sc 357.253	482917.9	482917.9	92 mg/kg	
2	Y 360.064	235436.1	235436.1	89 mg/kg	
2	Ag 328.068	-103.5	-112.1	-0.026 mg/L	-2.619 mg/kg
2	Al 396.140	62078.3	67262.4	21.75 mg/L	2177 mg/kg
2	As 188.979	7.3	7.9	0.107 mg/L	10.70 mg/kg
2	B 249.773	1425.9	1545.0	0.014 mg/L	1.379 mg/kg
2	Ba 455.403	44858.1	48604.1	0.162 mg/L	16.20 mg/kg
2	Be 234.861	549.9	595.8	-0.002 mg/L	-0.172 mg/kg
2	Ca 315.887	5278852.7	5719678.6	588.4 mg/L	58880 mg/kg
2	Cd 214.438	62.7	67.9	-0.004 mg/L	-0.372 mg/kg
2	Co 228.616	103.8	112.5	0.030 mg/L	2.958 mg/kg
2	Cr 205.558	60.9	66.0	0.119 mg/L	11.91 mg/kg
2	Cu 324.764	1104.9	1197.2	0.043 mg/L	4.281 mg/kg
2	Fe 238.204	380820.6	412622.2	44.65 mg/L	4468 mg/kg
2	K 766.514	8615.3	9334.7	4.679 mg/L	468.3 mg/kg
2	Li 670.781	1647.2	1784.8	0.017 mg/L	1.687 mg/kg
2	Mg 279.074	366940.1	397582.5	328.4 mg/L	32870 mg/kg
2	Mn 257.610	204536.7	221617.2	2.963 mg/L	296.5 mg/kg
2	Mo 202.031	52.8	57.2	0.028 mg/L	2.799 mg/kg
2	Na 588.995	110408.7	119628.7	2.745 mg/L	274.7 mg/kg
2	Ni 231.603	59.2	66.7	0.035 mg/L	3.474 mg/kg
2	P 178.221	43.8	47.5	2.262 mg/L	226.4 mg/kg
2	Pb 220.353	29.6	32.1	0.108 mg/L	10.85 mg/kg
2	Sb 206.833	-48.9	-53.0	-0.079 mg/L	-7.932 mg/kg
2	Se 196.026	5.8	6.3	0.058 mg/L	5.776 mg/kg
2	Si 251.611	57313.1	62099.1	14.11 mg/L	1412 mg/kg
2	Sn 189.933	49.7	53.8	-2.024 mg/L	-202.6 mg/kg
2	Sr 407.771	193459.2	209614.6	0.259 mg/L	25.97 mg/kg
2	Ti 334.941	111473.8	120782.7	1.315 mg/L	131.6 mg/kg
2	Tl 190.800	-0.1	-0.1	0.101 mg/L	10.15 mg/kg
2	V 292.402	1264.8	1370.4	0.104 mg/L	10.39 mg/kg
2	Zn 206.200	265.2	287.4	0.137 mg/L	13.73 mg/kg

Mean Data ----------

ID: 305328 Seq. No.: 60 Sample No.: 37 A/S Pos: 53
Sample Qty: 0.4996 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 17:54:51

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	485528.5	93	0.7	mg/kg				0.76%
Y 360.064	234938.6	89	0.3	mg/kg				0.30%
Ag 328.068	-188.4	-0.030	0.0057	mg/L	-3.020	0.5682	mg/kg	18.81%
Al 396.140	66605.3	21.54	0.301	mg/L	2156	30.1	mg/kg	1.40%

As 188.979	4.3	0.079	0.0394 mg/L	7.910	3.9408 mg/kg	49.82%
B 249.773	1540.4	0.014	0.0001 mg/L	1.369	0.0141 mg/kg	1.03%
Ba 455.403	48102.7	0.160	0.0023 mg/L	16.04	0.226 mg/kg	1.41%
Be 234.861	594.1	-0.002	0.0001 mg/L	-0.168	0.0066 mg/kg	3.92%
Ca 315.887	5683759.9	584.7	5.23 mg/L	58510	523.0 mg/kg	0.89%
Cd 214.438	74.3	-0.002	0.0021 mg/L	-0.226	0.2069 mg/kg	91.54%
Co 228.616	107.1	0.028	0.0022 mg/L	2.806	0.2153 mg/kg	7.67%
Cr 205.558	68.4	0.121	0.0026 mg/L	12.09	0.256 mg/kg	2.12%
Cu 324.764	1173.9	0.042	0.0017 mg/L	4.161	0.1696 mg/kg	4.08%
Fe 238.204	408789.6	44.23	0.587 mg/L	4427	58.7 mg/kg	1.33%
K 766.514	9222.2	4.636	0.0615 mg/L	464.0	6.15 mg/kg	1.33%
Li 670.781	1663.3	0.016	0.0014 mg/L	1.590	0.1374 mg/kg	8.64%
Mg 279.074	393955.2	325.4	4.24 mg/L	32570	424.1 mg/kg	1.30%
Mn 257.610	219479.4	2.934	0.0404 mg/L	293.7	4.05 mg/kg	1.38%
Mo 202.031	52.0	0.020	0.0109 mg/L	2.026	1.0930 mg/kg	53.95%
Na 588.995	118774.5	2.694	0.0723 mg/L	269.6	7.23 mg/kg	2.68%
Ni 231.603	67.8	0.035	0.0008 mg/L	3.533	0.0828 mg/kg	2.34%
P 178.221	45.8	2.183	0.1114 mg/L	218.5	11.15 mg/kg	5.10%
Pb 220.353	30.2	0.102	0.0092 mg/L	10.20	0.923 mg/kg	9.05%
Sb 206.833	-59.4	-0.118	0.0554 mg/L	-11.85	5.540 mg/kg	46.75%
Se 196.026	-1.7	-0.052	0.1554 mg/L	-5.225	15.5574 mg/kg	297.76%
Si 251.611	61477.7	13.97	0.204 mg/L	1398	20.4 mg/kg	1.46%
Sn 189.933	56.2	-1.988	0.0507 mg/L	-199.0	5.07 mg/kg	2.55%
Sr 407.771	208654.5	0.258	0.0017 mg/L	25.85	0.167 mg/kg	0.65%
Ti 334.941	119642.4	1.302	0.0174 mg/L	130.3	1.74 mg/kg	1.34%
Tl 190.800	-2.0	0.050	0.0723 mg/L	5.039	7.2344 mg/kg	143.56%
V 292.402	1431.4	0.108	0.0063 mg/L	10.84	0.632 mg/kg	5.83%
Zn 206.200	290.2	0.139	0.0020 mg/L	13.87	0.205 mg/kg	1.48%

Replicate Data ----------
ID: Hg_ReAlign Date: 5/20/02 17:58:36

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Hg 253.652	75781.1	75781.1				

Replicate Data ----------
ID: 305329 Date: 5/20/02 18:00:09

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	504222.8	504222.8	96	mg/kg		
1	Y 360.064	255129.3	255129.3	96	mg/kg		
1	Ag 328.068	-43.3	-44.9	-0.023	mg/L	-2.261	mg/kg
1	Al 396.140	57927.9	60113.3	19.48	mg/L	1946	mg/kg
1	As 188.979	15.2	15.7	0.168	mg/L	16.82	mg/kg
1	B 249.773	1421.9	1475.6	0.001	mg/L	0.069	mg/kg
1	Ba 455.403	46831.5	48598.3	0.151	mg/L	15.12	mg/kg
1	Be 234.861	499.7	518.5	-0.001	mg/L	-0.105	mg/kg
1	Ca 315.887	3616923.4	3753377.4	386.1	mg/L	38570	mg/kg
1	Cd 214.438	41.3	42.8	-0.002	mg/L	-0.196	mg/kg
1	Co 228.616	100.8	104.6	0.027	mg/L	2.730	mg/kg
1	Cr 205.558	63.2	65.6	0.099	mg/L	9.867	mg/kg
1	Cu 324.764	857.0	889.4	0.034	mg/L	3.385	mg/kg
1	Fe 238.204	399281.6	414345.1	44.83	mg/L	4479	mg/kg
1	K 766.514	7668.4	7957.7	4.147	mg/L	414.3	mg/kg
1	Li 670.781	1275.2	1323.4	0.013	mg/L	1.315	mg/kg
1	Mg 279.074	261457.9	271321.8	224.1	mg/L	22390	mg/kg
1	Mn 257.610	166988.3	173288.2	2.317	mg/L	231.4	mg/kg
1	Mo 202.031	53.0	55.0	0.025	mg/L	2.466	mg/kg
1	Na 588.995	98686.9	102410.0	1.715	mg/L	171.3	mg/kg
1	Ni 231.603	49.7	51.6	0.027	mg/L	2.693	mg/kg
1	P 178.221	28.1	29.2	1.382	mg/L	138.0	mg/kg
1	Pb 220.353	17.7	18.4	0.060	mg/L	6.021	mg/kg
1	Sb 206.833	-51.5	-53.5	-0.082	mg/L	-8.203	mg/kg
1	Se 196.026	2.7	2.8	0.010	mg/L	0.957	mg/kg
1	Si 251.611	50177.0	52070.0	12.04	mg/L	1203	mg/kg
1	Sn 189.933	29.6	30.7	-1.602	mg/L	-160.0	mg/kg
1	Sr 407.771	138875.2	144114.5	0.179	mg/L	17.88	mg/kg
1	Ti 334.941	109091.2	113206.8	1.212	mg/L	121.1	mg/kg

1	Tl 190.800	-0.4	-0.4	0.060 mg/L	5.966 mg/kg
1	V 292.402	1465.7	1521.0	0.115 mg/L	11.47 mg/kg
1	Zn 206.200	238.7	247.7	0.117 mg/L	11.72 mg/kg
2	Sc 357.253	503673.8	503673.8	96 mg/kg	
2	Y 360.064	254904.6	254904.6	96 mg/kg	
2	Ag 328.068	-33.1	-34.4	-0.022 mg/L	-2.205 mg/kg
2	Al 396.140	57837.8	60085.2	19.47 mg/L	1945 mg/kg
2	As 188.979	-3.2	-3.3	0.019 mg/L	1.927 mg/kg
2	B 249.773	1417.4	1472.5	0.000 mg/L	-0.033 mg/kg
2	Ba 455.403	46666.7	48480.0	0.151 mg/L	15.11 mg/kg
2	Be 234.861	511.1	531.0	-0.001 mg/L	-0.102 mg/kg
2	Ca 315.887	3663937.7	3806309.6	391.5 mg/L	39110 mg/kg
2	Cd 214.438	40.4	42.0	-0.002 mg/L	-0.230 mg/kg
2	Co 228.616	101.7	105.6	0.028 mg/L	2.760 mg/kg
2	Cr 205.558	69.6	72.3	0.106 mg/L	10.60 mg/kg
2	Cu 324.764	914.3	949.9	0.038 mg/L	3.749 mg/kg
2	Fe 238.204	404410.4	420124.8	45.46 mg/L	4541 mg/kg
2	K 766.514	7575.3	7869.7	4.113 mg/L	410.9 mg/kg
2	Li 670.781	1313.4	1364.5	0.013 mg/L	1.348 mg/kg
2	Mg 279.074	264477.4	274754.4	226.9 mg/L	22670 mg/kg
2	Mn 257.610	166804.5	173286.1	2.317 mg/L	231.4 mg/kg
2	Mo 202.031	58.1	60.4	0.033 mg/L	3.256 mg/kg
2	Na 588.995	98787.1	102625.7	1.728 mg/L	172.6 mg/kg
2	Ni 231.603	70.5	73.4	0.038 mg/L	3.811 mg/kg
2	P 178.221	43.4	45.1	2.147 mg/L	214.5 mg/kg
2	Pb 220.353	22.2	23.0	0.077 mg/L	7.649 mg/kg
2	Sb 206.833	-54.1	-56.2	-0.099 mg/L	-9.880 mg/kg
2	Se 196.026	7.4	7.7	0.077 mg/L	7.739 mg/kg
2	Si 251.611	49992.3	51934.8	11.99 mg/L	1198 mg/kg
2	Sn 189.933	36.2	37.6	-1.576 mg/L	-157.4 mg/kg
2	Sr 407.771	140579.5	146042.1	0.181 mg/L	18.12 mg/kg
2	Ti 334.941	109151.3	113392.6	1.215 mg/L	121.4 mg/kg
2	Tl 190.800	2.7	2.8	0.144 mg/L	14.42 mg/kg
2	V 292.402	1507.2	1565.8	0.118 mg/L	11.80 mg/kg
2	Zn 206.200	225.3	234.1	0.110 mg/L	11.03 mg/kg

Mean Data ----------

ID: 305329
Sample Qty: 0.5005 g

Seq. No.: 62 Sample No.: 38
Prep. Vol.: 50.0 mL
Data: Original

A/S Pos: 54
Dilution: 1.0: 1.0
Date: 5/20/02 18:00:09

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	503948.3	96	0.1	mg/kg				0.08%
Y 360.064	255017.0	96	0.1	mg/kg				0.06%
Ag 328.068	-39.6	-0.022	0.0004	mg/L	-2.233	0.0393	mg/kg	1.76%
Al 396.140	60099.3	19.47	0.007	mg/L	1945	0.7	mg/kg	0.04%
As 188.979	6.2	0.094	0.1054	mg/L	9.371	10.5285	mg/kg	112.35%
B 249.773	1474.0	0.000	0.0007	mg/L	0.018	0.0719	mg/kg	403.72%
Ba 455.403	48539.2	0.151	0.0000	mg/L	15.12	0.002	mg/kg	0.01%
Be 234.861	524.7	-0.001	0.0000	mg/L	-0.103	0.0021	mg/kg	2.05%
Ca 315.887	3779843.5	388.8	3.85	mg/L	38840	384.7	mg/kg	0.99%
Cd 214.438	42.4	-0.002	0.0002	mg/L	-0.213	0.0238	mg/kg	11.18%
Co 228.616	105.1	0.027	0.0002	mg/L	2.745	0.0209	mg/kg	0.76%
Cr 205.558	68.9	0.102	0.0052	mg/L	10.23	0.517	mg/kg	5.05%
Cu 324.764	919.6	0.036	0.0026	mg/L	3.567	0.2570	mg/kg	7.20%
Fe 238.204	417234.9	45.14	0.442	mg/L	4510	44.2	mg/kg	0.98%
K 766.514	7913.7	4.130	0.0240	mg/L	412.6	2.40	mg/kg	0.58%
Li 670.781	1343.9	0.013	0.0002	mg/L	1.332	0.0232	mg/kg	1.74%
Mg 279.074	273038.1	225.5	2.00	mg/L	22530	200.3	mg/kg	0.89%
Mn 257.610	173287.1	2.317	0.0000	mg/L	231.4	0.00	mg/kg	0.00%
Mo 202.031	57.7	0.029	0.0056	mg/L	2.861	0.5584	mg/kg	19.52%
Na 588.995	102517.9	1.721	0.0091	mg/L	171.9	0.91	mg/kg	0.53%
Ni 231.603	62.5	0.033	0.0079	mg/L	3.252	0.7907	mg/kg	24.31%
P 178.221	37.1	1.764	0.5414	mg/L	176.3	54.08	mg/kg	30.68%
Pb 220.353	20.7	0.068	0.0115	mg/L	6.835	1.1507	mg/kg	16.84%
Sb 206.833	-54.8	-0.091	0.0119	mg/L	-9.042	1.1858	mg/kg	13.11%
Se 196.026	5.2	0.044	0.0480	mg/L	4.348	4.7953	mg/kg	110.28%
Si 251.611	52002.4	12.02	0.034	mg/L	1200	3.4	mg/kg	0.28%
Sn 189.933	34.2	-1.589	0.0186	mg/L	-158.7	1.86	mg/kg	1.17%
Sr 407.771	145078.3	0.180	0.0017	mg/L	18.00	0.167	mg/kg	0.93%

Ti 334.941	113299.7	1.214	0.0018 mg/L	121.2	0.18 mg/kg	0.15%
Tl 190.800	1.2	0.102	0.0598 mg/L	10.19	5.979 mg/kg	58.65%
V 292.402	1543.4	0.117	0.0023 mg/L	11.64	0.232 mg/kg	1.99%
Zn 206.200	240.9	0.114	0.0048 mg/L	11.37	0.484 mg/kg	4.25%

Replicate Data

ID: 305330 Date: 5/20/02 18:04:22

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	532255.5	532255.5	102	mg/kg		
1	Y 360.064	271199.8	271199.8	102	mg/kg		
1	Ag 328.068	-44.7	-43.9	-0.023	mg/L	-2.257	mg/kg
1	Al 396.140	160663.0	157943.2	51.25	mg/L	5123	mg/kg
1	As 188.979	-3.0	-3.0	0.022	mg/L	2.204	mg/kg
1	B 249.773	2158.7	2122.2	0.028	mg/L	2.773	mg/kg
1	Ba 455.403	173433.1	170497.2	0.475	mg/L	47.43	mg/kg
1	Be 234.861	1021.8	1004.5	0.002	mg/L	0.223	mg/kg
1	Ca 315.887	2453068.7	2411542.8	248.0	mg/L	24790	mg/kg
1	Cd 214.438	63.3	62.2	-0.003	mg/L	-0.330	mg/kg
1	Co 228.616	140.6	138.2	0.037	mg/L	3.675	mg/kg
1	Cr 205.558	100.6	98.9	0.130	mg/L	12.97	mg/kg
1	Cu 324.764	1362.6	1339.5	0.072	mg/L	7.184	mg/kg
1	Fe 238.204	696512.1	684721.5	74.10	mg/L	7407	mg/kg
1	K 766.514	12478.0	12266.8	5.813	mg/L	581.0	mg/kg
1	Li 670.781	3596.0	3535.2	0.031	mg/L	3.082	mg/kg
1	Mg 279.074	176273.8	173289.8	143.1	mg/L	14310	mg/kg
1	Mn 257.610	270054.2	265482.7	3.550	mg/L	354.8	mg/kg
1	Mo 202.031	48.4	47.6	0.014	mg/L	1.364	mg/kg
1	Na 588.995	99540.0	97855.0	1.442	mg/L	144.2	mg/kg
1	Ni 231.603	97.5	95.4	0.049	mg/L	4.943	mg/kg
1	P 178.221	40.6	39.9	1.897	mg/L	189.7	mg/kg
1	Pb 220.353	24.1	23.7	0.079	mg/L	7.886	mg/kg
1	Sb 206.833	-60.0	-58.9	-0.115	mg/L	-11.54	mg/kg
1	Se 196.026	10.7	10.5	0.116	mg/L	11.59	mg/kg
1	Si 251.611	68415.9	67257.8	16.29	mg/L	1628	mg/kg
1	Sn 189.933	51.6	50.7	-0.995	mg/L	-99.42	mg/kg
1	Sr 407.771	120486.1	118446.5	0.147	mg/L	14.74	mg/kg
1	Ti 334.941	188861.6	185664.5	1.950	mg/L	194.9	mg/kg
1	Tl 190.800	2.7	2.7	0.114	mg/L	11.41	mg/kg
1	V 292.402	2263.0	2224.7	0.166	mg/L	16.63	mg/kg
1	Zn 206.200	386.2	379.7	0.184	mg/L	18.34	mg/kg
2	Sc 357.253	532305.2	532305.2	102	mg/kg		
2	Y 360.064	271275.8	271275.8	102	mg/kg		
2	Ag 328.068	-33.9	-33.3	-0.022	mg/L	-2.201	mg/kg
2	Al 396.140	160462.4	157731.3	51.18	mg/L	5116	mg/kg
2	As 188.979	12.3	12.1	0.140	mg/L	13.99	mg/kg
2	B 249.773	2158.6	2121.8	0.028	mg/L	2.809	mg/kg
2	Ba 455.403	172919.0	169976.0	0.473	mg/L	47.29	mg/kg
2	Be 234.861	1014.3	997.1	0.002	mg/L	0.219	mg/kg
2	Ca 315.887	2445529.6	2403906.7	247.2	mg/L	24710	mg/kg
2	Cd 214.438	66.7	65.6	-0.003	mg/L	-0.255	mg/kg
2	Co 228.616	154.4	151.7	0.041	mg/L	4.054	mg/kg
2	Cr 205.558	96.6	94.9	0.126	mg/L	12.56	mg/kg
2	Cu 324.764	1378.3	1354.9	0.073	mg/L	7.291	mg/kg
2	Fe 238.204	693533.6	681729.7	73.77	mg/L	7374	mg/kg
2	K 766.514	12305.8	12096.4	5.747	mg/L	574.4	mg/kg
2	Li 670.781	3538.8	3478.5	0.030	mg/L	3.037	mg/kg
2	Mg 279.074	175495.3	172508.4	142.5	mg/L	14240	mg/kg
2	Mn 257.610	268895.0	264318.4	3.534	mg/L	353.3	mg/kg
2	Mo 202.031	52.3	51.4	0.019	mg/L	1.931	mg/kg
2	Na 588.995	99389.1	97697.5	1.433	mg/L	143.2	mg/kg
2	Ni 231.603	126.2	123.4	0.064	mg/L	6.384	mg/kg
2	P 178.221	42.2	41.5	1.974	mg/L	197.3	mg/kg
2	Pb 220.353	26.4	26.0	0.087	mg/L	8.702	mg/kg
2	Sb 206.833	-59.9	-58.9	-0.115	mg/L	-11.52	mg/kg
2	Se 196.026	2.1	2.0	0.000	mg/L	-0.034	mg/kg
2	Si 251.611	67921.1	66765.1	16.17	mg/L	1616	mg/kg
2	Sn 189.933	46.3	45.5	-1.022	mg/L	-102.1	mg/kg
2	Sr 407.771	120185.3	118139.7	0.147	mg/L	14.70	mg/kg

2 Ti 334.941	188309.6	185104.6	1.944 mg/L	194.3 mg/kg
2 Tl 190.800	1.6	1.6	0.085 mg/L	8.542 mg/kg
2 V 292.402	2290.6	2251.6	0.168 mg/L	16.83 mg/kg
2 Zn 206.200	403.1	396.2	0.192 mg/L	19.17 mg/kg

Mean Data

ID: 305330
Sample Qty: 0.5002 g
Seq. No.: 63 Sample No.: 39 A/S Pos: 55
Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 18:04:22

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	532280.3	102	0.0	mg/kg				0.01%
Y 360.064	271237.8	102	0.0	mg/kg				0.02%
Ag 328.068	-38.6	-0.022	0.0004	mg/L	-2.229	0.0396	mg/kg	1.77%
Al 396.140	157837.3	51.21	0.049	mg/L	5119	4.9	mg/kg	0.09%
As 188.979	4.6	0.081	0.0834	mg/L	8.098	8.3359	mg/kg	102.93%
B 249.773	2122.0	0.028	0.0003	mg/L	2.791	0.0256	mg/kg	0.92%
Ba 455.403	170236.6	0.474	0.0010	mg/L	47.36	0.104	mg/kg	0.22%
Be 234.861	1000.8	0.002	0.0000	mg/L	0.221	0.0029	mg/kg	1.29%
Ca 315.887	2407724.8	247.6	0.56	mg/L	24750	55.5	mg/kg	0.22%
Cd 214.438	63.9	-0.003	0.0005	mg/L	-0.293	0.0531	mg/kg	18.14%
Co 228.616	145.0	0.039	0.0027	mg/L	3.865	0.2675	mg/kg	6.92%
Cr 205.558	96.9	0.128	0.0029	mg/L	12.76	0.292	mg/kg	2.29%
Cu 324.764	1347.2	0.072	0.0008	mg/L	7.238	0.0756	mg/kg	1.04%
Fe 238.204	683225.6	73.93	0.229	mg/L	7390	22.9	mg/kg	0.31%
K 766.514	12181.6	5.780	0.0466	mg/L	577.7	4.65	mg/kg	0.81%
Li 670.781	3506.8	0.031	0.0003	mg/L	3.060	0.0320	mg/kg	1.05%
Mg 279.074	172899.1	142.8	0.46	mg/L	14270	45.6	mg/kg	0.32%
Mn 257.610	264900.5	3.542	0.0110	mg/L	354.1	1.10	mg/kg	0.31%
Mo 202.031	49.5	0.016	0.0040	mg/L	1.648	0.4007	mg/kg	24.32%
Na 588.995	97776.2	1.437	0.0067	mg/L	143.7	0.67	mg/kg	0.46%
Ni 231.603	109.4	0.057	0.0102	mg/L	5.664	1.0187	mg/kg	17.99%
P 178.221	40.7	1.936	0.0539	mg/L	193.5	5.39	mg/kg	2.79%
Pb 220.353	24.8	0.083	0.0058	mg/L	8.294	0.5772	mg/kg	6.96%
Sb 206.833	-58.9	-0.115	0.0001	mg/L	-11.53	0.008	mg/kg	0.07%
Se 196.026	6.3	0.058	0.0822	mg/L	5.779	8.2206	mg/kg	142.26%
Si 251.611	67011.5	16.23	0.087	mg/L	1622	8.7	mg/kg	0.53%
Sn 189.933	48.1	-1.008	0.0192	mg/L	-100.8	1.92	mg/kg	1.90%
Sr 407.771	118293.1	0.147	0.0003	mg/L	14.72	0.027	mg/kg	0.18%
Ti 334.941	185384.6	1.947	0.0042	mg/L	194.6	0.42	mg/kg	0.22%
Tl 190.800	2.1	0.100	0.0203	mg/L	9.978	2.0311	mg/kg	20.35%
V 292.402	2238.1	0.167	0.0014	mg/L	16.73	0.139	mg/kg	0.83%
Zn 206.200	387.9	0.188	0.0059	mg/L	18.76	0.587	mg/kg	3.13%

Replicate Data

ID: 305331
Date: 5/20/02 18:08:33

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	498880.1	498880.1	95	mg/kg		
1	Y 360.064	253219.3	253219.3	95	mg/kg		
1	Ag 328.068	-98.5	-103.3	-0.026	mg/L	-2.570	mg/kg
1	Al 396.140	123156.0	129171.0	41.90	mg/L	4190	mg/kg
1	As 188.979	-5.8	-6.1	-0.002	mg/L	-0.248	mg/kg
1	B 249.773	2163.3	2268.9	0.041	mg/L	4.132	mg/kg
1	Ba 455.403	108531.3	113831.9	0.326	mg/L	32.62	mg/kg
1	Be 234.861	934.9	980.6	0.001	mg/L	0.113	mg/kg
1	Ca 315.887	3007394.4	3154275.1	324.4	mg/L	32440	mg/kg
1	Cd 214.438	63.9	67.0	-0.006	mg/L	-0.560	mg/kg
1	Co 228.616	151.5	158.9	0.043	mg/L	4.257	mg/kg
1	Cr 205.558	81.9	85.9	0.126	mg/L	12.59	mg/kg
1	Cu 324.764	1404.0	1472.6	0.076	mg/L	7.565	mg/kg
1	Fe 238.204	683740.4	717134.2	77.60	mg/L	7760	mg/kg
1	K 766.514	13148.9	13791.1	6.402	mg/L	640.2	mg/kg
1	Li 670.781	3066.5	3216.3	0.028	mg/L	2.829	mg/kg
1	Mg 279.074	217973.3	228619.0	188.8	mg/L	18880	mg/kg
1	Mn 257.610	307123.5	322123.3	4.307	mg/L	430.7	mg/kg
1	Mo 202.031	62.3	65.4	0.040	mg/L	3.999	mg/kg
1	Na 588.995	101394.5	106346.6	1.950	mg/L	195.0	mg/kg
1	Ni 231.603	115.9	121.4	0.063	mg/L	6.286	mg/kg

1	P 178.221	47.8	50.1	2.390 mg/L	239.0 mg/kg
1	Pb 220.353	37.6	39.5	0.134 mg/L	13.45 mg/kg
1	Sb 206.833	-63.6	-66.7	-0.163 mg/L	-16.26 mg/kg
1	Se 196.026	-0.7	-0.8	-0.039 mg/L	-3.924 mg/kg
1	Si 251.611	74034.8	77650.6	18.73 mg/L	1873 mg/kg
1	Sn 189.933	41.9	43.9	-1.314 mg/L	-131.4 mg/kg
1	Sr 407.771	139111.1	145905.3	0.181 mg/L	18.12 mg/kg
1	Ti 334.941	141479.0	148388.8	1.573 mg/L	157.3 mg/kg
1	Tl 190.800	1.3	1.3	0.124 mg/L	12.43 mg/kg
1	V 292.402	2138.8	2243.2	0.168 mg/L	16.77 mg/kg
1	Zn 206.200	329.6	345.7	0.166 mg/L	16.65 mg/kg
2	Sc 357.253	495004.7	495004.7	95 mg/kg	
2	Y 360.064	251136.2	251136.2	95 mg/kg	
2	Ag 328.068	-74.1	-78.3	-0.024 mg/L	-2.439 mg/kg
2	Al 396.140	122855.3	129864.4	42.13 mg/L	4213 mg/kg
2	As 188.979	12.8	13.5	0.151 mg/L	15.08 mg/kg
2	B 249.773	2121.3	2242.4	0.038 mg/L	3.804 mg/kg
2	Ba 455.403	108138.7	114308.2	0.328 mg/L	32.76 mg/kg
2	Be 234.861	936.3	989.7	0.001 mg/L	0.118 mg/kg
2	Ca 315.887	2997962.1	3168999.7	325.9 mg/L	32590 mg/kg
2	Cd 214.438	86.7	91.6	-0.001 mg/L	-0.113 mg/kg
2	Co 228.616	125.1	132.2	0.035 mg/L	3.508 mg/kg
2	Cr 205.558	100.5	106.2	0.146 mg/L	14.61 mg/kg
2	Cu 324.764	1418.7	1499.7	0.077 mg/L	7.735 mg/kg
2	Fe 238.204	681214.8	720078.9	77.92 mg/L	7792 mg/kg
2	K 766.514	13055.9	13800.8	6.405 mg/L	640.5 mg/kg
2	Li 670.781	3198.9	3381.4	0.030 mg/L	2.961 mg/kg
2	Mg 279.074	216969.3	229347.7	189.4 mg/L	18940 mg/kg
2	Mn 257.610	305922.2	323375.4	4.324 mg/L	432.4 mg/kg
2	Mo 202.031	41.7	44.1	0.008 mg/L	0.850 mg/kg
2	Na 588.995	101344.3	107126.1	1.997 mg/L	199.7 mg/kg
2	Ni 231.603	127.3	134.4	0.070 mg/L	6.953 mg/kg
2	P 178.221	41.6	44.0	2.094 mg/L	209.4 mg/kg
2	Pb 220.353	26.1	27.6	0.093 mg/L	9.278 mg/kg
2	Sb 206.833	-54.1	-57.2	-0.105 mg/L	-10.48 mg/kg
2	Se 196.026	7.1	7.5	0.075 mg/L	7.461 mg/kg
2	Si 251.611	73662.4	77864.9	18.78 mg/L	1878 mg/kg
2	Sn 189.933	43.4	45.9	-1.305 mg/L	-130.5 mg/kg
2	Sr 407.771	138603.7	146511.2	0.182 mg/L	18.19 mg/kg
2	Ti 334.941	140827.3	148861.6	1.578 mg/L	157.8 mg/kg
2	Tl 190.800	-1.1	-1.2	0.057 mg/L	5.717 mg/kg
2	V 292.402	2137.7	2259.6	0.169 mg/L	16.89 mg/kg
2	Zn 206.200	321.5	339.9	0.164 mg/L	16.35 mg/kg

Mean Data

ID: 305331 Seq. No.: 64 Sample No.: 40 A/S Pos: 56
Sample Qty: 0.5000 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 18:08:33

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	496942.4	95	0.5	mg/kg				0.55%
Y 360.064	252177.8	95	0.6	mg/kg				0.58%
Ag 328.068	-90.8	-0.025	0.0009	mg/L	-2.504	0.0928	mg/kg	3.71%
Al 396.140	129517.7	42.01	0.159	mg/L	4201	15.9	mg/kg	0.38%
As 188.979	3.7	0.074	0.1084	mg/L	7.414	10.8366	mg/kg	146.16%
B 249.773	2255.7	0.040	0.0023	mg/L	3.968	0.2314	mg/kg	5.83%
Ba 455.403	114070.1	0.327	0.0010	mg/L	32.69	0.097	mg/kg	0.30%
Be 234.861	985.1	0.001	0.0000	mg/L	0.116	0.0037	mg/kg	3.17%
Ca 315.887	3161637.4	325.2	1.07	mg/L	32520	107.1	mg/kg	0.33%
Cd 214.438	79.3	-0.003	0.0032	mg/L	-0.337	0.3163	mg/kg	93.96%
Co 228.616	145.6	0.039	0.0053	mg/L	3.883	0.5297	mg/kg	13.64%
Cr 205.558	96.0	0.136	0.0143	mg/L	13.60	1.433	mg/kg	10.53%
Cu 324.764	1486.1	0.076	0.0012	mg/L	7.650	0.1203	mg/kg	1.57%
Fe 238.204	718606.6	77.76	0.225	mg/L	7776	22.5	mg/kg	0.29%
K 766.514	13795.9	6.403	0.0026	mg/L	640.3	0.26	mg/kg	0.04%
Li 670.781	3298.9	0.029	0.0009	mg/L	2.895	0.0933	mg/kg	3.22%
Mg 279.074	228983.3	189.1	0.43	mg/L	18910	42.6	mg/kg	0.23%
Mn 257.610	322749.4	4.316	0.0118	mg/L	431.6	1.18	mg/kg	0.27%
Mo 202.031	54.7	0.024	0.0223	mg/L	2.424	2.2267	mg/kg	91.84%
Na 588.995	106736.3	1.974	0.0330	mg/L	197.4	3.30	mg/kg	1.67%

Ni 231.603	127.9	0.066	0.0047 mg/L	6.620	0.4716 mg/kg	7.12%
P 178.221	47.1	2.242	0.2099 mg/L	224.2	20.99 mg/kg	9.36%
Pb 220.353	33.5	0.114	0.0295 mg/L	11.36	2.948 mg/kg	25.94%
Sb 206.833	-61.9	-0.134	0.0408 mg/L	-13.37	4.083 mg/kg	30.54%
Se 196.026	3.4	0.018	0.0805 mg/L	1.769	8.0503 mg/kg	455.13%
Si 251.611	77757.8	18.75	0.037 mg/L	1875	3.7 mg/kg	0.20%
Sn 189.933	44.9	-1.309	0.0067 mg/L	-130.9	0.67 mg/kg	0.51%
Sr 407.771	146208.3	0.182	0.0005 mg/L	18.16	0.053 mg/kg	0.29%
Ti 334.941	148625.2	1.575	0.0036 mg/L	157.5	0.36 mg/kg	0.23%
Tl 190.800	0.1	0.091	0.0475 mg/L	9.072	4.7452 mg/kg	52.31%
V 292.402	2251.4	0.168	0.0008 mg/L	16.83	0.085 mg/kg	0.50%
Zn 206.200	342.8	0.165	0.0021 mg/L	16.50	0.207 mg/kg	1.25%

Replicate Data ----------

ID: CCV Date: 5/20/02 18:12:44

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	511818.1	511818.1	98	mg/kg		
1	Y 360.064	260235.6	260235.6	98	mg/kg		
1	Ag 328.068	11122.8	11371.2	0.578	mg/L	578.2	mg/kg
1	Al 396.140	7444.4	7610.6	2.478	mg/L	2478	mg/kg
1	As 188.979	301.6	308.3	2.455	mg/L	2455	mg/kg
1	B 249.773	4606.4	4709.2	0.399	mg/L	399.4	mg/kg
1	Ba 455.403	183366.1	187460.1	0.502	mg/L	501.9	mg/kg
1	Be 234.861	4703.7	4808.7	0.048	mg/L	48.36	mg/kg
1	Ca 315.887	49132.7	50229.7	5.071	mg/L	5071	mg/kg
1	Cd 214.438	2572.0	2629.5	0.501	mg/L	501.2	mg/kg
1	Co 228.616	1771.7	1811.2	0.506	mg/L	505.9	mg/kg
1	Cr 205.558	533.0	544.9	0.514	mg/L	514.2	mg/kg
1	Cu 324.764	7551.9	7720.5	0.503	mg/L	502.8	mg/kg
1	Fe 238.204	4599.6	4702.3	0.495	mg/L	495.4	mg/kg
1	K 766.514	9896.2	10117.2	4.982	mg/L	4982	mg/kg
1	Li 670.781	61025.3	62387.8	0.501	mg/L	501.0	mg/kg
1	Mg 279.074	5927.7	6060.0	4.997	mg/L	4997	mg/kg
1	Mn 257.610	36895.6	37719.4	0.503	mg/L	503.2	mg/kg
1	Mo 202.031	368.0	376.3	0.500	mg/L	500.5	mg/kg
1	Na 588.995	156718.0	160217.0	5.173	mg/L	5173	mg/kg
1	Ni 231.603	968.7	987.2	0.508	mg/L	508.3	mg/kg
1	P 178.221	48.8	49.9	2.376	mg/L	2376	mg/kg
1	Pb 220.353	139.9	143.0	0.499	mg/L	499.2	mg/kg
1	Sb 206.833	373.0	381.3	2.562	mg/L	2562	mg/kg
1	Se 196.026	177.3	181.2	2.466	mg/L	2466	mg/kg
1	Si 251.611	10345.4	10576.4	2.506	mg/L	2506	mg/kg
1	Sn 189.933	480.7	491.4	2.483	mg/L	2483	mg/kg
1	Sr 407.771	396921.0	405783.0	0.500	mg/L	500.4	mg/kg
1	Ti 334.941	48557.0	49641.1	0.503	mg/L	503.4	mg/kg
1	Tl 190.800	90.9	93.0	2.483	mg/L	2483	mg/kg
1	V 292.402	6662.8	6811.5	0.502	mg/L	502.3	mg/kg
1	Zn 206.200	994.8	1017.0	0.503	mg/L	503.4	mg/kg
2	Sc 357.253	510876.6	510876.6	98	mg/kg		
2	Y 360.064	259487.0	259487.0	98	mg/kg		
2	Ag 328.068	11187.0	11457.8	0.583	mg/L	582.7	mg/kg
2	Al 396.140	7491.5	7672.9	2.498	mg/L	2498	mg/kg
2	As 188.979	308.4	315.8	2.514	mg/L	2514	mg/kg
2	B 249.773	4674.9	4788.1	0.408	mg/L	407.9	mg/kg
2	Ba 455.403	183919.1	188371.9	0.504	mg/L	504.4	mg/kg
2	Be 234.861	4731.4	4846.0	0.049	mg/L	48.73	mg/kg
2	Ca 315.887	49425.4	50622.1	5.111	mg/L	5111	mg/kg
2	Cd 214.438	2592.0	2654.8	0.506	mg/L	505.9	mg/kg
2	Co 228.616	1783.2	1826.3	0.510	mg/L	510.1	mg/kg
2	Cr 205.558	524.6	537.3	0.507	mg/L	506.8	mg/kg
2	Cu 324.764	7535.5	7717.9	0.503	mg/L	502.6	mg/kg
2	Fe 238.204	4654.9	4767.6	0.502	mg/L	502.4	mg/kg
2	K 766.514	9965.8	10207.1	5.017	mg/L	5017	mg/kg
2	Li 670.781	61226.2	62708.5	0.504	mg/L	503.5	mg/kg
2	Mg 279.074	6027.0	6172.9	5.090	mg/L	5090	mg/kg
2	Mn 257.610	37055.5	37952.7	0.506	mg/L	506.4	mg/kg
2	Mo 202.031	373.9	383.0	0.510	mg/L	510.4	mg/kg
2	Na 588.995	157140.6	160945.1	5.217	mg/L	5217	mg/kg

2 Ni 231.603	957.5	978.6	0.504 mg/L	503.9 mg/kg	
2 P 178.221	49.4	50.6	2.412 mg/L	2412 mg/kg	
2 Pb 220.353	151.6	155.2	0.542 mg/L	542.1 mg/kg	
2 Sb 206.833	363.7	372.5	2.508 mg/L	2508 mg/kg	
2 Se 196.026	184.0	188.5	2.566 mg/L	2566 mg/kg	
2 Si 251.611	10372.2	10623.3	2.518 mg/L	2518 mg/kg	
2 Sn 189.933	479.7	491.3	2.482 mg/L	2482 mg/kg	
2 Sr 407.771	398112.4	407751.0	0.503 mg/L	502.9 mg/kg	
2 Ti 334.941	48694.7	49873.6	0.506 mg/L	505.8 mg/kg	
2 Tl 190.800	94.4	96.6	2.582 mg/L	2582 mg/kg	
2 V 292.402	6674.9	6836.5	0.504 mg/L	504.1 mg/kg	
2 Zn 206.200	989.5	1013.5	0.502 mg/L	501.7 mg/kg	

Mean Data ----------

ID: CCV
Sample Qty: 1.0000 g
Seq. No.: 65 Sample No.: 9 A/S Pos: 4
Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 18:12:44

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	511347.3	98	0.1	mg/kg				0.13%
Y 360.064	259861.3	98	0.2	mg/kg				0.20%
Ag 328.068	11414.5	0.580	0.0032	mg/L	580.4	3.22	mg/kg	0.56%
*QC exceeds upper limit for Ag 328.068 Recovery = 116.09% Action = Continue								
Al 396.140	7641.7	2.488	0.0141	mg/L	2488	14.1	mg/kg	0.56%
As 188.979	312.1	2.484	0.0415	mg/L	2484	41.5	mg/kg	1.67%
B 249.773	4748.6	0.404	0.0060	mg/L	403.7	6.04	mg/kg	1.50%
*QC exceeds lower limit for B 249.773 Recovery = 80.73% Action = Continue								
Ba 455.403	187916.0	0.503	0.0017	mg/L	503.2	1.73	mg/kg	0.34%
Be 234.861	4827.4	0.049	0.0003	mg/L	48.55	0.262	mg/kg	0.54%
Ca 315.887	50425.9	5.091	0.0285	mg/L	5091	28.5	mg/kg	0.56%
Cd 214.438	2642.1	0.504	0.0033	mg/L	503.5	3.32	mg/kg	0.66%
Co 228.616	1818.8	0.508	0.0030	mg/L	508.0	2.99	mg/kg	0.59%
Cr 205.558	541.1	0.511	0.0052	mg/L	510.5	5.24	mg/kg	1.03%
Cu 324.764	7719.2	0.503	0.0001	mg/L	502.7	0.12	mg/kg	0.02%
Fe 238.204	4734.9	0.499	0.0050	mg/L	498.9	5.00	mg/kg	1.00%
K 766.514	10162.1	4.999	0.0246	mg/L	4999	24.6	mg/kg	0.49%
Li 670.781	62548.2	0.502	0.0018	mg/L	502.2	1.81	mg/kg	0.36%
Mg 279.074	6116.5	5.043	0.0659	mg/L	5043	65.9	mg/kg	1.31%
Mn 257.610	37836.0	0.505	0.0022	mg/L	504.8	2.21	mg/kg	0.44%
Mo 202.031	379.6	0.505	0.0070	mg/L	505.4	7.03	mg/kg	1.39%
Na 588.995	160581.1	5.195	0.0308	mg/L	5195	30.8	mg/kg	0.59%
Ni 231.603	982.9	0.506	0.0031	mg/L	506.1	3.13	mg/kg	0.62%
P 178.221	50.2	2.394	0.0251	mg/L	2394	25.1	mg/kg	1.05%
Pb 220.353	149.1	0.521	0.0304	mg/L	520.6	30.38	mg/kg	5.83%
Sb 206.833	376.9	2.535	0.0380	mg/L	2535	38.0	mg/kg	1.50%
Se 196.026	184.9	2.516	0.0702	mg/L	2516	70.2	mg/kg	2.79%
Si 251.611	10599.8	2.512	0.0085	mg/L	2512	8.5	mg/kg	0.34%
Sn 189.933	491.4	2.483	0.0009	mg/L	2483	0.9	mg/kg	0.03%
Sr 407.771	406767.0	0.502	0.0017	mg/L	501.7	1.71	mg/kg	0.34%
Ti 334.941	49757.4	0.505	0.0017	mg/L	504.6	1.70	mg/kg	0.34%
Tl 190.800	94.8	2.532	0.0697	mg/L	2532	69.7	mg/kg	2.75%
V 292.402	6824.0	0.503	0.0013	mg/L	503.2	1.29	mg/kg	0.26%
Zn 206.200	1015.2	0.503	0.0012	mg/L	502.5	1.23	mg/kg	0.25%

Replicate Data ----------

ID: CCB Date: 5/20/02 18:16:52

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	502306.4	502306.4	96	mg/kg		
1 Y 360.064	255221.0	255221.0	96	mg/kg		
1 Ag 328.068	156.4	162.9	-0.012	mg/L	-11.69	mg/kg
1 Al 396.140	-108.1	-112.6	-0.010	mg/L	-10.29	mg/kg
1 As 188.979	-10.5	-10.9	-0.040	mg/L	-40.15	mg/kg
1 B 249.773	302.3	314.9	-0.077	mg/L	-76.95	mg/kg
1 Ba 455.403	807.9	841.5	0.001	mg/L	0.667	mg/kg
1 Be 234.861	-25.0	-26.1	0.000	mg/L	0.240	mg/kg
1 Ca 315.887	758.2	789.8	-0.016	mg/L	-15.88	mg/kg
1 Cd 214.438	-75.1	-78.3	-0.002	mg/L	-2.420	mg/kg
1 Co 228.616	11.3	11.8	0.001	mg/L	1.306	mg/kg

1	Cr 205.558	16.8	17.5	-0.005 mg/L	-4.757 mg/kg
1	Cu 324.764	-71.8	-74.8	-0.005 mg/L	-4.928 mg/kg
1	Fe 238.204	183.1	190.7	0.007 mg/L	7.068 mg/kg
1	K 766.514	-2884.0	-3004.2	-0.089 mg/L	-88.84 mg/kg
1	Li 670.781	-191.9	-199.9	0.001 mg/L	0.999 mg/kg
1	Mg 279.074	35.8	37.3	0.022 mg/L	21.86 mg/kg
1	Mn 257.610	-30.7	-32.0	-0.002 mg/L	-1.729 mg/kg
1	Mo 202.031	39.2	40.8	0.004 mg/L	3.636 mg/kg
1	Na 588.995	74959.8	78084.6	0.259 mg/L	259.3 mg/kg
1	Ni 231.603	-0.5	-0.5	0.000 mg/L	0.148 mg/kg
1	P 178.221	-1.4	-1.4	-0.092 mg/L	-91.92 mg/kg
1	Pb 220.353	4.0	4.2	0.010 mg/L	10.26 mg/kg
1	Sb 206.833	-35.0	-36.5	0.021 mg/L	21.22 mg/kg
1	Se 196.026	7.6	7.9	0.080 mg/L	80.46 mg/kg
1	Si 251.611	532.3	554.5	-0.048 mg/L	-48.26 mg/kg
1	Sn 189.933	74.2	77.3	0.015 mg/L	15.18 mg/kg
1	Sr 407.771	-1912.3	-1992.0	-0.001 mg/L	-0.518 mg/kg
1	Ti 334.941	652.9	680.1	-0.003 mg/L	-3.470 mg/kg
1	Tl 190.800	-0.9	-1.0	-0.031 mg/L	-30.88 mg/kg
1	V 292.402	-23.3	-24.3	0.002 mg/L	1.712 mg/kg
1	Zn 206.200	13.3	13.8	0.000 mg/L	-0.133 mg/kg
2	Sc 357.253	502123.1	502123.1	96 mg/kg	
2	Y 360.064	255289.6	255289.6	96 mg/kg	
2	Ag 328.068	89.0	92.8	-0.015 mg/L	-15.38 mg/kg
2	Al 396.140	-156.8	-163.4	-0.027 mg/L	-26.75 mg/kg
2	As 188.979	2.4	2.5	0.065 mg/L	64.84 mg/kg
2	B 249.773	288.1	300.2	-0.079 mg/L	-78.53 mg/kg
2	Ba 455.403	862.6	898.9	0.001 mg/L	0.821 mg/kg
2	Be 234.861	-28.4	-29.6	0.000 mg/L	0.205 mg/kg
2	Ca 315.887	872.8	909.6	-0.004 mg/L	-3.558 mg/kg
2	Cd 214.438	-83.8	-87.3	-0.004 mg/L	-4.106 mg/kg
2	Co 228.616	7.4	7.7	0.000 mg/L	0.167 mg/kg
2	Cr 205.558	23.8	24.8	0.002 mg/L	2.484 mg/kg
2	Cu 324.764	-48.8	-50.9	-0.003 mg/L	-3.371 mg/kg
2	Fe 238.204	201.0	209.4	0.009 mg/L	9.097 mg/kg
2	K 766.514	-2977.4	-3102.6	-0.127 mg/L	-126.9 mg/kg
2	Li 670.781	-46.9	-48.8	0.002 mg/L	2.205 mg/kg
2	Mg 279.074	16.8	17.5	0.005 mg/L	5.474 mg/kg
2	Mn 257.610	-27.5	-28.6	-0.002 mg/L	-1.683 mg/kg
2	Mo 202.031	45.1	47.0	0.013 mg/L	12.81 mg/kg
2	Na 588.995	74899.5	78050.2	0.257 mg/L	257.3 mg/kg
2	Ni 231.603	18.2	18.9	0.010 mg/L	10.13 mg/kg
2	P 178.221	3.8	3.9	0.166 mg/L	165.8 mg/kg
2	Pb 220.353	5.8	6.0	0.017 mg/L	16.81 mg/kg
2	Sb 206.833	-40.6	-42.3	-0.014 mg/L	-14.24 mg/kg
2	Se 196.026	3.5	3.6	0.021 mg/L	21.26 mg/kg
2	Si 251.611	547.2	570.2	-0.044 mg/L	-44.24 mg/kg
2	Sn 189.933	80.0	83.3	0.052 mg/L	52.05 mg/kg
2	Sr 407.771	-1935.3	-2016.7	-0.001 mg/L	-0.548 mg/kg
2	Ti 334.941	741.3	772.4	-0.003 mg/L	-2.514 mg/kg
2	Tl 190.800	-0.2	-0.2	-0.012 mg/L	-11.61 mg/kg
2	V 292.402	-37.6	-39.1	0.001 mg/L	0.621 mg/kg
2	Zn 206.200	17.4	18.1	0.002 mg/L	2.017 mg/kg

Mean Data

ID: CCB Seq. No.: 66 Sample No.: 10 A/S Pos: 1

Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 18:16:52

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	502214.8	96	0.0	mg/kg				0.03%
Y 360.064	255255.3	96	0.0	mg/kg				0.02%
Ag 328.068	127.8	-0.014	0.0026	mg/L	-13.54	2.608	mg/kg	19.27%
*QC exceeds lower limit for Ag 328.068		Action = Continue						
Al 396.140	-138.0	-0.019	0.0116	mg/L	-18.52	11.636	mg/kg	62.82%
As 188.979	-4.2	0.012	0.0742	mg/L	12.35	74.238	mg/kg	601.24%
B 249.773	307.5	-0.078	0.0011	mg/L	-77.74	1.122	mg/kg	1.44%
Ba 455.403	870.2	0.001	0.0001	mg/L	0.744	0.1089	mg/kg	14.64%
Be 234.861	-27.8	0.000	0.0000	mg/L	0.223	0.0249	mg/kg	11.16%
Ca 315.887	849.7	-0.010	0.0087	mg/L	-9.717	8.7107	mg/kg	89.64%

Cd 214.438	-82.8	-0.003	0.0012 mg/L	-3.263	1.1920 mg/kg	36.53%
Co 228.616	9.7	0.001	0.0008 mg/L	0.736	0.8048 mg/kg	109.28%
Cr 205.558	21.1	-0.001	0.0051 mg/L	-1.137	5.1199 mg/kg	450.42%
Cu 324.764	-62.8	-0.004	0.0011 mg/L	-4.150	1.1012 mg/kg	26.54%
Fe 238.204	200.1	0.008	0.0014 mg/L	8.083	1.4341 mg/kg	17.74%
K 766.514	-3053.4	-0.108	0.0269 mg/L	-107.9	26.90 mg/kg	24.94%
*QC exceeds lower limit for K 766.514			Action = Continue			
Li 670.781	-124.4	0.002	0.0009 mg/L	1.602	0.8535 mg/kg	53.27%
Mg 279.074	27.4	0.014	0.0116 mg/L	13.67	11.585 mg/kg	84.77%
Mn 257.610	-30.3	-0.002	0.0000 mg/L	-1.706	0.0321 mg/kg	1.88%
Mo 202.031	43.9	0.008	0.0065 mg/L	8.223	6.4867 mg/kg	78.89%
Na 588.995	78067.4	0.258	0.0015 mg/L	258.3	1.45 mg/kg	0.56%
Ni 231.603	9.2	0.005	0.0071 mg/L	5.139	7.0586 mg/kg	137.36%
P 178.221	1.3	0.037	0.1822 mg/L	36.92	182.215 mg/kg	493.53%
Pb 220.353	5.1	0.014	0.0046 mg/L	13.54	4.632 mg/kg	34.22%
Sb 206.833	-39.4	0.003	0.0251 mg/L	3.489	25.0720 mg/kg	718.65%
Se 196.026	5.8	0.051	0.0419 mg/L	50.86	41.859 mg/kg	82.30%
Si 251.611	562.4	-0.046	0.0028 mg/L	-46.25	2.843 mg/kg	6.15%
Sn 189.933	80.3	0.034	0.0261 mg/L	33.61	26.069 mg/kg	77.56%
Sr 407.771	-2004.4	-0.001	0.0000 mg/L	-0.533	0.0215 mg/kg	4.03%
Ti 334.941	726.3	-0.003	0.0007 mg/L	-2.992	0.6759 mg/kg	22.59%
Tl 190.800	-0.6	-0.021	0.0136 mg/L	-21.25	13.622 mg/kg	64.11%
V 292.402	-31.7	0.001	0.0008 mg/L	1.167	0.7713 mg/kg	66.11%
Zn 206.200	16.0	0.001	0.0015 mg/L	0.942	1.5198 mg/kg	161.33%

Replicate Data ----------
ID: 305332
---------- Date: 5/20/02 18:21:00

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	495563.8	495563.8	95	mg/kg		
1	Y 360.064	238411.0	238411.0	90	mg/kg		
1	Ag 328.068	-85.9	-90.7	-0.025	mg/L	-2.506	mg/kg
1	Al 396.140	63596.9	67149.3	21.75	mg/L	2178	mg/kg
1	As 188.979	0.4	0.4	0.048	mg/L	4.836	mg/kg
1	B 249.773	1496.3	1579.8	0.009	mg/L	0.864	mg/kg
1	Ba 455.403	51050.6	53902.2	0.167	mg/L	16.69	mg/kg
1	Be 234.861	559.8	591.1	-0.001	mg/L	-0.064	mg/kg
1	Ca 315.887	3675788.5	3881113.6	399.2	mg/L	39960	mg/kg
1	Cd 214.438	57.0	60.2	-0.001	mg/L	-0.124	mg/kg
1	Co 228.616	98.1	103.6	0.027	mg/L	2.707	mg/kg
1	Cr 205.558	64.4	68.0	0.103	mg/L	10.35	mg/kg
1	Cu 324.764	1070.4	1130.2	0.050	mg/L	4.979	mg/kg
1	Fe 238.204	413993.6	437118.7	47.30	mg/L	4734	mg/kg
1	K 766.514	8773.3	9263.4	4.652	mg/L	465.7	mg/kg
1	Li 670.781	1528.1	1613.5	0.015	mg/L	1.550	mg/kg
1	Mg 279.074	255198.3	269453.4	222.6	mg/L	22280	mg/kg
1	Mn 257.610	170654.6	180187.1	2.409	mg/L	241.1	mg/kg
1	Mo 202.031	47.4	50.1	0.017	mg/L	1.737	mg/kg
1	Na 588.995	100196.3	105793.1	1.917	mg/L	191.9	mg/kg
1	Ni 231.603	68.0	75.6	0.039	mg/L	3.934	mg/kg
1	P 178.221	32.9	34.8	1.649	mg/L	165.1	mg/kg
1	Pb 220.353	31.1	32.8	0.111	mg/L	11.12	mg/kg
1	Sb 206.833	-47.9	-50.6	-0.064	mg/L	-6.451	mg/kg
1	Se 196.026	1.6	1.7	-0.006	mg/L	-0.556	mg/kg
1	Si 251.611	66719.3	70446.2	16.73	mg/L	1675	mg/kg
1	Sn 189.933	32.3	34.1	-1.531	mg/L	-153.3	mg/kg
1	Sr 407.771	143515.2	151531.8	0.188	mg/L	18.83	mg/kg
1	Ti 334.941	150195.5	158585.3	1.684	mg/L	168.5	mg/kg
1	Tl 190.800	4.2	4.4	0.188	mg/L	18.82	mg/kg
1	V 292.402	1426.5	1506.2	0.114	mg/L	11.39	mg/kg
1	Zn 206.200	232.8	245.8	0.116	mg/L	11.64	mg/kg
2	Sc 357.253	489150.1	489150.1	93	mg/kg		
2	Y 360.064	238241.9	238241.9	90	mg/kg		
2	Ag 328.068	-40.2	-43.0	-0.023	mg/L	-2.255	mg/kg
2	Al 396.140	63753.5	68197.3	22.09	mg/L	2212	mg/kg
2	As 188.979	10.5	11.2	0.133	mg/L	13.28	mg/kg
2	B 249.773	1513.4	1618.9	0.012	mg/L	1.212	mg/kg
2	Ba 455.403	51187.6	54755.5	0.169	mg/L	16.95	mg/kg
2	Be 234.861	555.4	594.1	-0.001	mg/L	-0.070	mg/kg

2 Ca 315.887	3663968.5	3919358.3	403.1 mg/L	40360 mg/kg	
2 Cd 214.438	62.1	66.4	0.000 mg/L	-0.046 mg/kg	
2 Co 228.616	90.7	97.0	0.025 mg/L	2.522 mg/kg	
2 Cr 205.558	66.5	71.2	0.107 mg/L	10.73 mg/kg	
2 Cu 324.764	1060.3	1134.2	0.050 mg/L	4.972 mg/kg	
2 Fe 238.204	414630.6	443531.6	47.99 mg/L	4804 mg/kg	
2 K 766.514	8811.9	9426.1	4.715 mg/L	472.0 mg/kg	
2 Li 670.781	1572.2	1681.8	0.016 mg/L	1.605 mg/kg	
2 Mg 279.074	255411.1	273214.0	225.7 mg/L	22590 mg/kg	
2 Mn 257.610	171008.4	182928.2	2.446 mg/L	244.8 mg/kg	
2 Mo 202.031	58.9	63.0	0.036 mg/L	3.652 mg/kg	
2 Na 588.995	99996.2	106966.2	1.987 mg/L	198.9 mg/kg	
2 Ni 231.603	69.9	77.9	0.040 mg/L	4.049 mg/kg	
2 P 178.221	29.5	31.6	1.496 mg/L	149.8 mg/kg	
2 Pb 220.353	23.7	25.3	0.085 mg/L	8.473 mg/kg	
2 Sb 206.833	-48.1	-51.5	-0.070 mg/L	-7.022 mg/kg	
2 Se 196.026	5.7	6.1	0.055 mg/L	5.540 mg/kg	
2 Si 251.611	66992.3	71661.9	17.03 mg/L	1704 mg/kg	
2 Sn 189.933	29.7	31.8	-1.568 mg/L	-156.9 mg/kg	
2 Sr 407.771	143649.8	153662.6	0.191 mg/L	19.09 mg/kg	
2 Ti 334.941	150791.0	161301.6	1.712 mg/L	171.4 mg/kg	
2 Tl 190.800	0.0	0.0	0.071 mg/L	7.094 mg/kg	
2 V 292.402	1404.6	1502.5	0.114 mg/L	11.36 mg/kg	
2 Zn 206.200	230.6	246.7	0.117 mg/L	11.69 mg/kg	

Mean Data ----------

ID: 305332
Sample Qty: 0.4995 g
Seq. No.: 67 Sample No.: 41
Prep. Vol.: 50.0 mL
Data: Original
A/S Pos: 57
Dilution: 1.0: 1.0
Date: 5/20/02 18:21:00

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	492356.9	94	0.9	mg/kg				0.92%
Y 360.064	238326.4	90	0.0	mg/kg				0.05%
Ag 328.068	-66.8	-0.024	0.0018	mg/L	-2.381	0.1776	mg/kg	7.46%
Al 396.140	67673.3	21.92	0.240	mg/L	2195	24.0	mg/kg	1.10%
As 188.979	5.8	0.090	0.0597	mg/L	9.058	5.9711	mg/kg	65.92%
B 249.773	1599.4	0.010	0.0025	mg/L	1.038	0.2458	mg/kg	23.68%
Ba 455.403	54328.9	0.168	0.0018	mg/L	16.82	0.182	mg/kg	1.08%
Be 234.861	592.6	-0.001	0.0000	mg/L	-0.067	0.0042	mg/kg	6.33%
Ca 315.887	3900235.9	401.2	2.78	mg/L	40160	278.5	mg/kg	0.69%
Cd 214.438	63.3	-0.001	0.0005	mg/L	-0.085	0.0548	mg/kg	64.39%
Co 228.616	100.3	0.026	0.0013	mg/L	2.615	0.1307	mg/kg	5.00%
Cr 205.558	69.6	0.105	0.0027	mg/L	10.54	0.270	mg/kg	2.56%
Cu 324.764	1132.2	0.050	0.0001	mg/L	4.975	0.0052	mg/kg	0.10%
Fe 238.204	440325.2	47.64	0.491	mg/L	4769	49.1	mg/kg	1.03%
K 766.514	9344.8	4.683	0.0445	mg/L	468.8	4.45	mg/kg	0.95%
Li 670.781	1647.7	0.016	0.0004	mg/L	1.577	0.0387	mg/kg	2.45%
Mg 279.074	271333.7	224.1	2.20	mg/L	22430	219.9	mg/kg	0.98%
Mn 257.610	181557.7	2.427	0.0259	mg/L	243.0	2.60	mg/kg	1.07%
Mo 202.031	56.5	0.027	0.0135	mg/L	2.694	1.3540	mg/kg	50.25%
Na 588.995	106379.7	1.952	0.0496	mg/L	195.4	4.97	mg/kg	2.54%
Ni 231.603	76.7	0.040	0.0008	mg/L	3.992	0.0812	mg/kg	2.03%
P 178.221	33.2	1.573	0.1084	mg/L	157.4	10.85	mg/kg	6.89%
Pb 220.353	29.1	0.098	0.0187	mg/L	9.795	1.8691	mg/kg	19.08%
Sb 206.833	-51.0	-0.067	0.0040	mg/L	-6.736	0.4033	mg/kg	5.99%
Se 196.026	3.9	0.025	0.0431	mg/L	2.492	4.3108	mg/kg	172.99%
Si 251.611	71054.0	16.88	0.209	mg/L	1690	20.9	mg/kg	1.24%
Sn 189.933	33.0	-1.550	0.0258	mg/L	-155.1	2.58	mg/kg	1.66%
Sr 407.771	152597.2	0.189	0.0019	mg/L	18.96	0.185	mg/kg	0.98%
Ti 334.941	159943.4	1.698	0.0203	mg/L	170.0	2.03	mg/kg	1.20%
Tl 190.800	2.2	0.129	0.0828	mg/L	12.96	8.290	mg/kg	63.98%
V 292.402	1504.4	0.114	0.0002	mg/L	11.38	0.019	mg/kg	0.17%
Zn 206.200	246.3	0.117	0.0003	mg/L	11.67	0.031	mg/kg	0.27%

Replicate Data ----------

ID: 305333
Date: 5/20/02 18:25:11

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	490645.6	490645.6	94	mg/kg		

1 Y 360.064	238523.7	238523.7	90 mg/kg		
1 Ag 328.068	-64.7	-69.0	-0.024 mg/L	-2.389 mg/kg	
1 Al 396.140	75247.0	80246.7	25.99 mg/L	2599 mg/kg	
1 As 188.979	4.0	4.2	0.078 mg/L	7.845 mg/kg	
1 B 249.773	1690.2	1802.5	0.022 mg/L	2.182 mg/kg	
1 Ba 455.403	80789.7	86157.5	0.256 mg/L	25.56 mg/kg	
1 Be 234.861	677.0	722.0	0.000 mg/L	-0.041 mg/kg	
1 Ca 315.887	4061353.9	4331200.7	445.5 mg/L	44540 mg/kg	
1 Cd 214.438	75.0	80.0	-0.002 mg/L	-0.172 mg/kg	
1 Co 228.616	106.8	113.9	0.030 mg/L	2.993 mg/kg	
1 Cr 205.558	68.4	73.0	0.116 mg/L	11.63 mg/kg	
1 Cu 324.764	1343.3	1432.6	0.069 mg/L	6.856 mg/kg	
1 Fe 238.204	483898.2	516049.7	55.84 mg/L	5583 mg/kg	
1 K 766.514	9272.2	9888.3	4.893 mg/L	489.2 mg/kg	
1 Li 670.781	1594.5	1700.4	0.016 mg/L	1.618 mg/kg	
1 Mg 279.074	261780.1	279173.5	230.6 mg/L	23050 mg/kg	
1 Mn 257.610	191612.4	204343.6	2.732 mg/L	273.1 mg/kg	
1 Mo 202.031	56.7	60.4	0.033 mg/L	3.266 mg/kg	
1 Na 588.995	101598.2	108348.7	2.070 mg/L	207.0 mg/kg	
1 Ni 231.603	68.4	76.1	0.040 mg/L	3.952 mg/kg	
1 P 178.221	36.7	39.2	1.862 mg/L	186.1 mg/kg	
1 Pb 220.353	35.9	38.2	0.130 mg/L	13.02 mg/kg	
1 Sb 206.833	-50.3	-53.7	-0.084 mg/L	-8.349 mg/kg	
1 Se 196.026	5.7	6.1	0.055 mg/L	5.546 mg/kg	
1 Si 251.611	72053.1	76840.5	18.32 mg/L	1832 mg/kg	
1 Sn 189.933	42.9	45.8	-1.425 mg/L	-142.5 mg/kg	
1 Sr 407.771	186549.9	198944.8	0.246 mg/L	24.63 mg/kg	
1 Ti 334.941	149000.2	158900.2	1.693 mg/L	169.2 mg/kg	
1 Tl 190.800	2.1	2.3	0.133 mg/L	13.26 mg/kg	
1 V 292.402	1780.4	1898.7	0.143 mg/L	14.25 mg/kg	
1 Zn 206.200	1189.8	1268.9	0.630 mg/L	62.97 mg/kg	
2 Sc 357.253	482815.9	482815.9	92 mg/kg		
2 Y 360.064	236564.7	236564.7	89 mg/kg		
2 Ag 328.068	-64.1	-69.5	-0.024 mg/L	-2.392 mg/kg	
2 Al 396.140	75152.3	81445.3	26.38 mg/L	2638 mg/kg	
2 As 188.979	11.8	12.8	0.145 mg/L	14.53 mg/kg	
2 B 249.773	1707.0	1849.9	0.026 mg/L	2.602 mg/kg	
2 Ba 455.403	80619.0	87369.8	0.259 mg/L	25.92 mg/kg	
2 Be 234.861	656.5	711.5	-0.001 mg/L	-0.062 mg/kg	
2 Ca 315.887	4027327.6	4364563.5	449.0 mg/L	44890 mg/kg	
2 Cd 214.438	66.0	71.6	-0.004 mg/L	-0.371 mg/kg	
2 Co 228.616	90.5	98.1	0.026 mg/L	2.552 mg/kg	
2 Cr 205.558	72.3	78.3	0.122 mg/L	12.22 mg/kg	
2 Cu 324.764	1337.4	1449.4	0.069 mg/L	6.929 mg/kg	
2 Fe 238.204	483299.5	523769.5	56.67 mg/L	5666 mg/kg	
2 K 766.514	9349.9	10132.8	4.988 mg/L	498.7 mg/kg	
2 Li 670.781	1677.5	1818.0	0.017 mg/L	1.711 mg/kg	
2 Mg 279.074	261440.3	283332.5	234.0 mg/L	23400 mg/kg	
2 Mn 257.610	191328.2	207349.4	2.772 mg/L	277.2 mg/kg	
2 Mo 202.031	47.6	51.6	0.020 mg/L	1.965 mg/kg	
2 Na 588.995	101598.2	110105.8	2.175 mg/L	217.5 mg/kg	
2 Ni 231.603	55.0	61.7	0.032 mg/L	3.212 mg/kg	
2 P 178.221	37.9	41.1	1.954 mg/L	195.4 mg/kg	
2 Pb 220.353	34.4	37.3	0.127 mg/L	12.68 mg/kg	
2 Sb 206.833	-43.3	-46.9	-0.042 mg/L	-4.224 mg/kg	
2 Se 196.026	6.9	7.5	0.074 mg/L	7.412 mg/kg	
2 Si 251.611	71955.9	77981.3	18.60 mg/L	1860 mg/kg	
2 Sn 189.933	49.5	53.7	-1.404 mg/L	-140.4 mg/kg	
2 Sr 407.771	184146.0	199565.8	0.247 mg/L	24.71 mg/kg	
2 Ti 334.941	148642.7	161089.5	1.716 mg/L	171.6 mg/kg	
2 Tl 190.800	1.0	1.1	0.102 mg/L	10.25 mg/kg	
2 V 292.402	1778.2	1927.1	0.145 mg/L	14.46 mg/kg	
2 Zn 206.200	1187.1	1286.5	0.639 mg/L	63.86 mg/kg	

Mean Data

ID: 305333
Sample Qty: 0.5001 g
Seq. No.: 68 Sample No.: 42 A/S Pos: 58
Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 18:25:11

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD

Sc 357.253	486730.7	93	1.1 mg/kg			1.14%
Y 360.064	237544.2	90	0.5 mg/kg			0.58%
Ag 328.068	-69.2	-0.024	0.0000 mg/L	-2.390	0.0018 mg/kg	0.08%
Al 396.140	80846.0	26.19	0.275 mg/L	2618	27.5 mg/kg	1.05%
As 188.979	8.5	0.112	0.0472 mg/L	11.19	4.724 mg/kg	42.23%
B 249.773	1826.2	0.024	0.0030 mg/L	2.392	0.2969 mg/kg	12.41%
Ba 455.403	86763.7	0.257	0.0025 mg/L	25.74	0.250 mg/kg	0.97%
Be 234.861	716.8	-0.001	0.0001 mg/L	-0.051	0.0143 mg/kg	27.88%
Ca 315.887	4347882.1	447.2	2.43 mg/L	44710	242.7 mg/kg	0.54%
Cd 214.438	75.8	-0.003	0.0014 mg/L	-0.272	0.1412 mg/kg	52.00%
Co 228.616	106.0	0.028	0.0031 mg/L	2.772	0.3122 mg/kg	11.26%
Cr 205.558	75.7	0.119	0.0042 mg/L	11.92	0.422 mg/kg	3.54%
Cu 324.764	1441.0	0.069	0.0005 mg/L	6.893	0.0517 mg/kg	0.75%
Fe 238.204	519909.6	56.26	0.591 mg/L	5625	59.1 mg/kg	1.05%
K 766.514	10010.6	4.941	0.0668 mg/L	494.0	6.68 mg/kg	1.35%
Li 670.781	1759.2	0.017	0.0007 mg/L	1.665	0.0664 mg/kg	3.99%
Mg 279.074	281253.0	232.3	2.43 mg/L	23230	242.9 mg/kg	1.05%
Mn 257.610	205846.5	2.752	0.0284 mg/L	275.2	2.84 mg/kg	1.03%
Mo 202.031	56.0	0.026	0.0092 mg/L	2.616	0.9194 mg/kg	35.15%
Na 588.995	109227.2	2.123	0.0743 mg/L	212.2	7.43 mg/kg	3.50%
Ni 231.603	68.9	0.036	0.0052 mg/L	3.582	0.5227 mg/kg	14.59%
P 178.221	40.1	1.908	0.0656 mg/L	190.8	6.55 mg/kg	3.44%
Pb 220.353	37.8	0.129	0.0024 mg/L	12.85	0.237 mg/kg	1.85%
Sb 206.833	-50.3	-0.063	0.0292 mg/L	-6.287	2.9169 mg/kg	46.40%
Se 196.026	6.8	0.065	0.0132 mg/L	6.479	1.3196 mg/kg	20.37%
Si 251.611	77410.9	18.46	0.194 mg/L	1846	19.4 mg/kg	1.05%
Sn 189.933	49.7	-1.415	0.0149 mg/L	-141.4	1.49 mg/kg	1.06%
Sr 407.771	199255.3	0.247	0.0005 mg/L	24.67	0.054 mg/kg	0.22%
Ti 334.941	159994.9	1.704	0.0164 mg/L	170.4	1.64 mg/kg	0.96%
Tl 190.800	1.7	0.118	0.0213 mg/L	11.76	2.133 mg/kg	18.15%
V 292.402	1912.9	0.144	0.0015 mg/L	14.35	0.147 mg/kg	1.02%
Zn 206.200	1277.7	0.634	0.0062 mg/L	63.42	0.624 mg/kg	0.98%

Replicate Data ----------
ID: 305334
---------- Date: 5/20/02 18:29:25

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	484623.3	484623.3	93	mg/kg		
1	Y 360.064	235188.6	235188.6	89	mg/kg		
1	Ag 328.068	-68.5	-74.0	-0.024	mg/L	-2.416	mg/kg
1	Al 396.140	130039.2	140402.7	45.52	mg/L	4552	mg/kg
1	As 188.979	9.0	9.7	0.121	mg/L	12.12	mg/kg
1	B 249.773	2693.2	2907.8	0.085	mg/L	8.511	mg/kg
1	Ba 455.403	144230.2	155724.6	0.447	mg/L	44.70	mg/kg
1	Be 234.861	1140.2	1231.1	0.001	mg/L	0.061	mg/kg
1	Ca 315.887	4280249.0	4621363.5	475.4	mg/L	47530	mg/kg
1	Cd 214.438	92.9	100.3	-0.006	mg/L	-0.633	mg/kg
1	Co 228.616	193.5	208.9	0.057	mg/L	5.657	mg/kg
1	Cr 205.558	109.2	117.9	0.181	mg/L	18.11	mg/kg
1	Cu 324.764	1966.5	2123.3	0.110	mg/L	11.01	mg/kg
1	Fe 238.204	852258.8	920179.5	99.58	mg/L	9956	mg/kg
1	K 766.514	22132.5	23896.4	10.31	mg/L	1030	mg/kg
1	Li 670.781	3522.8	3803.6	0.033	mg/L	3.297	mg/kg
1	Mg 279.074	294748.8	318238.8	262.9	mg/L	26280	mg/kg
1	Mn 257.610	300728.7	324695.2	4.342	mg/L	434.1	mg/kg
1	Mo 202.031	46.1	49.8	0.017	mg/L	1.687	mg/kg
1	Na 588.995	101798.6	109911.5	2.164	mg/L	216.3	mg/kg
1	Ni 231.603	132.1	148.9	0.077	mg/L	7.700	mg/kg
1	P 178.221	72.2	77.9	3.728	mg/L	372.8	mg/kg
1	Pb 220.353	18.5	20.0	0.066	mg/L	6.593	mg/kg
1	Sb 206.833	-62.8	-67.8	-0.169	mg/L	-16.91	mg/kg
1	Se 196.026	-2.7	-3.0	-0.069	mg/L	-6.920	mg/kg
1	Si 251.611	77674.2	83864.4	19.96	mg/L	1996	mg/kg
1	Sn 189.933	39.2	42.3	-1.704	mg/L	-170.4	mg/kg
1	Sr 407.771	216718.8	233990.2	0.289	mg/L	28.93	mg/kg
1	Ti 334.941	195579.1	211165.8	2.243	mg/L	224.2	mg/kg
1	Tl 190.800	7.1	7.7	0.328	mg/L	32.77	mg/kg
1	V 292.402	2868.3	3096.9	0.230	mg/L	23.02	mg/kg
1	Zn 206.200	480.3	518.5	0.253	mg/L	25.32	mg/kg

2 Sc 357.253	481210.5	481210.5	92 mg/kg		
2 Y 360.064	236512.5	236512.5	89 mg/kg		
2 Ag 328.068	-158.1	-171.9	-0.029 mg/L	-2.931 mg/kg	
2 Al 396.140	131421.1	142901.0	46.33 mg/L	4633 mg/kg	
2 As 188.979	8.0	8.7	0.113 mg/L	11.32 mg/kg	
2 B 249.773	2679.0	2913.1	0.085 mg/L	8.476 mg/kg	
2 Ba 455.403	145440.7	158145.2	0.454 mg/L	45.39 mg/kg	
2 Be 234.861	1162.4	1263.9	0.001 mg/L	0.084 mg/kg	
2 Ca 315.887	4287267.4	4661770.3	479.5 mg/L	47940 mg/kg	
2 Cd 214.438	122.6	133.3	-0.001 mg/L	-0.070 mg/kg	
2 Co 228.616	177.8	193.4	0.052 mg/L	5.222 mg/kg	
2 Cr 205.558	95.3	103.6	0.168 mg/L	16.78 mg/kg	
2 Cu 324.764	1958.5	2129.6	0.110 mg/L	11.01 mg/kg	
2 Fe 238.204	853363.6	927906.9	100.4 mg/L	10040 mg/kg	
2 K 766.514	22407.3	24364.7	10.49 mg/L	1049 mg/kg	
2 Li 670.781	3466.5	3769.3	0.033 mg/L	3.270 mg/kg	
2 Mg 279.074	297001.6	322945.4	266.7 mg/L	26670 mg/kg	
2 Mn 257.610	302681.0	329120.9	4.401 mg/L	440.0 mg/kg	
2 Mo 202.031	51.0	55.5	0.025 mg/L	2.537 mg/kg	
2 Na 588.995	101798.4	110690.8	2.210 mg/L	221.0 mg/kg	
2 Ni 231.603	117.1	131.3	0.068 mg/L	6.794 mg/kg	
2 P 178.221	72.2	78.6	3.758 mg/L	375.8 mg/kg	
2 Pb 220.353	25.2	27.4	0.092 mg/L	9.209 mg/kg	
2 Sb 206.833	-57.8	-62.8	-0.139 mg/L	-13.90 mg/kg	
2 Se 196.026	2.7	2.9	0.012 mg/L	1.154 mg/kg	
2 Si 251.611	78348.1	85192.0	20.28 mg/L	2028 mg/kg	
2 Sn 189.933	33.5	36.4	-1.770 mg/L	-176.9 mg/kg	
2 Sr 407.771	217352.5	236338.7	0.292 mg/L	29.22 mg/kg	
2 Ti 334.941	197740.0	215013.0	2.283 mg/L	228.3 mg/kg	
2 Tl 190.800	6.0	6.5	0.298 mg/L	29.80 mg/kg	
2 V 292.402	2854.7	3104.1	0.231 mg/L	23.07 mg/kg	
2 Zn 206.200	483.5	525.7	0.257 mg/L	25.68 mg/kg	

Mean Data

ID: 305334
Sample Qty: 0.5001 g
Seq. No.: 69 Sample No.: 43 A/S Pos: 59
Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 18:29:25

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	482916.9	92	0.5	mg/kg				0.50%
Y 360.064	235850.5	89	0.4	mg/kg				0.40%
Ag 328.068	-122.9	-0.027	0.0036	mg/L	-2.673	0.3642	mg/kg	13.63%
Al 396.140	141651.8	45.93	0.573	mg/L	4592	57.3	mg/kg	1.25%
As 188.979	9.2	0.117	0.0056	mg/L	11.72	0.561	mg/kg	4.79%
B 249.773	2910.5	0.085	0.0002	mg/L	8.494	0.0247	mg/kg	0.29%
Ba 455.403	156934.9	0.451	0.0048	mg/L	45.04	0.484	mg/kg	1.07%
Be 234.861	1247.5	0.001	0.0002	mg/L	0.072	0.0158	mg/kg	21.80%
Ca 315.887	4641566.9	477.5	2.94	mg/L	47740	293.9	mg/kg	0.62%
Cd 214.438	116.8	-0.004	0.0040	mg/L	-0.351	0.3984	mg/kg	113.38%
Co 228.616	201.1	0.054	0.0031	mg/L	5.440	0.3079	mg/kg	5.66%
Cr 205.558	110.8	0.174	0.0094	mg/L	17.44	0.941	mg/kg	5.39%
Cu 324.764	2126.4	0.110	0.0000	mg/L	11.01	0.000	mg/kg	0.00%
Fe 238.204	924043.2	100.00	0.591	mg/L	9998	59.1	mg/kg	0.59%
K 766.514	24130.5	10.40	0.128	mg/L	1040	12.8	mg/kg	1.23%
Li 670.781	3786.4	0.033	0.0002	mg/L	3.284	0.0194	mg/kg	0.59%
Mg 279.074	320592.1	264.8	2.75	mg/L	26470	274.8	mg/kg	1.04%
Mn 257.610	326908.0	4.371	0.0419	mg/L	437.1	4.19	mg/kg	0.96%
Mo 202.031	52.6	0.021	0.0060	mg/L	2.112	0.6005	mg/kg	28.43%
Na 588.995	110301.1	2.187	0.0330	mg/L	218.6	3.30	mg/kg	1.51%
Ni 231.603	140.1	0.072	0.0064	mg/L	7.247	0.6404	mg/kg	8.84%
P 178.221	78.2	3.743	0.0212	mg/L	374.3	2.12	mg/kg	0.57%
Pb 220.353	23.7	0.079	0.0185	mg/L	7.901	1.8495	mg/kg	23.41%
Sb 206.833	-65.3	-0.154	0.0213	mg/L	-15.40	2.129	mg/kg	13.82%
Se 196.026	-0.0	-0.029	0.0571	mg/L	-2.883	5.7094	mg/kg	198.02%
Si 251.611	84528.2	20.12	0.226	mg/L	2012	22.6	mg/kg	1.13%
Sn 189.933	39.4	-1.737	0.0463	mg/L	-173.7	4.63	mg/kg	2.67%
Sr 407.771	235164.5	0.291	0.0020	mg/L	29.08	0.204	mg/kg	0.70%
Ti 334.941	213089.4	2.263	0.0286	mg/L	226.2	2.86	mg/kg	1.27%
Tl 190.800	7.1	0.313	0.0210	mg/L	31.29	2.097	mg/kg	6.70%
V 292.402	3100.5	0.231	0.0004	mg/L	23.05	0.037	mg/kg	0.16%
Zn 206.200	522.1	0.255	0.0025	mg/L	25.50	0.254	mg/kg	1.00%

Replicate Data
ID: 305335
Date: 5/20/02 18:33:38

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	485477.5	485477.5	93	mg/kg		
1	Y 360.064	245746.0	245746.0	93	mg/kg		
1	Ag 328.068	-36.7	-39.5	-0.022	mg/L	-2.235	mg/kg
1	Al 396.140	99193.2	106910.0	34.67	mg/L	3468	mg/kg
1	As 188.979	4.6	5.0	0.084	mg/L	8.403	mg/kg
1	B 249.773	1924.1	2073.8	0.030	mg/L	2.980	mg/kg
1	Ba 455.403	107003.6	115327.9	0.331	mg/L	33.09	mg/kg
1	Be 234.861	806.1	868.9	0.000	mg/L	0.044	mg/kg
1	Ca 315.887	3145953.5	3390693.9	348.8	mg/L	34880	mg/kg
1	Cd 214.438	53.2	57.3	-0.006	mg/L	-0.643	mg/kg
1	Co 228.616	136.1	146.6	0.039	mg/L	3.913	mg/kg
1	Cr 205.558	86.7	93.4	0.133	mg/L	13.29	mg/kg
1	Cu 324.764	2157.7	2325.5	0.130	mg/L	13.00	mg/kg
1	Fe 238.204	607148.8	654382.1	70.81	mg/L	7083	mg/kg
1	K 766.514	12202.9	13152.2	6.155	mg/L	615.6	mg/kg
1	Li 670.781	2410.1	2597.6	0.023	mg/L	2.335	mg/kg
1	Mg 279.074	225407.3	242943.0	200.7	mg/L	20070	mg/kg
1	Mn 257.610	217141.4	234033.9	3.129	mg/L	313.0	mg/kg
1	Mo 202.031	49.5	53.4	0.022	mg/L	2.223	mg/kg
1	Na 588.995	95280.5	102692.8	1.732	mg/L	173.2	mg/kg
1	Ni 231.603	94.0	101.4	0.053	mg/L	5.259	mg/kg
1	P 178.221	41.7	44.9	2.138	mg/L	213.8	mg/kg
1	Pb 220.353	16.5	17.8	0.058	mg/L	5.826	mg/kg
1	Sb 206.833	-65.0	-70.1	-0.183	mg/L	-18.33	mg/kg
1	Se 196.026	5.6	6.0	0.054	mg/L	5.419	mg/kg
1	Si 251.611	69783.1	75211.9	18.05	mg/L	1805	mg/kg
1	Sn 189.933	53.9	58.1	-1.288	mg/L	-128.8	mg/kg
1	Sr 407.771	150110.3	161788.2	0.201	mg/L	20.07	mg/kg
1	Ti 334.941	162133.0	174746.2	1.848	mg/L	184.8	mg/kg
1	Tl 190.800	0.8	0.9	0.086	mg/L	8.600	mg/kg
1	V 292.402	2258.4	2434.1	0.182	mg/L	18.18	mg/kg
1	Zn 206.200	313.5	337.9	0.163	mg/L	16.26	mg/kg
2	Sc 357.253	480539.5	480539.5	92	mg/kg		
2	Y 360.064	243113.3	243113.3	92	mg/kg		
2	Ag 328.068	-63.0	-68.6	-0.024	mg/L	-2.388	mg/kg
2	Al 396.140	98907.7	107697.7	34.93	mg/L	3493	mg/kg
2	As 188.979	3.2	3.5	0.073	mg/L	7.286	mg/kg
2	B 249.773	1924.4	2095.5	0.031	mg/L	3.147	mg/kg
2	Ba 455.403	106681.0	116161.8	0.333	mg/L	33.33	mg/kg
2	Be 234.861	859.2	935.6	0.001	mg/L	0.103	mg/kg
2	Ca 315.887	3141080.0	3420229.9	351.8	mg/L	35190	mg/kg
2	Cd 214.438	71.7	78.1	-0.003	mg/L	-0.290	mg/kg
2	Co 228.616	127.3	138.6	0.037	mg/L	3.688	mg/kg
2	Cr 205.558	78.9	86.0	0.126	mg/L	12.61	mg/kg
2	Cu 324.764	2172.9	2366.0	0.132	mg/L	13.24	mg/kg
2	Fe 238.204	605836.9	659678.1	71.38	mg/L	7140	mg/kg
2	K 766.514	12318.1	13412.8	6.255	mg/L	625.7	mg/kg
2	Li 670.781	2349.5	2558.2	0.023	mg/L	2.304	mg/kg
2	Mg 279.074	224792.4	244769.9	202.2	mg/L	20220	mg/kg
2	Mn 257.610	216689.5	235946.8	3.155	mg/L	315.5	mg/kg
2	Mo 202.031	56.3	61.3	0.034	mg/L	3.391	mg/kg
2	Na 588.995	95230.7	103693.9	1.792	mg/L	179.2	mg/kg
2	Ni 231.603	98.1	107.1	0.055	mg/L	5.549	mg/kg
2	P 178.221	40.8	44.4	2.113	mg/L	211.4	mg/kg
2	Pb 220.353	13.7	14.9	0.048	mg/L	4.796	mg/kg
2	Sb 206.833	-56.1	-61.1	-0.129	mg/L	-12.87	mg/kg
2	Se 196.026	-2.3	-2.5	-0.063	mg/L	-6.283	mg/kg
2	Si 251.611	70481.6	76745.4	18.43	mg/L	1844	mg/kg
2	Sn 189.933	45.3	49.3	-1.349	mg/L	-135.0	mg/kg
2	Sr 407.771	149789.5	163101.3	0.202	mg/L	20.23	mg/kg
2	Ti 334.941	161860.4	176245.1	1.864	mg/L	186.4	mg/kg
2	Tl 190.800	-0.5	-0.5	0.049	mg/L	4.900	mg/kg
2	V 292.402	2303.6	2508.3	0.187	mg/L	18.72	mg/kg
2	Zn 206.200	325.5	354.4	0.171	mg/L	17.09	mg/kg

001446

Mean Data

ID: 305335
Sample Qty: 0.4999 g
Seq. No.: 70 Sample No.: 44 A/S Pos: 60
Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 18:33:38

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	483008.5	92	0.7	mg/kg				0.72%
Y 360.064	244429.7	92	0.7	mg/kg				0.76%
Ag 328.068	-54.1	-0.023	0.0011	mg/L	-2.312	0.1083	mg/kg	4.68%
Al 396.140	107303.8	34.80	0.180	mg/L	3481	18.0	mg/kg	0.52%
As 188.979	4.2	0.078	0.0079	mg/L	7.845	0.7898	mg/kg	10.07%
B 249.773	2084.6	0.031	0.0012	mg/L	3.064	0.1176	mg/kg	3.84%
Ba 455.403	115744.9	0.332	0.0017	mg/L	33.21	0.172	mg/kg	0.52%
Be 234.861	902.2	0.001	0.0004	mg/L	0.073	0.0419	mg/kg	57.06%
Ca 315.887	3405461.9	350.3	2.15	mg/L	35030	214.9	mg/kg	0.61%
Cd 214.438	67.7	-0.005	0.0025	mg/L	-0.467	0.2493	mg/kg	53.43%
Co 228.616	142.6	0.038	0.0016	mg/L	3.801	0.1592	mg/kg	4.19%
Cr 205.558	89.7	0.130	0.0048	mg/L	12.95	0.480	mg/kg	3.70%
Cu 324.764	2345.8	0.131	0.0018	mg/L	13.12	0.175	mg/kg	1.33%
Fe 238.204	657030.1	71.10	0.405	mg/L	7111	40.5	mg/kg	0.57%
K 766.514	13282.5	6.205	0.0712	mg/L	620.6	7.12	mg/kg	1.15%
Li 670.781	2577.9	0.023	0.0002	mg/L	2.319	0.0222	mg/kg	0.96%
Mg 279.074	243856.4	201.4	1.07	mg/L	20150	106.7	mg/kg	0.53%
Mn 257.610	234990.4	3.142	0.0181	mg/L	314.3	1.81	mg/kg	0.58%
Mo 202.031	57.3	0.028	0.0083	mg/L	2.807	0.8258	mg/kg	29.42%
Na 588.995	103193.3	1.762	0.0424	mg/L	176.2	4.24	mg/kg	2.40%
Ni 231.603	104.2	0.054	0.0020	mg/L	5.404	0.2047	mg/kg	3.79%
P 178.221	44.6	2.126	0.0175	mg/L	212.6	1.75	mg/kg	0.82%
Pb 220.353	16.4	0.053	0.0073	mg/L	5.311	0.7283	mg/kg	13.71%
Sb 206.833	-65.6	-0.156	0.0386	mg/L	-15.60	3.860	mg/kg	24.75%
Se 196.026	1.8	-0.004	0.0827	mg/L	-0.432	8.2752	mg/kg	>999.9%
Si 251.611	75978.6	18.24	0.271	mg/L	1824	27.1	mg/kg	1.49%
Sn 189.933	53.7	-1.319	0.0433	mg/L	-131.9	4.33	mg/kg	3.28%
Sr 407.771	162444.8	0.201	0.0011	mg/L	20.15	0.114	mg/kg	0.57%
Ti 334.941	175495.6	1.856	0.0113	mg/L	185.6	1.13	mg/kg	0.61%
Tl 190.800	0.2	0.067	0.0262	mg/L	6.750	2.6158	mg/kg	38.75%
V 292.402	2471.2	0.184	0.0038	mg/L	18.45	0.384	mg/kg	2.08%
Zn 206.200	346.2	0.167	0.0059	mg/L	16.67	0.586	mg/kg	3.51%

Replicate Data

ID: 305335d
Date: 5/20/02 18:37:51

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	484066.8	484066.8	93	mg/kg		
1	Y 360.064	244919.1	244919.1	92	mg/kg		
1	Ag 328.068	-43.4	-46.9	-0.023	mg/L	-2.274	mg/kg
1	Al 396.140	107874.6	116605.6	37.82	mg/L	3783	mg/kg
1	As 188.979	-4.9	-5.3	0.004	mg/L	0.421	mg/kg
1	B 249.773	2052.3	2218.4	0.040	mg/L	3.960	mg/kg
1	Ba 455.403	111673.7	120712.2	0.346	mg/L	34.57	mg/kg
1	Be 234.861	883.1	954.6	0.001	mg/L	0.088	mg/kg
1	Ca 315.887	3159723.2	3415459.2	351.3	mg/L	35140	mg/kg
1	Cd 214.438	58.2	62.9	-0.005	mg/L	-0.533	mg/kg
1	Co 228.616	147.7	159.6	0.043	mg/L	4.277	mg/kg
1	Cr 205.558	85.1	92.0	0.134	mg/L	13.36	mg/kg
1	Cu 324.764	1369.0	1479.8	0.075	mg/L	7.469	mg/kg
1	Fe 238.204	643668.2	695764.2	75.29	mg/L	7531	mg/kg
1	K 766.514	12875.7	13917.8	6.451	mg/L	645.2	mg/kg
1	Li 670.781	2550.6	2757.1	0.025	mg/L	2.462	mg/kg
1	Mg 279.074	226558.9	244895.7	202.3	mg/L	20230	mg/kg
1	Mn 257.610	227781.1	246216.8	3.292	mg/L	329.3	mg/kg
1	Mo 202.031	45.0	48.6	0.015	mg/L	1.516	mg/kg
1	Na 588.995	97335.5	105213.5	1.882	mg/L	188.3	mg/kg
1	Ni 231.603	104.0	112.6	0.058	mg/L	5.836	mg/kg
1	P 178.221	36.1	39.1	1.856	mg/L	185.7	mg/kg
1	Pb 220.353	13.8	14.9	0.048	mg/L	4.817	mg/kg
1	Sb 206.833	-61.4	-66.4	-0.161	mg/L	-16.05	mg/kg
1	Se 196.026	10.0	10.9	0.121	mg/L	12.09	mg/kg

1	Si 251.611	63534.7	68677.0	16.38 mg/L	1638 mg/kg
1	Sn 189.933	45.8	49.5	-1.351 mg/L	-135.1 mg/kg
1	Sr 407.771	153004.2	165387.7	0.205 mg/L	20.52 mg/kg
1	Ti 334.941	181210.7	195877.2	2.067 mg/L	206.8 mg/kg
1	Tl 190.800	4.8	5.2	0.201 mg/L	20.09 mg/kg
1	V 292.402	2346.7	2536.7	0.189 mg/L	18.93 mg/kg
1	Zn 206.200	371.7	401.7	0.195 mg/L	19.46 mg/kg
2	Sc 357.253	481350.0	481350.0	92 mg/kg	
2	Y 360.064	243663.3	243663.3	92 mg/kg	
2	Ag 328.068	-58.7	-63.8	-0.024 mg/L	-2.363 mg/kg
2	Al 396.140	107924.8	117318.2	38.05 mg/L	3806 mg/kg
2	As 188.979	0.1	0.1	0.046 mg/L	4.624 mg/kg
2	B 249.773	2046.2	2224.3	0.040 mg/L	3.970 mg/kg
2	Ba 455.403	111640.5	121357.4	0.348 mg/L	34.76 mg/kg
2	Be 234.861	872.8	948.8	0.001 mg/L	0.077 mg/kg
2	Ca 315.887	3163628.7	3438982.1	353.7 mg/L	35380 mg/kg
2	Cd 214.438	59.4	64.6	-0.005 mg/L	-0.520 mg/kg
2	Co 228.616	148.4	161.3	0.043 mg/L	4.325 mg/kg
2	Cr 205.558	84.6	91.9	0.134 mg/L	13.40 mg/kg
2	Cu 324.764	1357.5	1475.6	0.074 mg/L	7.428 mg/kg
2	Fe 238.204	643970.3	700019.6	75.75 mg/L	7577 mg/kg
2	K 766.514	12849.1	13967.4	6.470 mg/L	647.1 mg/kg
2	Li 670.781	2626.8	2855.4	0.025 mg/L	2.541 mg/kg
2	Mg 279.074	226728.6	246462.4	203.6 mg/L	20360 mg/kg
2	Mn 257.610	227785.2	247611.0	3.311 mg/L	331.1 mg/kg
2	Mo 202.031	53.5	58.1	0.029 mg/L	2.927 mg/kg
2	Na 588.995	97485.6	105970.5	1.928 mg/L	192.8 mg/kg
2	Ni 231.603	92.9	101.1	0.052 mg/L	5.242 mg/kg
2	P 178.221	41.7	45.4	2.161 mg/L	216.1 mg/kg
2	Pb 220.353	20.1	21.9	0.073 mg/L	7.259 mg/kg
2	Sb 206.833	-59.5	-64.7	-0.151 mg/L	-15.06 mg/kg
2	Se 196.026	3.2	3.5	0.019 mg/L	1.925 mg/kg
2	Si 251.611	63587.3	69121.8	16.48 mg/L	1649 mg/kg
2	Sn 189.933	41.2	44.8	-1.387 mg/L	-138.7 mg/kg
2	Sr 407.771	153220.7	166556.6	0.207 mg/L	20.66 mg/kg
2	Ti 334.941	181590.0	197395.1	2.083 mg/L	208.4 mg/kg
2	Tl 190.800	1.9	2.1	0.148 mg/L	14.83 mg/kg
2	V 292.402	2324.1	2526.4	0.188 mg/L	18.85 mg/kg
2	Zn 206.200	364.8	396.5	0.192 mg/L	19.20 mg/kg

Mean Data ----------

ID: 305335d Seq. No.: 71 Sample No.: 45 A/S Pos: 61

Sample Qty: 0.4999 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 18:37:51

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	482708.4	92	0.4	mg/kg				0.40%
Y 360.064	244291.2	92	0.3	mg/kg				0.36%
Ag 328.068	-55.3	-0.023	0.0006	mg/L	-2.318	0.0632	mg/kg	2.72%
Al 396.140	116961.9	37.93	0.163	mg/L	3794	16.3	mg/kg	0.43%
As 188.979	-2.6	0.025	0.0297	mg/L	2.523	2.9723	mg/kg	117.83%
B 249.773	2221.3	0.040	0.0001	mg/L	3.965	0.0068	mg/kg	0.17%
Ba 455.403	121034.8	0.347	0.0013	mg/L	34.67	0.133	mg/kg	0.38%
Be 234.861	951.7	0.001	0.0001	mg/L	0.082	0.0082	mg/kg	9.93%
Ca 315.887	3427220.6	352.5	1.71	mg/L	35260	171.2	mg/kg	0.49%
Cd 214.438	63.7	-0.005	0.0001	mg/L	-0.527	0.0090	mg/kg	1.71%
Co 228.616	160.5	0.043	0.0003	mg/L	4.301	0.0335	mg/kg	0.78%
Cr 205.558	92.0	0.134	0.0002	mg/L	13.38	0.024	mg/kg	0.18%
Cu 324.764	1477.7	0.074	0.0003	mg/L	7.449	0.0290	mg/kg	0.39%
Fe 238.204	697891.9	75.52	0.326	mg/L	7554	32.6	mg/kg	0.43%
K 766.514	13942.6	6.460	0.0136	mg/L	646.1	1.36	mg/kg	0.21%
Li 670.781	2806.3	0.025	0.0006	mg/L	2.502	0.0556	mg/kg	2.22%
Mg 279.074	245679.0	202.9	0.92	mg/L	20300	91.5	mg/kg	0.45%
Mn 257.610	246913.9	3.301	0.0132	mg/L	330.2	1.32	mg/kg	0.40%
Mo 202.031	53.4	0.022	0.0100	mg/L	2.222	0.9978	mg/kg	44.91%
Na 588.995	105592.0	1.905	0.0320	mg/L	190.5	3.20	mg/kg	1.68%
Ni 231.603	106.9	0.055	0.0042	mg/L	5.539	0.4197	mg/kg	7.58%
P 178.221	42.2	2.009	0.2153	mg/L	200.9	21.54	mg/kg	10.72%
Pb 220.353	18.4	0.060	0.0173	mg/L	6.038	1.7269	mg/kg	28.60%
Sb 206.833	-65.5	-0.156	0.0070	mg/L	-15.56	0.702	mg/kg	4.51%

Se 196.026	7.2	0.070	0.0718 mg/L	7.005	7.1843 mg/kg	102.55%
Si 251.611	68899.4	16.43	0.076 mg/L	1643	7.6 mg/kg	0.46%
Sn 189.933	47.1	-1.369	0.0254 mg/L	-136.9	2.54 mg/kg	1.86%
Sr 407.771	165972.2	0.206	0.0010 mg/L	20.59	0.102 mg/kg	0.49%
Ti 334.941	196636.2	2.075	0.0113 mg/L	207.6	1.13 mg/kg	0.55%
Tl 190.800	3.6	0.175	0.0371 mg/L	17.46	3.713 mg/kg	21.26%
V 292.402	2531.5	0.189	0.0005 mg/L	18.89	0.053 mg/kg	0.28%
Zn 206.200	399.1	0.193	0.0018 mg/L	19.33	0.185 mg/kg	0.95%

Replicate Data ----------

ID: 305335s Date: 5/20/02 18:42:07

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	481338.6	481338.6	92	mg/kg		
1	Y 360.064	242811.7	242811.7	92	mg/kg		
1	Ag 328.068	8780.5	9545.0	0.482	mg/L	48.20	mg/kg
1	Al 396.140	160178.0	174123.6	56.46	mg/L	5644	mg/kg
1	As 188.979	299.0	325.0	2.586	mg/L	258.5	mg/kg
1	B 249.773	6865.4	7463.1	0.601	mg/L	60.14	mg/kg
1	Ba 455.403	296716.9	322549.9	0.890	mg/L	89.02	mg/kg
1	Be 234.861	5710.7	6207.9	0.053	mg/L	5.286	mg/kg
1	Ca 315.887	2970498.2	3229118.6	332.1	mg/L	33210	mg/kg
1	Cd 214.438	2506.5	2724.7	0.484	mg/L	48.40	mg/kg
1	Co 228.616	1700.2	1848.2	0.511	mg/L	51.08	mg/kg
1	Cr 205.558	565.2	614.4	0.653	mg/L	65.30	mg/kg
1	Cu 324.764	8298.4	9020.9	0.566	mg/L	56.56	mg/kg
1	Fe 238.204	682779.6	742224.5	80.32	mg/L	8030	mg/kg
1	K 766.514	84771.8	92152.3	36.68	mg/L	3668	mg/kg
1	Li 670.781	63109.7	68604.3	0.551	mg/L	55.05	mg/kg
1	Mg 279.074	226736.9	246477.2	203.6	mg/L	20350	mg/kg
1	Mn 257.610	236666.3	257271.1	3.440	mg/L	343.9	mg/kg
1	Mo 202.031	572.9	622.8	0.866	mg/L	86.55	mg/kg
1	Na 588.995	495628.2	538779.1	27.82	mg/L	2782	mg/kg
1	Ni 231.603	926.0	1011.4	0.521	mg/L	52.07	mg/kg
1	P 178.221	86.8	94.3	4.518	mg/L	451.7	mg/kg
1	Pb 220.353	144.2	156.7	0.547	mg/L	54.72	mg/kg
1	Sb 206.833	513.3	558.0	3.636	mg/L	363.6	mg/kg
1	Se 196.026	175.4	190.7	2.596	mg/L	259.6	mg/kg
1	Si 251.611	89323.5	97100.3	23.61	mg/L	2361	mg/kg
1	Sn 189.933	673.4	732.1	2.740	mg/L	273.9	mg/kg
1	Sr 407.771	563316.4	612360.4	0.754	mg/L	75.41	mg/kg
1	Ti 334.941	287730.9	312781.6	3.281	mg/L	328.1	mg/kg
1	Tl 190.800	82.3	89.5	2.489	mg/L	248.8	mg/kg
1	V 292.402	9224.3	10027.4	0.738	mg/L	73.76	mg/kg
1	Zn 206.200	1225.9	1332.7	0.662	mg/L	66.17	mg/kg
2	Sc 357.253	476513.3	476513.3	91	mg/kg		
2	Y 360.064	240126.8	240126.8	91	mg/kg		
2	Ag 328.068	8751.1	9609.3	0.485	mg/L	48.53	mg/kg
2	Al 396.140	159059.5	174658.6	56.63	mg/L	5662	mg/kg
2	As 188.979	296.5	325.6	2.590	mg/L	258.9	mg/kg
2	B 249.773	6824.4	7493.7	0.604	mg/L	60.44	mg/kg
2	Ba 455.403	294359.7	323227.8	0.892	mg/L	89.21	mg/kg
2	Be 234.861	5685.8	6243.5	0.053	mg/L	5.318	mg/kg
2	Ca 315.887	2954366.7	3244103.8	333.7	mg/L	33360	mg/kg
2	Cd 214.438	2502.7	2748.1	0.488	mg/L	48.82	mg/kg
2	Co 228.616	1696.8	1863.2	0.515	mg/L	51.50	mg/kg
2	Cr 205.558	565.1	620.5	0.659	mg/L	65.92	mg/kg
2	Cu 324.764	8284.6	9097.0	0.571	mg/L	57.05	mg/kg
2	Fe 238.204	678186.2	744696.4	80.59	mg/L	8057	mg/kg
2	K 766.514	83944.4	92176.9	36.69	mg/L	3669	mg/kg
2	Li 670.781	62412.9	68533.8	0.550	mg/L	55.00	mg/kg
2	Mg 279.074	225015.8	247083.2	204.1	mg/L	20400	mg/kg
2	Mn 257.610	235110.6	258168.0	3.452	mg/L	345.1	mg/kg
2	Mo 202.031	580.7	637.7	0.888	mg/L	88.75	mg/kg
2	Na 588.995	491744.7	539970.4	27.89	mg/L	2789	mg/kg
2	Ni 231.603	937.5	1035.4	0.533	mg/L	53.30	mg/kg
2	P 178.221	90.3	99.1	4.748	mg/L	474.7	mg/kg
2	Pb 220.353	159.0	174.6	0.610	mg/L	61.04	mg/kg
2	Sb 206.833	517.3	568.0	3.697	mg/L	369.6	mg/kg

2 Se 196.026	177.5	194.9	2.655 mg/L	265.5 mg/kg
2 Si 251.611	88821.4	97532.2	23.72 mg/L	2372 mg/kg
2 Sn 189.933	676.1	742.4	2.802 mg/L	280.1 mg/kg
2 Sr 407.771	558920.9	613734.8	0.756 mg/L	75.58 mg/kg
2 Ti 334.941	285993.8	314041.5	3.295 mg/L	329.4 mg/kg
2 Tl 190.800	81.7	89.7	2.495 mg/L	249.4 mg/kg
2 V 292.402	9119.8	10014.2	0.737 mg/L	73.66 mg/kg
2 Zn 206.200	1240.7	1362.4	0.677 mg/L	67.67 mg/kg

Mean Data ----------

ID: 305335s Seq. No.: 72 Sample No.: 46 A/S Pos: 62
Sample Qty: 0.5001 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 18:42:07

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	478926.0	92	0.7	mg/kg				0.71%
Y 360.064	241469.2	91	0.7	mg/kg				0.79%
Ag 328.068	9577.1	0.484	0.0024	mg/L	48.36	0.239	mg/kg	0.50%
Al 396.140	174391.1	56.54	0.122	mg/L	5653	12.2	mg/kg	0.22%
As 188.979	325.3	2.588	0.0030	mg/L	258.7	0.30	mg/kg	0.12%
B 249.773	7478.4	0.603	0.0021	mg/L	60.29	0.211	mg/kg	0.35%
Ba 455.403	322888.9	0.891	0.0014	mg/L	89.11	0.135	mg/kg	0.15%
Be 234.861	6225.7	0.053	0.0002	mg/L	5.302	0.0226	mg/kg	0.43%
Ca 315.887	3236611.2	332.9	1.09	mg/L	33280	109.0	mg/kg	0.33%
Cd 214.438	2736.4	0.486	0.0030	mg/L	48.61	0.299	mg/kg	0.62%
Co 228.616	1855.7	0.513	0.0030	mg/L	51.29	0.296	mg/kg	0.58%
Cr 205.558	617.5	0.656	0.0044	mg/L	65.61	0.443	mg/kg	0.68%
Cu 324.764	9059.0	0.568	0.0035	mg/L	56.80	0.347	mg/kg	0.61%
Fe 238.204	743460.4	80.45	0.189	mg/L	8044	18.9	mg/kg	0.24%
K 766.514	92164.6	36.69	0.007	mg/L	3668	0.7	mg/kg	0.02%
Li 670.781	68569.0	0.550	0.0004	mg/L	55.02	0.040	mg/kg	0.07%
Mg 279.074	246780.2	203.8	0.35	mg/L	20380	35.4	mg/kg	0.17%
Mn 257.610	257719.6	3.446	0.0085	mg/L	344.5	0.85	mg/kg	0.25%
Mo 202.031	630.2	0.877	0.0156	mg/L	87.65	1.556	mg/kg	1.77%
Na 588.995	539374.8	27.86	0.050	mg/L	2785	5.0	mg/kg	0.18%
Ni 231.603	1023.4	0.527	0.0087	mg/L	52.68	0.873	mg/kg	1.66%
P 178.221	96.7	4.633	0.1632	mg/L	463.2	16.32	mg/kg	3.52%
Pb 220.353	165.7	0.579	0.0446	mg/L	57.88	4.463	mg/kg	7.71%
Sb 206.833	563.0	3.667	0.0431	mg/L	366.6	4.31	mg/kg	1.17%
Se 196.026	192.8	2.626	0.0416	mg/L	262.5	4.15	mg/kg	1.58%
Si 251.611	97316.2	23.67	0.076	mg/L	2366	7.6	mg/kg	0.32%
Sn 189.933	737.2	2.771	0.0436	mg/L	277.0	4.36	mg/kg	1.57%
Sr 407.771	613047.6	0.755	0.0012	mg/L	75.49	0.119	mg/kg	0.16%
Ti 334.941	313411.5	3.288	0.0094	mg/L	328.7	0.94	mg/kg	0.28%
Tl 190.800	89.6	2.492	0.0044	mg/L	249.1	0.44	mg/kg	0.18%
V 292.402	10020.8	0.737	0.0007	mg/L	73.71	0.068	mg/kg	0.09%
Zn 206.200	1347.5	0.669	0.0106	mg/L	66.92	1.056	mg/kg	1.58%

Replicate Data ----------

ID: 305335sd Date: 5/20/02 18:46:24

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	477515.4	477515.4	91	mg/kg		
1	Y 360.064	240681.2	240681.2	91	mg/kg		
1	Ag 328.068	8579.0	9400.5	0.474	mg/L	47.42	mg/kg
1	Al 396.140	200453.1	219649.8	71.22	mg/L	7118	mg/kg
1	As 188.979	300.0	328.7	2.614	mg/L	261.3	mg/kg
1	B 249.773	6692.4	7333.4	0.578	mg/L	57.75	mg/kg
1	Ba 455.403	327689.7	359071.4	0.989	mg/L	98.88	mg/kg
1	Be 234.861	5724.6	6272.8	0.053	mg/L	5.284	mg/kg
1	Ca 315.887	2950713.5	3233293.1	332.6	mg/L	33240	mg/kg
1	Cd 214.438	2476.9	2714.1	0.480	mg/L	47.97	mg/kg
1	Co 228.616	1676.4	1836.9	0.507	mg/L	50.69	mg/kg
1	Cr 205.558	569.0	623.5	0.666	mg/L	66.59	mg/kg
1	Cu 324.764	8154.3	8935.2	0.560	mg/L	55.96	mg/kg
1	Fe 238.204	738433.2	809150.4	87.56	mg/L	8751	mg/kg
1	K 766.514	87962.0	96385.8	38.32	mg/L	3830	mg/kg
1	Li 670.781	62509.0	68495.3	0.550	mg/L	54.94	mg/kg
1	Mg 279.074	226685.3	248394.1	205.2	mg/L	20500	mg/kg

1	Mn 257.610	260509.4	285457.5	3.817 mg/L	381.5 mg/kg
1	Mo 202.031	657.0	720.0	1.010 mg/L	100.9 mg/kg
1	Na 588.995	488011.7	534746.9	27.58 mg/L	2757 mg/kg
1	Ni 231.603	927.2	1021.6	0.526 mg/L	52.57 mg/kg
1	P 178.221	87.9	96.3	4.613 mg/L	461.0 mg/kg
1	Pb 220.353	145.5	159.4	0.557 mg/L	55.66 mg/kg
1	Sb 206.833	608.1	666.4	4.295 mg/L	429.3 mg/kg
1	Se 196.026	164.4	180.2	2.451 mg/L	245.0 mg/kg
1	Si 251.611	89414.3	97977.2	23.83 mg/L	2382 mg/kg
1	Sn 189.933	770.2	844.0	3.406 mg/L	340.4 mg/kg
1	Sr 407.771	558399.1	611875.1	0.754 mg/L	75.32 mg/kg
1	Ti 334.941	316092.0	346363.0	3.631 mg/L	362.9 mg/kg
1	Tl 190.800	78.4	85.9	2.397 mg/L	239.6 mg/kg
1	V 292.402	9176.3	10055.1	0.740 mg/L	73.93 mg/kg
1	Zn 206.200	1279.7	1402.3	0.697 mg/L	69.64 mg/kg
2	Sc 357.253	472069.5	472069.5	90 mg/kg	
2	Y 360.064	237921.3	237921.3	90 mg/kg	
2	Ag 328.068	8512.1	9434.9	0.476 mg/L	47.60 mg/kg
2	Al 396.140	199464.3	221087.8	71.69 mg/L	7164 mg/kg
2	As 188.979	277.3	307.3	2.447 mg/L	244.6 mg/kg
2	B 249.773	6667.8	7390.6	0.583 mg/L	58.31 mg/kg
2	Ba 455.403	325752.7	361066.8	0.995 mg/L	99.43 mg/kg
2	Be 234.861	5743.6	6366.3	0.054 mg/L	5.371 mg/kg
2	Ca 315.887	2938055.8	3256563.1	335.0 mg/L	33480 mg/kg
2	Cd 214.438	2442.0	2706.8	0.478 mg/L	47.82 mg/kg
2	Co 228.616	1671.5	1852.7	0.512 mg/L	51.13 mg/kg
2	Cr 205.558	561.8	622.7	0.666 mg/L	66.57 mg/kg
2	Cu 324.764	8041.8	8913.6	0.558 mg/L	55.80 mg/kg
2	Fe 238.204	734593.8	814229.2	88.11 mg/L	8806 mg/kg
2	K 766.514	87419.2	96896.1	38.52 mg/L	3849 mg/kg
2	Li 670.781	62260.7	69010.2	0.554 mg/L	55.35 mg/kg
2	Mg 279.074	225669.3	250133.5	206.6 mg/L	20650 mg/kg
2	Mn 257.610	259058.2	287142.1	3.839 mg/L	383.7 mg/kg
2	Mo 202.031	659.1	730.6	1.025 mg/L	102.5 mg/kg
2	Na 588.995	485692.2	538344.9	27.80 mg/L	2778 mg/kg
2	Ni 231.603	919.1	1024.5	0.528 mg/L	52.72 mg/kg
2	P 178.221	93.9	104.0	4.985 mg/L	498.2 mg/kg
2	Pb 220.353	150.5	166.8	0.583 mg/L	58.27 mg/kg
2	Sb 206.833	597.9	662.7	4.273 mg/L	427.0 mg/kg
2	Se 196.026	168.6	186.9	2.544 mg/L	254.2 mg/kg
2	Si 251.611	88434.0	98020.9	23.83 mg/L	2382 mg/kg
2	Sn 189.933	778.7	863.1	3.513 mg/L	351.1 mg/kg
2	Sr 407.771	555476.5	615694.3	0.758 mg/L	75.79 mg/kg
2	Ti 334.941	314712.4	348829.6	3.657 mg/L	365.4 mg/kg
2	Tl 190.800	84.9	94.1	2.616 mg/L	261.4 mg/kg
2	V 292.402	9120.3	10109.0	0.744 mg/L	74.33 mg/kg
2	Zn 206.200	1261.3	1398.0	0.695 mg/L	69.43 mg/kg

Mean Data ----------

ID: 305335sd Seq. No.: 73 Sample No.: 47 A/S Pos: 63
Sample Qty: 0.5003 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 18:46:24

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	474792.4	91	0.7	mg/kg				0.81%
Y 360.064	239301.3	90	0.7	mg/kg				0.82%
Ag 328.068	9417.7	0.475	0.0013	mg/L	47.51	0.128	mg/kg	0.27%
Al 396.140	220368.8	71.45	0.329	mg/L	7141	32.9	mg/kg	0.46%
As 188.979	318.0	2.531	0.1183	mg/L	252.9	11.82	mg/kg	4.67%
B 249.773	7362.0	0.581	0.0039	mg/L	58.03	0.392	mg/kg	0.68%
Ba 455.403	360069.1	0.992	0.0039	mg/L	99.16	0.391	mg/kg	0.39%
Be 234.861	6319.5	0.053	0.0006	mg/L	5.328	0.0612	mg/kg	1.15%
Ca 315.887	3244928.1	333.8	1.69	mg/L	33360	169.2	mg/kg	0.51%
Cd 214.438	2710.4	0.479	0.0011	mg/L	47.89	0.109	mg/kg	0.23%
Co 228.616	1844.8	0.509	0.0031	mg/L	50.91	0.310	mg/kg	0.61%
Cr 205.558	623.1	0.666	0.0002	mg/L	66.58	0.018	mg/kg	0.03%
Cu 324.764	8924.4	0.559	0.0011	mg/L	55.88	0.110	mg/kg	0.20%
Fe 238.204	811689.8	87.84	0.389	mg/L	8778	38.8	mg/kg	0.44%
K 766.514	96641.0	38.42	0.139	mg/L	3840	13.9	mg/kg	0.36%
Li 670.781	68752.8	0.552	0.0029	mg/L	55.15	0.291	mg/kg	0.53%

Mg 279.074	249263.8	205.9	1.02 mg/L	20580	101.5 mg/kg	0.49%
Mn 257.610	286299.8	3.828	0.0159 mg/L	382.6	1.59 mg/kg	0.42%
Mo 202.031	725.3	1.017	0.0111 mg/L	101.7	1.11 mg/kg	1.10%
Na 588.995	536545.9	27.69	0.152 mg/L	2767	15.2 mg/kg	0.55%
Ni 231.603	1023.1	0.527	0.0010 mg/L	52.65	0.104 mg/kg	0.20%
P 178.221	100.2	4.799	0.2632 mg/L	479.6	26.30 mg/kg	5.48%
Pb 220.353	163.1	0.570	0.0185 mg/L	56.96	1.845 mg/kg	3.24%
Sb 206.833	664.5	4.284	0.0158 mg/L	428.2	1.58 mg/kg	0.37%
Se 196.026	183.5	2.498	0.0654 mg/L	249.6	6.54 mg/kg	2.62%
Si 251.611	97999.1	23.83	0.003 mg/L	2382	0.3 mg/kg	0.01%
Sn 189.933	853.5	3.459	0.0761 mg/L	345.7	7.60 mg/kg	2.20%
Sr 407.771	613784.7	0.756	0.0033 mg/L	75.55	0.332 mg/kg	0.44%
Ti 334.941	347596.3	3.644	0.0183 mg/L	364.2	1.83 mg/kg	0.50%
Tl 190.800	90.0	2.507	0.1547 mg/L	250.5	15.46 mg/kg	6.17%
V 292.402	10082.0	0.742	0.0028 mg/L	74.13	0.279 mg/kg	0.38%
Zn 206.200	1400.2	0.696	0.0015 mg/L	69.53	0.153 mg/kg	0.22%

Replicate Data ----------

ID: 3053351 Date: 5/20/02 18:50:37

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	494449.1	494449.1	94	mg/kg		
1	Y 360.064	251058.0	251058.0	95	mg/kg		
1	Ag 328.068	79.9	84.6	-0.016	mg/L	-7.910	mg/kg
1	Al 396.140	19067.1	20177.6	6.549	mg/L	3275	mg/kg
1	As 188.979	-4.5	-4.8	0.008	mg/L	3.832	mg/kg
1	B 249.773	633.6	670.5	-0.057	mg/L	-28.46	mg/kg
1	Ba 455.403	21617.4	22876.4	0.064	mg/L	31.97	mg/kg
1	Be 234.861	149.6	158.3	0.000	mg/L	0.177	mg/kg
1	Ca 315.887	641690.3	679061.6	69.77	mg/L	34890	mg/kg
1	Cd 214.438	-25.6	-27.1	0.007	mg/L	3.547	mg/kg
1	Co 228.616	23.0	24.4	0.005	mg/L	2.421	mg/kg
1	Cr 205.558	28.8	30.5	0.021	mg/L	10.29	mg/kg
1	Cu 324.764	419.7	444.2	0.025	mg/L	12.40	mg/kg
1	Fe 238.204	121613.3	128695.9	13.92	mg/L	6959	mg/kg
1	K 766.514	-40.9	-43.2	1.055	mg/L	527.8	mg/kg
1	Li 670.781	238.6	252.5	0.005	mg/L	2.307	mg/kg
1	Mg 279.074	43529.3	46064.4	38.04	mg/L	19020	mg/kg
1	Mn 257.610	43893.9	46450.2	0.620	mg/L	310.1	mg/kg
1	Mo 202.031	47.8	50.6	0.018	mg/L	9.067	mg/kg
1	Na 588.995	79424.3	84049.9	0.616	mg/L	308.2	mg/kg
1	Ni 231.603	28.1	29.7	0.016	mg/L	7.844	mg/kg
1	P 178.221	8.3	8.7	0.398	mg/L	198.8	mg/kg
1	Pb 220.353	14.0	14.8	0.048	mg/L	23.87	mg/kg
1	Sb 206.833	-43.5	-46.0	-0.037	mg/L	-18.31	mg/kg
1	Se 196.026	-1.2	-1.3	-0.046	mg/L	-23.22	mg/kg
1	Si 251.611	14959.9	15831.2	3.669	mg/L	1835	mg/kg
1	Sn 189.933	68.4	72.4	-0.230	mg/L	-115.0	mg/kg
1	Sr 407.771	27978.9	29608.4	0.038	mg/L	19.16	mg/kg
1	Ti 334.941	32457.6	34347.9	0.354	mg/L	177.1	mg/kg
1	Tl 190.800	2.2	2.3	0.058	mg/L	28.79	mg/kg
1	V 292.402	412.2	436.2	0.035	mg/L	17.72	mg/kg
1	Zn 206.200	76.8	81.3	0.034	mg/L	16.88	mg/kg
2	Sc 357.253	491417.2	491417.2	94	mg/kg		
2	Y 360.064	249513.8	249513.8	94	mg/kg		
2	Ag 328.068	110.6	117.7	-0.014	mg/L	-7.038	mg/kg
2	Al 396.140	19079.7	20315.5	6.594	mg/L	3298	mg/kg
2	As 188.979	-4.7	-5.0	0.006	mg/L	3.236	mg/kg
2	B 249.773	606.4	645.7	-0.060	mg/L	-29.84	mg/kg
2	Ba 455.403	21555.2	22951.3	0.064	mg/L	32.08	mg/kg
2	Be 234.861	163.8	174.5	0.001	mg/L	0.253	mg/kg
2	Ca 315.887	642835.3	684470.6	70.32	mg/L	35170	mg/kg
2	Cd 214.438	-43.0	-45.8	0.004	mg/L	1.805	mg/kg
2	Co 228.616	43.5	46.3	0.011	mg/L	5.500	mg/kg
2	Cr 205.558	37.6	40.0	0.030	mg/L	15.00	mg/kg
2	Cu 324.764	399.1	424.9	0.024	mg/L	11.77	mg/kg
2	Fe 238.204	121402.2	129265.2	13.98	mg/L	6990	mg/kg
2	K 766.514	185.0	197.0	1.148	mg/L	574.2	mg/kg
2	Li 670.781	447.0	475.9	0.006	mg/L	3.199	mg/kg

2 Mg 279.074	43409.1	46220.6	38.17 mg/L	19090 mg/kg
2 Mn 257.610	43790.0	46626.2	0.622 mg/L	311.2 mg/kg
2 Mo 202.031	43.1	45.9	0.011 mg/L	5.608 mg/kg
2 Na 588.995	79424.2	84568.3	0.647 mg/L	323.7 mg/kg
2 Ni 231.603	18.7	19.8	0.011 mg/L	5.298 mg/kg
2 P 178.221	6.2	.6.6	0.296 mg/L	148.1 mg/kg
2 Pb 220.353	5.6	5.9	0.016 mg/L	8.224 mg/kg
2 Sb 206.833	-39.3	-41.8	-0.011 mg/L	-5.666 mg/kg
2 Se 196.026	7.6	8.1	0.083 mg/L	41.33 mg/kg
2 Si 251.611	14870.8	15833.9	3.669 mg/L	1835 mg/kg
2 Sn 189.933	70.0	74.5	-0.217 mg/L	-108.5 mg/kg
2 Sr 407.771	27918.7	29727.0	0.038 mg/L	19.23 mg/kg
2 Ti 334.941	32473.9	34577.2	0.357 mg/L	178.3 mg/kg
2 Tl 190.800	5.7	6.0	0.156 mg/L	78.15 mg/kg
2 V 292.402	419.9	447.1	0.036 mg/L	18.12 mg/kg
2 Zn 206.200	68.3	72.7	0.029 mg/L	14.72 mg/kg

Mean Data ----------

ID: 3053351
Sample Qty: 0.4999 g
Seq. No.: 74 Sample No.: 48
Prep. Vol.: 50.0 mL
Data: Original
A/S Pos: 64
Dilution: 1.0: 5.0
Date: 5/20/02 18:50:37

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	492933.2	94	0.4	mg/kg				0.43%
Y 360.064	250285.9	94	0.4	mg/kg				0.44%
Ag 328.068	101.1	-0.015	0.0012	mg/L	-7.474	0.6171	mg/kg	8.26%
Al 396.140	20246.5	6.572	0.0315	mg/L	3286 ✓	15.8	mg/kg	0.48%
As 188.979	-4.9	0.007	0.0008	mg/L	3.534	0.4215	mg/kg	11.93%
B 249.773	658.1	-0.058	0.0020	mg/L	-29.15	0.980	mg/kg	3.36%
Ba 455.403	22913.8	0.064	0.0002	mg/L	32.03	0.080	mg/kg	0.25%
Be 234.861	166.4	0.000	0.0001	mg/L	0.215	0.0534	mg/kg	24.82%
Ca 315.887	681766.1	70.05	0.394	mg/L	35030	196.8	mg/kg	0.56%
Cd 214.438	-36.5	0.005	0.0025	mg/L	2.676	1.2313	mg/kg	46.01%
Co 228.616	35.4	0.008	0.0044	mg/L	3.961	2.1776	mg/kg	54.98%
Cr 205.558	35.3	0.025	0.0067	mg/L	12.65	3.328	mg/kg	26.31%
Cu 324.764	434.5	0.024	0.0009	mg/L	12.09	0.448	mg/kg	3.70%
Fe 238.204	128980.6	13.95	0.044	mg/L	6975	21.8	mg/kg	0.31%
K 766.514	76.9	1.102	0.0656	mg/L	551.0	32.83	mg/kg	5.96%
Li 670.781	364.2	0.006	0.0013	mg/L	2.753	0.6312	mg/kg	22.93%
Mg 279.074	46142.5	38.10	0.091	mg/L	19060	45.6	mg/kg	0.24%
Mn 257.610	46538.2	0.621	0.0017	mg/L	310.7	0.83	mg/kg	0.27%
Mo 202.031	48.3	0.015	0.0049	mg/L	7.338	2.4461	mg/kg	33.34%
Na 588.995	84309.1	0.632	0.0219	mg/L	315.9	10.97	mg/kg	3.47%
Ni 231.603	24.8	0.013	0.0036	mg/L	6.571	1.8004	mg/kg	27.40%
P 178.221	7.7	0.347	0.0716	mg/L	173.5	35.83	mg/kg	20.65%
Pb 220.353	10.4	0.032	0.0221	mg/L	16.05	11.062	mg/kg	68.94%
Sb 206.833	-43.9	-0.024	0.0179	mg/L	-11.99	8.940	mg/kg	74.58%
Se 196.026	3.4	0.018	0.0913	mg/L	9.051	45.6434	mg/kg	504.26%
Si 251.611	15832.6	3.669	0.0001	mg/L	1835	0.0	mg/kg	0.00%
Sn 189.933	73.5	-0.223	0.0092	mg/L	-111.7	4.60	mg/kg	4.12%
Sr 407.771	29667.7	0.038	0.0001	mg/L	19.19	0.052	mg/kg	0.27%
Ti 334.941	34462.6	0.355	0.0017	mg/L	177.7	0.86	mg/kg	0.48%
Tl 190.800	4.2	0.107	0.0698	mg/L	53.47	34.900	mg/kg	65.27%
V 292.402	441.6	0.036	0.0006	mg/L	17.92	0.282	mg/kg	1.57%
Zn 206.200	77.0	0.032	0.0031	mg/L	15.80	1.531	mg/kg	9.69%

Replicate Data ----------

ID: 305335pds
Date: 5/20/02 18:54:51

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	475800.0	475800.0	91	mg/kg		
1	Y 360.064	239978.6	239978.6	90	mg/kg		
1	Ag 328.068	8409.9	9248.5	0.466	mg/L	46.65	mg/kg
1	Al 396.140	103416.1	113728.5	36.88	mg/L	3689	mg/kg
1	As 188.979	294.5	323.8	2.576	mg/L	257.7	mg/kg
1	B 249.773	6104.4	6713.1	0.534	mg/L	53.42	mg/kg
1	Ba 455.403	271611.5	298695.7	0.827	mg/L	82.69	mg/kg
1	Be 234.861	5464.1	6009.0	0.051	mg/L	5.147	mg/kg
1	Ca 315.887	3266466.2	3592188.2	369.5	mg/L	36960	mg/kg

1	Cd 214.438	2412.4	2652.9	0.475 mg/L	47.49 mg/kg
1	Co 228.616	1645.2	1809.3	0.505 mg/L	50.54 mg/kg
1	Cr 205.558	523.3	575.5	0.609 mg/L	60.94 mg/kg
1	Cu 324.764	8845.4	9727.4	0.610 mg/L	60.96 mg/kg
1	Fe 238.204	593736.2	652941.7	70.66 mg/L	7067 mg/kg
1	K 766.514	76345.0	83957.9	33.52 mg/L	3352 mg/kg
1	Li 670.781	59706.8	65660.6	0.527 mg/L	52.72 mg/kg
1	Mg 279.074	246689.2	271288.3	224.1 mg/L	22410 mg/kg
1	Mn 257.610	243692.2	267992.4	3.583 mg/L	358.4 mg/kg
1	Mo 202.031	60.4	66.5	0.042 mg/L	4.165 mg/kg
1	Na 588.995	473235.0	520424.5	26.72 mg/L	2673 mg/kg
1	Ni 231.603	924.8	1022.1	0.526 mg/L	52.63 mg/kg
1	P 178.221	79.7	87.7	4.196 mg/L	419.7 mg/kg
1	Pb 220.353	142.7	157.0	0.548 mg/L	54.84 mg/kg
1	Sb 206.833	-47.3	-52.0	-0.073 mg/L	-7.315 mg/kg
1	Se 196.026	160.1	176.1	2.396 mg/L	239.6 mg/kg
1	Si 251.611	69555.7	76491.6	18.27 mg/L	1827 mg/kg
1	Sn 189.933	43.0	47.3	-1.543 mg/L	-154.4 mg/kg
1	Sr 407.771	507972.4	558625.9	0.688 mg/L	68.84 mg/kg
1	Ti 334.941	157520.7	173228.1	1.839 mg/L	183.9 mg/kg
1	Tl 190.800	80.0	88.0	2.425 mg/L	242.6 mg/kg
1	V 292.402	8423.1	9263.0	0.682 mg/L	68.19 mg/kg
1	Zn 206.200	1179.8	1297.4	0.644 mg/L	64.43 mg/kg
2	Sc 357.253	472121.4	472121.4	90 mg/kg	
2	Y 360.064	238098.6	238098.6	90 mg/kg	
2	Ag 328.068	8455.0	9370.5	0.473 mg/L	47.30 mg/kg
2	Al 396.140	102915.3	114059.5	36.99 mg/L	3700 mg/kg
2	As 188.979	283.0	313.6	2.496 mg/L	249.7 mg/kg
2	B 249.773	6121.2	6784.1	0.541 mg/L	54.15 mg/kg
2	Ba 455.403	270193.2	299451.3	0.829 mg/L	82.91 mg/kg
2	Be 234.861	5442.2	6031.5	0.052 mg/L	5.165 mg/kg
2	Ca 315.887	3258464.8	3611310.1	371.5 mg/L	37150 mg/kg
2	Cd 214.438	2410.2	2671.2	0.478 mg/L	47.82 mg/kg
2	Co 228.616	1640.7	1818.4	0.508 mg/L	50.80 mg/kg
2	Cr 205.558	526.7	583.8	0.618 mg/L	61.79 mg/kg
2	Cu 324.764	8823.6	9779.1	0.613 mg/L	61.29 mg/kg
2	Fe 238.204	591820.6	655906.4	70.98 mg/L	7099 mg/kg
2	K 766.514	75833.8	84045.5	33.55 mg/L	3356 mg/kg
2	Li 670.781	59308.4	65730.6	0.528 mg/L	52.78 mg/kg
2	Mg 279.074	245642.2	272241.7	224.9 mg/L	22490 mg/kg
2	Mn 257.610	242738.1	269023.2	3.597 mg/L	359.8 mg/kg
2	Mo 202.031	57.1	63.2	0.037 mg/L	3.685 mg/kg
2	Na 588.995	471369.5	522412.1	26.84 mg/L	2685 mg/kg
2	Ni 231.603	919.9	1024.6	0.528 mg/L	52.77 mg/kg
2	P 178.221	78.6	87.1	4.169 mg/L	417.0 mg/kg
2	Pb 220.353	152.3	168.8	0.590 mg/L	58.99 mg/kg
2	Sb 206.833	-61.3	-68.0	-0.170 mg/L	-17.04 mg/kg
2	Se 196.026	154.5	171.3	2.329 mg/L	232.9 mg/kg
2	Si 251.611	69424.5	76942.2	18.38 mg/L	1838 mg/kg
2	Sn 189.933	40.2	44.6	-1.563 mg/L	-156.3 mg/kg
2	Sr 407.771	505531.0	560272.8	0.690 mg/L	69.04 mg/kg
2	Ti 334.941	157019.4	174022.4	1.847 mg/L	184.8 mg/kg
2	Tl 190.800	78.0	86.4	2.383 mg/L	238.4 mg/kg
2	V 292.402	8423.1	9335.2	0.687 mg/L	68.72 mg/kg
2	Zn 206.200	1173.9	1301.0	0.646 mg/L	64.61 mg/kg

Mean Data

ID: 305335pds
Sample Qty: 0.4999 g
Seq. No.: 75 Sample No.: 49
Prep. Vol.: 50.0 mL
Data: Original
A/S Pos: 65
Dilution: 1.0: 1.0
Date: 5/20/02 18:54:51

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	473960.7	91	0.5	mg/kg				0.55%
Y 360.064	239038.6	90	0.5	mg/kg				0.56%
Ag 328.068	9309.5	0.470	0.0045	mg/L	46.98	0.454	mg/kg	0.97%
Al 396.140	113894.0	36.94	0.076	mg/L	3694	7.6	mg/kg	0.21%
As 188.979	318.7	2.536	0.0564	mg/L	253.7	5.64	mg/kg	2.22%
B 249.773	6748.6	0.538	0.0052	mg/L	53.78	0.517	mg/kg	0.96%
Ba 455.403	299073.5	0.828	0.0015	mg/L	82.80	0.152	mg/kg	0.18%
Be 234.861	6020.2	0.052	0.0001	mg/L	5.156	0.0128	mg/kg	0.25%

Ca 315.887	3601749.1	370.5	1.39 mg/L	37050	139.1 mg/kg	0.38%
Cd 214.438	2662.1	0.476	0.0023 mg/L	47.66	0.230 mg/kg	0.48%
Co 228.616	1813.8	0.507	0.0018 mg/L	50.67	0.180 mg/kg	0.36%
Cr 205.558	579.6	0.614	0.0060 mg/L	61.37	0.599 mg/kg	0.98%
Cu 324.764	9753.3	0.611	0.0023 mg/L	61.13	0.232 mg/kg	0.38%
Fe 238.204	654424.1	70.82	0.227 mg/L	7083	22.7 mg/kg	0.32%
K 766.514	84001.7	33.53	0.024 mg/L	3354	2.4 mg/kg	0.07%
Li 670.781	65695.6	0.527	0.0004 mg/L	52.75	0.040 mg/kg	0.07%
Mg 279.074	271765.0	224.5	0.56 mg/L	22450	55.7 mg/kg	0.25%
Mn 257.610	268507.8	3.590	0.0097 mg/L	359.1	0.98 mg/kg	0.27%
Mo 202.031	64.9	0.039	0.0034 mg/L	3.925	0.3388 mg/kg	8.63%
Na 588.995	521418.3	26.78	0.084 mg/L	2679	8.4 mg/kg	0.31%
Ni 231.603	1023.3	0.527	0.0009 mg/L	52.70	0.093 mg/kg	0.18%
P 178.221	87.4	4.182	0.0193 mg/L	418.3	1.93 mg/kg	0.46%
Pb 220.353	162.9	0.569	0.0294 mg/L	56.91	2.937 mg/kg	5.16%
Sb 206.833	-60.0	-0.122	0.0687 mg/L	-12.18	6.874 mg/kg	56.46%
Se 196.026	173.7	2.362	0.0471 mg/L	236.3	4.71 mg/kg	1.99%
Si 251.611	76716.9	18.32	0.079 mg/L	1833	7.9 mg/kg	0.43%
Sn 189.933	45.9	-1.553	0.0140 mg/L	-155.4	1.40 mg/kg	0.90%
Sr 407.771	559449.3	0.689	0.0014 mg/L	68.94	0.143 mg/kg	0.21%
Ti 334.941	173625.2	1.843	0.0060 mg/L	184.3	0.60 mg/kg	0.33%
Tl 190.800	87.2	2.404	0.0298 mg/L	240.5	2.98 mg/kg	1.24%
V 292.402	9299.1	0.684	0.0037 mg/L	68.45	0.374 mg/kg	0.55%
Zn 206.200	1299.2	0.645	0.0013 mg/L	64.52	0.127 mg/kg	0.20%

Replicate Data ----------
ID: mpb-185802
Date: 5/20/02 18:59:03

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	491680.8	491680.8	94	mg/kg		
1	Y 360.064	249240.8	249240.8	94	mg/kg		
1	Ag 328.068	118.1	125.7	-0.014	mg/L	-1.365	mg/kg
1	Al 396.140	-106.8	-113.6	-0.011	mg/L	-1.061	mg/kg
1	As 188.979	-5.4	-5.7	0.000	mg/L	0.035	mg/kg
1	B 249.773	274.6	292.2	-0.079	mg/L	-7.941	mg/kg
1	Ba 455.403	840.5	894.5	0.001	mg/L	0.081	mg/kg
1	Be 234.861	-18.3	-19.5	0.000	mg/L	0.031	mg/kg
1	Ca 315.887	1993.8	2121.8	0.121	mg/L	12.12	mg/kg
1	Cd 214.438	-76.2	-81.1	-0.003	mg/L	-0.295	mg/kg
1	Co 228.616	-9.3	-9.9	-0.005	mg/L	-0.478	mg/kg
1	Cr 205.558	21.5	22.9	0.001	mg/L	0.063	mg/kg
1	Cu 324.764	-39.7	-42.2	-0.003	mg/L	-0.281	mg/kg
1	Fe 238.204	223.5	237.9	0.012	mg/L	1.217	mg/kg
1	K 766.514	-3053.1	-3249.1	-0.183	mg/L	-18.35	mg/kg
1	Li 670.781	-165.4	-176.0	0.001	mg/L	0.119	mg/kg
1	Mg 279.074	52.7	56.1	0.037	mg/L	3.742	mg/kg
1	Mn 257.610	3.2	3.4	-0.001	mg/L	-0.125	mg/kg
1	Mo 202.031	40.3	42.9	0.007	mg/L	0.673	mg/kg
1	Na 588.995	76047.8	80929.9	0.430	mg/L	42.95	mg/kg
1	Ni 231.603	7.3	7.7	0.004	mg/L	0.437	mg/kg
1	P 178.221	-1.1	-1.2	-0.081	mg/L	-8.105	mg/kg
1	Pb 220.353	2.3	2.4	0.004	mg/L	0.397	mg/kg
1	Sb 206.833	-34.9	-37.1	0.017	mg/L	1.747	mg/kg
1	Se 196.026	9.8	10.4	0.115	mg/L	11.49	mg/kg
1	Si 251.611	612.0	651.3	-0.024	mg/L	-2.359	mg/kg
1	Sn 189.933	77.5	82.5	0.047	mg/L	4.692	mg/kg
1	Sr 407.771	-1847.3	-1965.9	0.000	mg/L	-0.049	mg/kg
1	Ti 334.941	776.3	826.1	-0.002	mg/L	-0.196	mg/kg
1	Tl 190.800	3.1	3.3	0.083	mg/L	8.287	mg/kg
1	V 292.402	-55.9	-59.5	-0.001	mg/L	-0.087	mg/kg
1	Zn 206.200	37.9	40.3	0.013	mg/L	1.316	mg/kg
2	Sc 357.253	492603.5	492603.5	94	mg/kg		
2	Y 360.064	249976.2	249976.2	94	mg/kg		
2	Ag 328.068	113.2	120.2	-0.014	mg/L	-1.394	mg/kg
2	Al 396.140	-137.7	-146.3	-0.021	mg/L	-2.122	mg/kg
2	As 188.979	1.2	1.3	0.055	mg/L	5.504	mg/kg
2	B 249.773	275.5	292.6	-0.079	mg/L	-7.936	mg/kg
2	Ba 455.403	892.7	948.2	0.001	mg/L	0.095	mg/kg
2	Be 234.861	-7.8	-8.3	0.000	mg/L	0.042	mg/kg

2 Ca 315.887	1948.8	2070.0	0.116 mg/L	11.58 mg/kg	
2 Cd 214.438	-70.8	-75.2	-0.002 mg/L	-0.185 mg/kg	
2 Co 228.616	-5.6	-5.9	-0.004 mg/L	-0.366 mg/kg	
2 Cr 205.558	27.1	28.7	0.006 mg/L	0.635 mg/kg	
2 Cu 324.764	-38.5	-40.9	-0.003 mg/L	-0.272 mg/kg	
2 Fe 238.204	266.6	283.2	0.017 mg/L	1.708 mg/kg	
2 K 766.514	-2974.8	-3159.8	-0.149 mg/L	-14.90 mg/kg	
2 Li 670.781	-157.7	-167.5	0.001 mg/L	0.126 mg/kg	
2 Mg 279.074	73.2	77.7	0.055 mg/L	5.525 mg/kg	
2 Mn 257.610	2.2	2.3	-0.001 mg/L	-0.127 mg/kg	
2 Mo 202.031	45.2	48.0	0.014 mg/L	1.428 mg/kg	
2 Na 588.995	75745.3	80457.0	0.401 mg/L	40.13 mg/kg	
2 Ni 231.603	0.5	0.5	0.001 mg/L	0.066 mg/kg	
2 P 178.221	1.4	1.5	0.046 mg/L	4.650 mg/kg	
2 Pb 220.353	6.7	7.1	0.021 mg/L	2.055 mg/kg	
2 Sb 206.833	-40.8	-43.4	-0.021 mg/L	-2.070 mg/kg	
2 Se 196.026	3.6	3.9	0.025 mg/L	2.471 mg/kg	
2 Si 251.611	614.0	652.2	-0.023 mg/L	-2.335 mg/kg	
2 Sn 189.933	76.9	81.7	0.042 mg/L	4.225 mg/kg	
2 Sr 407.771	-1901.7	-2020.0	-0.001 mg/L	-0.055 mg/kg	
2 Ti 334.941	728.7	774.0	-0.002 mg/L	-0.250 mg/kg	
2 Tl 190.800	0.6	0.7	0.013 mg/L	1.264 mg/kg	
2 V 292.402	-40.8	-43.3	0.000 mg/L	0.032 mg/kg	
2 Zn 206.200	41.0	43.6	0.015 mg/L	1.481 mg/kg	

Mean Data ----------

ID: mpb-185802
Sample Qty: 0.5000 g

Seq. No.: 76 Sample No.: 50
Prep. Vol.: 50.0 mL
Data: Original

A/S Pos: 66
Dilution: 1.0: 1.0
Date: 5/20/02 18:59:03

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	492142.1	94	0.1	mg/kg				0.13%
Y 360.064	249608.5	94	0.2	mg/kg				0.21%
Ag 328.068	123.0	-0.014	0.0002	mg/L	-1.380	0.0205	mg/kg	1.49%
Al 396.140	-130.0	-0.016	0.0075	mg/L	-1.592	0.7497	mg/kg	47.11%
As 188.979	-2.2	0.028	0.0387	mg/L	2.770	3.8675	mg/kg	139.64%
B 249.773	292.4	-0.079	0.0000	mg/L	-7.938	0.0036	mg/kg	0.05%
Ba 455.403	921.3	0.001	0.0001	mg/L	0.088	0.0102	mg/kg	11.58%
Be 234.861	-13.9	0.000	0.0001	mg/L	0.036	0.0079	mg/kg	21.83%
Ca 315.887	2095.9	0.118	0.0038	mg/L	11.85	0.377	mg/kg	3.18%
Cd 214.438	-78.1	-0.002	0.0008	mg/L	-0.240	0.0774	mg/kg	32.25%
Co 228.616	-7.9	-0.004	0.0008	mg/L	-0.422	0.0795	mg/kg	18.84%
Cr 205.558	25.8	0.003	0.0040	mg/L	0.349	0.4039	mg/kg	115.71%
Cu 324.764	-41.6	-0.003	0.0001	mg/L	-0.276	0.0062	mg/kg	2.25%
Fe 238.204	260.5	0.015	0.0035	mg/L	1.463	0.3473	mg/kg	23.74%
K 766.514	-3204.5	-0.166	0.0244	mg/L	-16.62	2.439	mg/kg	14.67%
Li 670.781	-171.7	0.001	0.0000	mg/L	0.122	0.0048	mg/kg	3.94%
Mg 279.074	66.9	0.046	0.0126	mg/L	4.633	1.2608	mg/kg	27.21%
Mn 257.610	2.9	-0.001	0.0000	mg/L	-0.126	0.0011	mg/kg	0.85%
Mo 202.031	45.5	0.011	0.0053	mg/L	1.051	0.5342	mg/kg	50.85%
Na 588.995	80693.4	0.415	0.0200	mg/L	41.54	2.001	mg/kg	4.82%
Ni 231.603	4.1	0.003	0.0026	mg/L	0.251	0.2625	mg/kg	104.53%
P 178.221	0.1	-0.017	0.0902	mg/L	-1.727	9.0189	mg/kg	522.08%
Pb 220.353	4.8	0.012	0.0117	mg/L	1.226	1.1724	mg/kg	95.66%
Sb 206.833	-40.2	-0.002	0.0270	mg/L	-0.161	2.6989	mg/kg	>999.9%
Se 196.026	7.1	0.070	0.0638	mg/L	6.980	6.3769	mg/kg	91.35%
Si 251.611	651.7	-0.023	0.0002	mg/L	-2.347	0.0169	mg/kg	0.72%
Sn 189.933	82.1	0.045	0.0033	mg/L	4.459	0.3298	mg/kg	7.40%
Sr 407.771	-1992.9	-0.001	0.0000	mg/L	-0.052	0.0047	mg/kg	9.04%
Ti 334.941	800.1	-0.002	0.0004	mg/L	-0.223	0.0381	mg/kg	17.12%
Tl 190.800	2.0	0.048	0.0497	mg/L	4.776	4.9664	mg/kg	104.00%
V 292.402	-51.4	0.000	0.0008	mg/L	-0.028	0.0839	mg/kg	301.48%
Zn 206.200	41.9	0.014	0.0012	mg/L	1.399	0.1167	mg/kg	8.34%

Replicate Data ----------

ID: CCV

Date: 5/20/02 19:03:12

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	494384.3	494384.3	94	mg/kg		

1	Y 360.064	250351.6	250351.6	94 mg/kg	
1	Ag 328.068	10893.7	11529.6	0.586 mg/L	586.5 mg/kg
1	Al 396.140	7320.9	7748.3	2.523 mg/L	2523 mg/kg
1	As 188.979	309.8	327.9	2.608 mg/L	2608 mg/kg
1	B 249.773	4520.4	4784.3	0.408 mg/L	407.5 mg/kg
1	Ba 455.403	176996.1	187328.7	0.502 mg/L	501.6 mg/kg
1	Be 234.861	4649.2	4920.6	0.049 mg/L	49.47 mg/kg
1	Ca 315.887	48073.5	50879.9	5.138 mg/L	5138 mg/kg
1	Cd 214.438	2536.6	2684.7	0.511 mg/L	511.5 mg/kg
1	Co 228.616	1751.0	1853.2	0.518 mg/L	517.6 mg/kg
1	Cr 205.558	506.9	536.5	0.506 mg/L	506.0 mg/kg
1	Cu 324.764	7423.5	7856.8	0.512 mg/L	511.7 mg/kg
1	Fe 238.204	4459.1	4719.4	0.497 mg/L	497.2 mg/kg
1	K 766.514	9598.5	10158.9	4.998 mg/L	4998 mg/kg
1	Li 670.781	58700.3	62127.1	0.499 mg/L	498.9 mg/kg
1	Mg 279.074	5847.1	6188.5	5.103 mg/L	5103 mg/kg
1	Mn 257.610	36237.1	38352.5	0.512 mg/L	511.7 mg/kg
1	Mo 202.031	358.2	379.1	0.505 mg/L	504.7 mg/kg
1	Na 588.995	154826.2	163864.6	5.392 mg/L	5392 mg/kg
1	Ni 231.603	963.8	1020.9	0.526 mg/L	525.7 mg/kg
1	P 178.221	48.3	51.1	2.436 mg/L	2436 mg/kg
1	Pb 220.353	137.5	145.5	0.508 mg/L	507.8 mg/kg
1	Sb 206.833	365.3	386.6	2.594 mg/L	2594 mg/kg
1	Se 196.026	177.5	187.8	2.557 mg/L	2557 mg/kg
1	Si 251.611	10147.9	10740.3	2.548 mg/L	2548 mg/kg
1	Sn 189.933	476.4	504.2	2.560 mg/L	2560 mg/kg
1	Sr 407.771	383187.1	405556.7	0.500 mg/L	500.2 mg/kg
1	Ti 334.941	47657.0	50439.1	0.511 mg/L	511.2 mg/kg
1	Tl 190.800	92.5	97.9	2.614 mg/L	2614 mg/kg
1	V 292.402	6584.4	6968.7	0.514 mg/L	513.8 mg/kg
1	Zn 206.200	972.4	1029.1	0.510 mg/L	509.5 mg/kg
2	Sc 357.253	495580.3	495580.3	95 mg/kg	
2	Y 360.064	251177.3	251177.3	95 mg/kg	
2	Ag 328.068	10961.8	11573.7	0.589 mg/L	588.8 mg/kg
2	Al 396.140	7374.1	7785.8	2.535 mg/L	2535 mg/kg
2	As 188.979	310.1	327.4	2.604 mg/L	2604 mg/kg
2	B 249.773	4509.0	4760.7	0.405 mg/L	405.0 mg/kg
2	Ba 455.403	178557.5	188525.2	0.505 mg/L	504.8 mg/kg
2	Be 234.861	4631.6	4890.2	0.049 mg/L	49.17 mg/kg
2	Ca 315.887	48277.8	50972.9	5.147 mg/L	5147 mg/kg
2	Cd 214.438	2525.4	2666.4	0.508 mg/L	508.1 mg/kg
2	Co 228.616	1729.3	1825.8	0.510 mg/L	510.0 mg/kg
2	Cr 205.558	517.8	546.7	0.516 mg/L	516.0 mg/kg
2	Cu 324.764	7422.0	7836.3	0.510 mg/L	510.3 mg/kg
2	Fe 238.204	4466.6	4715.9	0.497 mg/L	496.8 mg/kg
2	K 766.514	9660.3	10199.6	5.014 mg/L	5014 mg/kg
2	Li 670.781	59420.2	62737.3	0.504 mg/L	503.8 mg/kg
2	Mg 279.074	5854.1	6180.8	5.096 mg/L	5096 mg/kg
2	Mn 257.610	36395.7	38427.4	0.513 mg/L	512.7 mg/kg
2	Mo 202.031	361.3	381.5	0.508 mg/L	508.2 mg/kg
2	Na 588.995	155409.9	164085.4	5.405 mg/L	5405 mg/kg
2	Ni 231.603	968.3	1022.3	0.526 mg/L	526.4 mg/kg
2	P 178.221	52.0	54.9	2.621 mg/L	2621 mg/kg
2	Pb 220.353	140.7	148.6	0.519 mg/L	518.8 mg/kg
2	Sb 206.833	360.8	380.9	2.559 mg/L	2559 mg/kg
2	Se 196.026	178.9	188.9	2.572 mg/L	2572 mg/kg
2	Si 251.611	10199.9	10769.3	2.556 mg/L	2556 mg/kg
2	Sn 189.933	482.3	509.2	2.591 mg/L	2591 mg/kg
2	Sr 407.771	386421.8	407993.2	0.503 mg/L	503.2 mg/kg
2	Ti 334.941	47926.1	50601.5	0.513 mg/L	513.3 mg/kg
2	Tl 190.800	87.7	92.6	2.474 mg/L	2474 mg/kg
2	V 292.402	6511.3	6874.8	0.507 mg/L	506.9 mg/kg
2	Zn 206.200	972.1	1026.3	0.508 mg/L	508.1 mg/kg

Mean Data

ID: CCV #6
Sample Qty: 1.0000 g

Seq. No.: 77 Sample No.: 9
Prep. Vol.: 1.0 L
Data: Original

A/S Pos: 4
Dilution: 1.0: 1.0
Date: 5/20/02 19:03:12

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD

Sc 357.253	494982.3	95	0.2 mg/kg			0.17%
Y 360.064	250764.4	95	0.2 mg/kg			0.23%
Ag 328.068	11551.7	0.588	0.0016 mg/L	587.7	1.64 mg/kg	0.28%
*QC exceeds upper limit for Ag 328.068			Recovery = 117.53%	Action = Continue		
Al 396.140	7767.0	2.529	0.0085 mg/L	2529	8.5 mg/kg	0.34%
As 188.979	327.7	2.606	0.0028 mg/L	2606	2.8 mg/kg	0.11%
B 249.773	4772.5	0.406	0.0018 mg/L	406.3	1.81 mg/kg	0.45%
*QC exceeds lower limit for B 249.773			Recovery = 81.25%	Action = Continue		
Ba 455.403	187927.0	0.503	0.0023 mg/L	503.2	2.27 mg/kg	0.45%
Be 234.861	4905.4	0.049	0.0002 mg/L	49.32	0.214 mg/kg	0.43%
Ca 315.887	50926.4	5.142	0.0068 mg/L	5142	6.8 mg/kg	0.13%
Cd 214.438	2675.5	0.510	0.0024 mg/L	509.8	2.40 mg/kg	0.47%
Co 228.616	1839.5	0.514	0.0054 mg/L	513.8	5.43 mg/kg	1.06%
Cr 205.558	541.6	0.511	0.0071 mg/L	511.0	7.11 mg/kg	1.39%
Cu 324.764	7846.6	0.511	0.0009 mg/L	511.0	0.94 mg/kg	0.18%
Fe 238.204	4717.6	0.497	0.0003 mg/L	497.0	0.27 mg/kg	0.05%
K 766.514	10179.2	5.006	0.0111 mg/L	5006	11.1 mg/kg	0.22%
Li 670.781	62432.2	0.501	0.0034 mg/L	501.3	3.45 mg/kg	0.69%
Mg 279.074	6184.7	5.100	0.0045 mg/L	5100	4.5 mg/kg	0.09%
Mn 257.610	38390.0	0.512	0.0007 mg/L	512.2	0.71 mg/kg	0.14%
Mo 202.031	380.3	0.506	0.0025 mg/L	506.5	2.47 mg/kg	0.49%
Na 588.995	163975.0	5.398	0.0093 mg/L	5398	9.3 mg/kg	0.17%
Ni 231.603	1021.6	0.526	0.0005 mg/L	526.0	0.51 mg/kg	0.10%
P 178.221	53.0	2.528	0.1305 mg/L	2528	130.5 mg/kg	5.16%
Pb 220.353	147.0	0.513	0.0078 mg/L	513.3	7.75 mg/kg	1.51%
Sb 206.833	383.8	2.577	0.0246 mg/L	2577	24.6 mg/kg	0.95%
Se 196.026	188.4	2.564	0.0105 mg/L	2564	10.5 mg/kg	0.41%
Si 251.611	10754.8	2.552	0.0052 mg/L	2552	5.2 mg/kg	0.20%
Sn 189.933	506.7	2.575	0.0217 mg/L	2575	21.7 mg/kg	0.84%
Sr 407.771	406775.0	0.502	0.0021 mg/L	501.7	2.12 mg/kg	0.42%
Ti 334.941	50520.3	0.512	0.0015 mg/L	512.2	1.55 mg/kg	0.30%
Tl 190.800	95.2	2.544	0.0991 mg/L	2544	99.1 mg/kg	3.89%
V 292.402	6921.8	0.510	0.0049 mg/L	510.3	4.86 mg/kg	0.95%
Zn 206.200	1027.7	0.509	0.0010 mg/L	508.8	1.00 mg/kg	0.20%

Replicate Data ----------

ID: CCB

Date: 5/20/02 19:07:19

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	493174.8	493174.8	94	mg/kg		
1	Y 360.064	250108.3	250108.3	94	mg/kg		
1	Ag 328.068	198.0	210.1	-0.009	mg/L	-9.212	mg/kg
1	Al 396.140	-156.2	-165.7	-0.028	mg/L	-27.51	mg/kg
1	As 188.979	-2.1	-2.2	0.028	mg/L	27.85	mg/kg
1	B 249.773	264.3	280.4	-0.081	mg/L	-80.68	mg/kg
1	Ba 455.403	797.8	846.5	0.001	mg/L	0.680	mg/kg
1	Be 234.861	-14.9	-15.8	0.000	mg/L	0.342	mg/kg
1	Ca 315.887	763.9	810.4	-0.014	mg/L	-13.75	mg/kg
1	Cd 214.438	-81.5	-86.5	-0.004	mg/L	-3.955	mg/kg
1	Co 228.616	4.5	4.8	-0.001	mg/L	-0.654	mg/kg
1	Cr 205.558	25.9	27.4	0.005	mg/L	5.077	mg/kg
1	Cu 324.764	-79.3	-84.1	-0.006	mg/L	-5.536	mg/kg
1	Fe 238.204	174.2	184.8	0.006	mg/L	6.435	mg/kg
1	K 766.514	-2932.5	-3111.3	-0.130	mg/L	-130.2	mg/kg
1	Li 670.781	-237.5	-251.9	0.001	mg/L	0.583	mg/kg
1	Mg 279.074	7.8	8.2	-0.002	mg/L	-2.144	mg/kg
1	Mn 257.610	-36.6	-38.8	-0.002	mg/L	-1.820	mg/kg
1	Mo 202.031	41.1	43.6	0.008	mg/L	7.694	mg/kg
1	Na 588.995	75786.4	80407.4	0.398	mg/L	398.3	mg/kg
1	Ni 231.603	14.2	15.1	0.008	mg/L	8.151	mg/kg
1	P 178.221	0.2	0.2	-0.016	mg/L	-15.85	mg/kg
1	Pb 220.353	13.9	14.7	0.047	mg/L	47.30	mg/kg
1	Sb 206.833	-42.7	-45.3	-0.033	mg/L	-32.54	mg/kg
1	Se 196.026	7.8	8.3	0.086	mg/L	86.07	mg/kg
1	Si 251.611	540.3	573.3	-0.043	mg/L	-43.48	mg/kg
1	Sn 189.933	79.6	84.5	0.059	mg/L	59.11	mg/kg
1	Sr 407.771	-1920.9	-2038.1	-0.001	mg/L	-0.574	mg/kg
1	Ti 334.941	706.7	749.8	-0.003	mg/L	-2.748	mg/kg
1	Tl 190.800	-1.0	-1.1	-0.034	mg/L	-34.04	mg/kg
1	V 292.402	-23.6	-25.1	0.002	mg/L	1.651	mg/kg

1 Zn 206.200	15.1	16.0	0.001 mg/L	0.965 mg/kg
2 Sc 357.253	490483.2	490483.2	94 mg/kg	
2 Y 360.064	248836.3	248836.3	94 mg/kg	
2 Ag 328.068	163.4	174.3	-0.011 mg/L	-11.10 mg/kg
2 Al 396.140	-139.3	-148.6	-0.022 mg/L	-21.97 mg/kg
2 As 188.979	-8.8	-9.4	-0.028 mg/L	-28.38 mg/kg
2 B 249.773	255.7	272.8	-0.082 mg/L	-81.51 mg/kg
2 Ba 455.403	782.8	835.1	0.001 mg/L	0.649 mg/kg
2 Be 234.861	-12.5	-13.3	0.000 mg/L	0.367 mg/kg
2 Ca 315.887	765.8	817.0	-0.013 mg/L	-13.09 mg/kg
2 Cd 214.438	-75.5	-80.6	-0.003 mg/L	-2.850 mg/kg
2 Co 228.616	-2.6	-2.8	-0.003 mg/L	-2.778 mg/kg
2 Cr 205.558	19.9	21.2	-0.001 mg/L	-1.073 mg/kg
2 Cu 324.764	-91.1	-97.2	-0.006 mg/L	-6.386 mg/kg
2 Fe 238.204	170.9	182.3	0.006 mg/L	6.158 mg/kg
2 K 766.514	-2927.1	-3122.6	-0.135 mg/L	-134.6 mg/kg
2 Li 670.781	-162.0	-172.8	0.001 mg/L	1.215 mg/kg
2 Mg 279.074	23.0	24.5	0.011 mg/L	11.33 mg/kg
2 Mn 257.610	-48.6	-51.8	-0.002 mg/L	-1.994 mg/kg
2 Mo 202.031	44.3	47.3	0.013 mg/L	13.18 mg/kg
2 Na 588.995	75825.8	80890.6	0.427 mg/L	427.2 mg/kg
2 Ni 231.603	-6.2	-6.6	-0.003 mg/L	-3.028 mg/kg
2 P 178.221	0.3	0.3	-0.010 mg/L	-9.754 mg/kg
2 Pb 220.353	3.7	3.9	0.009 mg/L	9.289 mg/kg
2 Sb 206.833	-50.5	-53.9	-0.085 mg/L	-84.74 mg/kg
2 Se 196.026	7.0	7.4	0.074 mg/L	73.69 mg/kg
2 Si 251.611	582.3	621.2	-0.031 mg/L	-31.25 mg/kg
2 Sn 189.933	75.4	80.4	0.034 mg/L	34.37 mg/kg
2 Sr 407.771	-2059.2	-2196.7	-0.001 mg/L	-0.769 mg/kg
2 Ti 334.941	745.1	794.9	-0.002 mg/L	-2.281 mg/kg
2 Tl 190.800	3.5	3.7	0.095 mg/L	94.70 mg/kg
2 V 292.402	-35.8	-38.2	0.001 mg/L	0.694 mg/kg
2 Zn 206.200	15.3	16.3	0.001 mg/L	1.113 mg/kg

Mean Data

ID: CCB #10
Sample Qty: 1.0000 g
Seq. No.: 78 Sample No.: 10 A/S Pos: 1
Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 19:07:19

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	491829.0	94	0.4	mg/kg				0.39%
Y 360.064	249472.3	94	0.3	mg/kg				0.36%
Ag 328.068	192.2	-0.010	0.0013	mg/L	-10.15	1.332	mg/kg	13.12%
Al 396.140	-157.2	-0.025	0.0039	mg/L	-24.74	3.917	mg/kg	15.84%
As 188.979	-5.8	0.000	0.0398	mg/L	-0.263	39.7598	mg/kg	>999.9%
B 249.773	276.6	-0.081	0.0006	mg/L	-81.10	0.587	mg/kg	0.72%
Ba 455.403	840.8	0.001	0.0000	mg/L	0.665	0.0216	mg/kg	3.25%
Be 234.861	-14.6	0.000	0.0000	mg/L	0.355	0.0177	mg/kg	4.98%
Ca 315.887	813.7	-0.013	0.0005	mg/L	-13.42	0.473	mg/kg	3.53%
Cd 214.438	-83.5	-0.003	0.0008	mg/L	-3.403	0.7818	mg/kg	22.98%
Co 228.616	1.0	-0.002	0.0015	mg/L	-1.716	1.5016	mg/kg	87.52%
Cr 205.558	24.3	0.002	0.0043	mg/L	2.002	4.3486	mg/kg	217.21%
Cu 324.764	-90.7	-0.006	0.0006	mg/L	-5.961	0.6012	mg/kg	10.09%
Fe 238.204	183.6	0.006	0.0002	mg/L	6.296	0.1959	mg/kg	3.11%
K 766.514	-3116.9	-0.132	0.0031	mg/L	-132.4	3.09	mg/kg	2.33%
*QC exceeds lower limit for K 766.514		Action = Continue						
Li 670.781	-212.4	0.001	0.0004	mg/L	0.899	0.4468	mg/kg	49.70%
Mg 279.074	16.4	0.005	0.0095	mg/L	4.593	9.5272	mg/kg	207.42%
Mn 257.610	-45.3	-0.002	0.0001	mg/L	-1.907	0.1230	mg/kg	6.45%
Mo 202.031	45.4	0.010	0.0039	mg/L	10.44	3.878	mg/kg	37.16%
Na 588.995	80649.0	0.413	0.0204	mg/L	412.7	20.44	mg/kg	4.95%
Ni 231.603	4.2	0.003	0.0079	mg/L	2.562	7.9046	mg/kg	308.57%
P 178.221	0.2	-0.013	0.0043	mg/L	-12.80	4.310	mg/kg	33.67%
Pb 220.353	9.3	0.028	0.0269	mg/L	28.30	26.880	mg/kg	95.00%
Sb 206.833	-49.6	-0.059	0.0369	mg/L	-58.64	36.912	mg/kg	62.94%
Se 196.026	7.9	0.080	0.0088	mg/L	79.88	8.757	mg/kg	10.96%
Si 251.611	597.2	-0.037	0.0086	mg/L	-37.37	8.643	mg/kg	23.13%
Sn 189.933	82.5	0.047	0.0175	mg/L	46.74	17.498	mg/kg	37.44%
Sr 407.771	-2117.4	-0.001	0.0001	mg/L	-0.672	0.1378	mg/kg	20.51%
Ti 334.941	772.4	-0.003	0.0003	mg/L	-2.515	0.3298	mg/kg	13.12%

Tl 190.800	1.3	0.030	0.0910 mg/L	30.33	91.036 mg/kg	300.16%
V 292.402	-31.6	0.001	0.0007 mg/L	1.173	0.6769 mg/kg	57.73%
Zn 206.200	16.1	0.001	0.0001 mg/L	1.039	0.1052 mg/kg	10.13%

Replicate Data

ID: lfb-185802 Date: 5/20/02 19:11:28

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	493573.6	493573.6	94	mg/kg		
1	Y 360.064	249771.7	249771.7	94	mg/kg		
1	Ag 328.068	8790.0	9318.5	0.470	mg/L	47.01	mg/kg
1	Al 396.140	6615.8	7013.5	2.270	mg/L	227.0	mg/kg
1	As 188.979	264.5	280.4	2.237	mg/L	223.7	mg/kg
1	B 249.773	4246.8	4502.1	0.377	mg/L	37.69	mg/kg
1	Ba 455.403	164139.2	174006.6	0.469	mg/L	46.87	mg/kg
1	Be 234.861	4197.2	4449.5	0.045	mg/L	4.479	mg/kg
1	Ca 315.887	211243.8	223943.0	22.94	mg/L	2294	mg/kg
1	Cd 214.438	2406.5	2551.1	0.484	mg/L	48.42	mg/kg
1	Co 228.616	1553.0	1646.3	0.460	mg/L	45.96	mg/kg
1	Cr 205.558	473.9	502.4	0.472	mg/L	47.25	mg/kg
1	Cu 324.764	6633.4	7032.2	0.456	mg/L	45.56	mg/kg
1	Fe 238.204	4385.8	4649.4	0.490	mg/L	48.96	mg/kg
1	K 766.514	55734.0	59084.5	23.91	mg/L	2391	mg/kg
1	Li 670.781	53040.5	56229.1	0.452	mg/L	45.18	mg/kg
1	Mg 279.074	25403.6	26930.8	22.24	mg/L	2224	mg/kg
1	Mn 257.610	32615.5	34576.2	0.461	mg/L	46.12	mg/kg
1	Mo 202.031	646.1	684.9	0.958	mg/L	95.76	mg/kg
1	Na 588.995	423559.8	449022.6	22.45	mg/L	2245	mg/kg
1	Ni 231.603	834.7	886.3	0.456	mg/L	45.64	mg/kg
1	P 178.221	44.6	47.3	2.254	mg/L	225.4	mg/kg
1	Pb 220.353	136.3	144.5	0.504	mg/L	50.44	mg/kg
1	Sb 206.833	693.6	735.3	4.714	mg/L	471.4	mg/kg
1	Se 196.026	153.0	162.2	2.204	mg/L	220.4	mg/kg
1	Si 251.611	18413.8	19520.8	4.683	mg/L	468.3	mg/kg
1	Sn 189.933	808.8	857.4	4.590	mg/L	459.0	mg/kg
1	Sr 407.771	348117.3	369044.8	0.455	mg/L	45.53	mg/kg
1	Ti 334.941	88038.5	93331.0	0.962	mg/L	96.17	mg/kg
1	Tl 190.800	81.5	86.4	2.308	mg/L	230.8	mg/kg
1	V 292.402	5869.9	6222.8	0.459	mg/L	45.91	mg/kg
1	Zn 206.200	959.6	1017.3	0.504	mg/L	50.36	mg/kg
2	Sc 357.253	493728.2	493728.2	94	mg/kg		
2	Y 360.064	250024.8	250024.8	94	mg/kg		
2	Ag 328.068	8824.4	9351.9	0.472	mg/L	47.19	mg/kg
2	Al 396.140	6580.5	6973.9	2.257	mg/L	225.7	mg/kg
2	As 188.979	267.3	283.3	2.260	mg/L	226.0	mg/kg
2	B 249.773	4207.7	4459.2	0.372	mg/L	37.23	mg/kg
2	Ba 455.403	166056.0	175983.6	0.474	mg/L	47.40	mg/kg
2	Be 234.861	4149.2	4397.2	0.044	mg/L	4.427	mg/kg
2	Ca 315.887	213248.3	225997.2	23.15	mg/L	2315	mg/kg
2	Cd 214.438	2377.1	2519.2	0.478	mg/L	47.83	mg/kg
2	Co 228.616	1533.1	1624.7	0.454	mg/L	45.36	mg/kg
2	Cr 205.558	464.0	491.7	0.462	mg/L	46.20	mg/kg
2	Cu 324.764	6601.1	6995.8	0.453	mg/L	45.32	mg/kg
2	Fe 238.204	4380.1	4642.0	0.489	mg/L	48.88	mg/kg
2	K 766.514	56266.1	59630.0	24.12	mg/L	2412	mg/kg
2	Li 670.781	53721.8	56933.5	0.457	mg/L	45.74	mg/kg
2	Mg 279.074	25391.7	26909.7	22.22	mg/L	2222	mg/kg
2	Mn 257.610	32726.8	34683.3	0.463	mg/L	46.26	mg/kg
2	Mo 202.031	641.4	679.7	0.950	mg/L	94.99	mg/kg
2	Na 588.995	427313.2	452859.8	22.68	mg/L	2268	mg/kg
2	Ni 231.603	831.2	881.7	0.454	mg/L	45.40	mg/kg
2	P 178.221	41.5	44.0	2.095	mg/L	209.5	mg/kg
2	Pb 220.353	124.6	132.0	0.460	mg/L	46.03	mg/kg
2	Sb 206.833	690.9	732.2	4.696	mg/L	469.6	mg/kg
2	Se 196.026	156.9	166.3	2.261	mg/L	226.1	mg/kg
2	Si 251.611	18436.3	19538.5	4.687	mg/L	468.7	mg/kg
2	Sn 189.933	803.3	851.3	4.554	mg/L	455.4	mg/kg
2	Sr 407.771	352009.4	373054.0	0.460	mg/L	46.02	mg/kg
2	Ti 334.941	88233.5	93508.4	0.964	mg/L	96.36	mg/kg

2 Tl 190.800	85.1	90.2	2.408 mg/L	240.8 mg/kg
2 V 292.402	5918.1	6272.0	0.463 mg/L	46.27 mg/kg
2 Zn 206.200	966.9	1024.7	0.507 mg/L	50.73 mg/kg

Mean Data ----------

ID: lfb-185802
Sample Qty: 0.5000 g
Seq. No.: 79 Sample No.: 51 A/S Pos: 67
Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 19:11:28

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	493650.9	94	0.0	mg/kg				0.02%
Y 360.064	249898.3	94	0.1	mg/kg				0.07%
Ag 328.068	9335.2	0.471	0.0012	mg/L	47.10	0.125	mg/kg	0.26%
Al 396.140	6993.7	2.263	0.0089	mg/L	226.3	0.89	mg/kg	0.39%
As 188.979	281.9	2.248	0.0159	mg/L	224.8	1.59	mg/kg	0.71%
B 249.773	4480.7	0.375	0.0033	mg/L	37.46	0.329	mg/kg	0.88%
Ba 455.403	174995.1	0.471	0.0038	mg/L	47.14	0.377	mg/kg	0.80%
Be 234.861	4423.4	0.045	0.0004	mg/L	4.453	0.0368	mg/kg	0.83%
Ca 315.887	224970.1	23.05	0.149	mg/L	2305	14.9	mg/kg	0.65%
Cd 214.438	2535.2	0.481	0.0042	mg/L	48.13	0.420	mg/kg	0.87%
Co 228.616	1635.5	0.457	0.0043	mg/L	45.66	0.428	mg/kg	0.94%
Cr 205.558	497.1	0.467	0.0074	mg/L	46.72	0.742	mg/kg	1.59%
Cu 324.764	7014.0	0.454	0.0017	mg/L	45.44	0.168	mg/kg	0.37%
Fe 238.204	4645.7	0.489	0.0006	mg/L	48.92	0.057	mg/kg	0.12%
K 766.514	59357.2	24.01	0.149	mg/L	2401	14.9	mg/kg	0.62%
Li 670.781	56581.3	0.455	0.0040	mg/L	45.46	0.398	mg/kg	0.88%
Mg 279.074	26920.2	22.23	0.012	mg/L	2223	1.2	mg/kg	0.06%
Mn 257.610	34629.8	0.462	0.0010	mg/L	46.19	0.101	mg/kg	0.22%
Mo 202.031	682.3	0.954	0.0055	mg/L	95.38	0.546	mg/kg	0.57%
Na 588.995	450941.2	22.57	0.162	mg/L	2257	16.2	mg/kg	0.72%
Ni 231.603	884.0	0.455	0.0017	mg/L	45.52	0.168	mg/kg	0.37%
P 178.221	45.7	2.174	0.1121	mg/L	217.4	11.21	mg/kg	5.16%
Pb 220.353	138.3	0.482	0.0311	mg/L	48.23	3.113	mg/kg	6.45%
Sb 206.833	733.7	4.705	0.0132	mg/L	470.5	1.32	mg/kg	0.28%
Se 196.026	164.2	2.232	0.0402	mg/L	223.2	4.02	mg/kg	1.80%
Si 251.611	19529.6	4.685	0.0033	mg/L	468.5	0.33	mg/kg	0.07%
Sn 189.933	854.4	4.572	0.0257	mg/L	457.2	2.57	mg/kg	0.56%
Sr 407.771	371049.4	0.458	0.0035	mg/L	45.78	0.348	mg/kg	0.76%
Ti 334.941	93419.7	0.963	0.0013	mg/L	96.27	0.133	mg/kg	0.14%
Tl 190.800	88.3	2.358	0.0708	mg/L	235.8	7.08	mg/kg	3.00%
V 292.402	6247.4	0.461	0.0025	mg/L	46.09	0.255	mg/kg	0.55%
Zn 206.200	1021.0	0.505	0.0026	mg/L	50.54	0.263	mg/kg	0.52%

Replicate Data ----------

ID: 305052
Date: 5/20/02 19:15:40

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	480188.6	480188.6	92	mg/kg		
1	Y 360.064	241585.1	241585.1	91	mg/kg		
1	Ag 328.068	-21.5	-23.4	-0.021	mg/L	-2.150	mg/kg
1	Al 396.140	51233.9	55827.9	18.07	mg/L	1808	mg/kg
1	As 188.979	-1.3	-1.4	0.034	mg/L	3.440	mg/kg
1	B 249.773	1034.7	1127.5	-0.020	mg/L	-2.045	mg/kg
1	Ba 455.403	42292.5	46084.7	0.142	mg/L	14.24	mg/kg
1	Be 234.861	324.6	353.7	-0.001	mg/L	-0.131	mg/kg
1	Ca 315.887	3281667.2	3575922.6	367.8	mg/L	36790	mg/kg
1	Cd 214.438	22.4	24.4	-0.004	mg/L	-0.352	mg/kg
1	Co 228.616	62.3	67.9	0.017	mg/L	1.705	mg/kg
1	Cr 205.558	45.5	49.6	0.075	mg/L	7.544	mg/kg
1	Cu 324.764	3313.1	3610.2	0.216	mg/L	21.62	mg/kg
1	Fe 238.204	259130.5	282365.8	30.55	mg/L	3055	mg/kg
1	K 766.514	5333.7	5811.9	3.318	mg/L	331.9	mg/kg
1	Li 670.781	974.1	1061.4	0.011	mg/L	1.108	mg/kg
1	Mg 279.074	196941.8	214600.8	177.3	mg/L	17730	mg/kg
1	Mn 257.610	82739.1	90158.1	1.205	mg/L	120.5	mg/kg
1	Mo 202.031	41.3	45.0	0.010	mg/L	0.983	mg/kg
1	Na 588.995	97987.4	106773.6	1.976	mg/L	197.6	mg/kg
1	Ni 231.603	25.1	27.5	0.015	mg/L	1.456	mg/kg
1	P 178.221	14.7	16.0	0.749	mg/L	74.89	mg/kg

1	Pb 220.353	19.9	21.7	0.072 mg/L	7.198 mg/kg
1	Sb 206.833	-50.0	-54.5	-0.088 mg/L	-8.834 mg/kg
1	Se 196.026	7.0	7.6	0.076 mg/L	7.632 mg/kg
1	Si 251.611	61165.5	66650.0	15.97 mg/L	1598 mg/kg
1	Sn 189.933	42.9	46.7	-1.065 mg/L	-106.6 mg/kg
1	Sr 407.771	143642.8	156522.7	0.194 mg/L	19.43 mg/kg
1	Ti 334.941	87345.9	95177.9	1.021 mg/L	102.1 mg/kg
1	Tl 190.800	0.9	1.0	0.081 mg/L	8.151 mg/kg
1	V 292.402	948.7	1033.8	0.079 mg/L	7.920 mg/kg
1	Zn 206.200	213.7	232.9	0.110 mg/L	10.99 mg/kg
2	Sc 357.253	475653.4	475653.4	91 mg/kg	
2	Y 360.064	239426.6	239426.6	90 mg/kg	
2	Ag 328.068	-41.5	-45.7	-0.023 mg/L	-2.268 mg/kg
2	Al 396.140	51190.2	56312.1	18.23 mg/L	1823 mg/kg
2	As 188.979	10.5	11.5	0.135 mg/L	13.54 mg/kg
2	B 249.773	1039.0	1143.0	-0.019 mg/L	-1.908 mg/kg
2	Ba 455.403	42122.8	46337.4	0.143 mg/L	14.33 mg/kg
2	Be 234.861	290.5	319.6	-0.002 mg/L	-0.170 mg/kg
2	Ca 315.887	3288674.2	3617725.5	372.1 mg/L	37220 mg/kg
2	Cd 214.438	20.4	22.4	-0.004 mg/L	-0.409 mg/kg
2	Co 228.616	56.7	62.4	0.015 mg/L	1.550 mg/kg
2	Cr 205.558	47.2	51.9	0.078 mg/L	7.829 mg/kg
2	Cu 324.764	3235.7	3559.5	0.213 mg/L	21.27 mg/kg
2	Fe 238.204	259230.4	285167.9	30.85 mg/L	3086 mg/kg
2	K 766.514	5188.2	5707.4	3.278 mg/L	327.8 mg/kg
2	Li 670.781	1001.6	1101.8	0.011 mg/L	1.140 mg/kg
2	Mg 279.074	196998.3	216709.1	179.0 mg/L	17900 mg/kg
2	Mn 257.610	82634.5	90902.5	1.215 mg/L	121.5 mg/kg
2	Mo 202.031	44.9	49.4	0.016 mg/L	1.639 mg/kg
2	Na 588.995	98187.8	108012.1	2.050 mg/L	205.0 mg/kg
2	Ni 231.603	27.2	30.2	0.016 mg/L	1.592 mg/kg
2	P 178.221	17.5	19.3	0.906 mg/L	90.59 mg/kg
2	Pb 220.353	24.9	27.4	0.092 mg/L	9.190 mg/kg
2	Sb 206.833	-40.1	-44.1	-0.025 mg/L	-2.536 mg/kg
2	Se 196.026	1.7	1.9	-0.003 mg/L	-0.255 mg/kg
2	Si 251.611	61214.3	67339.2	16.14 mg/L	1615 mg/kg
2	Sn 189.933	40.5	44.5	-1.086 mg/L	-108.6 mg/kg
2	Sr 407.771	143680.2	158056.2	0.196 mg/L	19.61 mg/kg
2	Ti 334.941	87221.4	95948.4	1.030 mg/L	103.0 mg/kg
2	Tl 190.800	2.3	2.5	0.123 mg/L	12.27 mg/kg
2	V 292.402	929.3	1022.3	0.078 mg/L	7.836 mg/kg
2	Zn 206.200	225.9	248.5	0.118 mg/L	11.77 mg/kg

Mean Data ----------

ID: 305052
Sample Qty: 0.4999 g
Seq. No.: 80 Sample No.: 52
Prep. Vol.: 50.0 mL
Data: Original
A/S Pos: 68
Dilution: 1.0: 1.0
Date: 5/20/02 19:15:40

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	477921.0	91	0.6	mg/kg				0.67%
Y 360.064	240505.8	91	0.6	mg/kg				0.63%
Ag 328.068	-34.5	-0.022	0.0008	mg/L	-2.209	0.0830	mg/kg	3.76%
Al 396.140	56070.0	18.15	0.110	mg/L	1816	11.1	mg/kg	0.61%
As 188.979	5.1	0.085	0.0714	mg/L	8.491	7.1436	mg/kg	84.13%
B 249.773	1135.2	-0.020	0.0010	mg/L	-1.976	0.0967	mg/kg	4.90%
Ba 455.403	46211.0	0.143	0.0006	mg/L	14.28	0.064	mg/kg	0.44%
Be 234.861	336.6	-0.002	0.0003	mg/L	-0.151	0.0281	mg/kg	18.63%
Ca 315.887	3596824.0	370.0	3.04	mg/L	37000	304.2	mg/kg	0.82%
Cd 214.438	23.4	-0.004	0.0004	mg/L	-0.380	0.0405	mg/kg	10.66%
Co 228.616	65.1	0.016	0.0011	mg/L	1.627	0.1093	mg/kg	6.72%
Cr 205.558	50.8	0.077	0.0020	mg/L	7.686	0.2013	mg/kg	2.62%
Cu 324.764	3584.8	0.214	0.0025	mg/L	21.44	0.247	mg/kg	1.15%
Fe 238.204	283766.9	30.70	0.214	mg/L	3071	21.4	mg/kg	0.70%
K 766.514	5759.6	3.298	0.0286	mg/L	329.9	2.86	mg/kg	0.87%
Li 670.781	1081.6	0.011	0.0002	mg/L	1.124	0.0229	mg/kg	2.03%
Mg 279.074	215655.0	178.1	1.23	mg/L	17820	123.2	mg/kg	0.69%
Mn 257.610	90530.3	1.210	0.0070	mg/L	121.0	0.70	mg/kg	0.58%
Mo 202.031	47.2	0.013	0.0046	mg/L	1.311	0.4639	mg/kg	35.39%
Na 588.995	107392.8	2.013	0.0524	mg/L	201.3	5.24	mg/kg	2.60%
Ni 231.603	28.9	0.015	0.0010	mg/L	1.524	0.0965	mg/kg	6.33%

001462

P 178.221	17.7	0.827	0.1110 mg/L	82.74	11.100 mg/kg	13.42%
Pb 220.353	24.5	0.082	0.0141 mg/L	8.194	1.4091 mg/kg	17.20%
Sb 206.833	-49.3	-0.057	0.0445 mg/L	-5.685	4.4528 mg/kg	78.33%
Se 196.026	4.8	0.037	0.0558 mg/L	3.689	5.5772 mg/kg	151.20%
Si 251.611	66994.6	16.06	0.118 mg/L	1606	11.9 mg/kg	0.74%
Sn 189.933	45.6	-1.076	0.0144 mg/L	-107.6	1.45 mg/kg	1.34%
Sr 407.771	157289.5	0.195	0.0013 mg/L	19.52	0.133 mg/kg	0.68%
Ti 334.941	95563.1	1.025	0.0060 mg/L	102.6	0.60 mg/kg	0.59%
Tl 190.800	1.8	0.102	0.0291 mg/L	10.21	2.915 mg/kg	28.54%
V 292.402	1028.0	0.079	0.0006 mg/L	7.878	0.0598 mg/kg	0.76%
Zn 206.200	240.7	0.114	0.0055 mg/L	11.38	0.552 mg/kg	4.86%

Replicate Data ----------
ID: 305052d
Date: 5/20/02 19:19:54

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	482505.1	482505.1	92	mg/kg		
1	Y 360.064	242964.0	242964.0	92	mg/kg		
1	Ag 328.068	12.5	13.6	-0.020	mg/L	-1.957	mg/kg
1	Al 396.140	53268.3	57766.0	18.71	mg/L	1873	mg/kg
1	As 188.979	0.4	0.4	0.048	mg/L	4.830	mg/kg
1	B 249.773	1193.3	1294.0	-0.013	mg/L	-1.295	mg/kg
1	Ba 455.403	30054.4	32592.1	0.106	mg/L	10.56	mg/kg
1	Be 234.861	391.3	424.3	-0.001	mg/L	-0.113	mg/kg
1	Ca 315.887	3124097.5	3387880.6	348.5	mg/L	34870	mg/kg
1	Cd 214.438	23.8	25.8	-0.004	mg/L	-0.382	mg/kg
1	Co 228.616	62.9	68.2	0.017	mg/L	1.715	mg/kg
1	Cr 205.558	60.3	65.4	0.092	mg/L	9.223	mg/kg
1	Cu 324.764	777.9	843.5	0.037	mg/L	3.685	mg/kg
1	Fe 238.204	325253.0	352715.7	38.16	mg/L	3819	mg/kg
1	K 766.514	5635.4	6111.2	3.434	mg/L	343.6	mg/kg
1	Li 670.781	1125.5	1220.5	0.012	mg/L	1.236	mg/kg
1	Mg 279.074	188449.6	204361.3	168.8	mg/L	16890	mg/kg
1	Mn 257.610	83883.6	90966.3	1.215	mg/L	121.6	mg/kg
1	Mo 202.031	45.5	49.3	0.016	mg/L	1.623	mg/kg
1	Na 588.995	97185.2	105391.1	1.893	mg/L	189.5	mg/kg
1	Ni 231.603	32.9	35.9	0.019	mg/L	1.889	mg/kg
1	P 178.221	19.0	20.6	0.969	mg/L	96.99	mg/kg
1	Pb 220.353	32.3	35.0	0.119	mg/L	11.90	mg/kg
1	Sb 206.833	-47.6	-51.6	-0.071	mg/L	-7.110	mg/kg
1	Se 196.026	-2.1	-2.3	-0.061	mg/L	-6.058	mg/kg
1	Si 251.611	63147.0	68478.8	16.48	mg/L	1649	mg/kg
1	Sn 189.933	45.1	48.9	-1.014	mg/L	-101.5	mg/kg
1	Sr 407.771	142641.9	154685.9	0.192	mg/L	19.21	mg/kg
1	Ti 334.941	91109.2	98802.1	1.057	mg/L	105.8	mg/kg
1	Tl 190.800	-0.1	-0.1	0.050	mg/L	4.975	mg/kg
1	V 292.402	962.0	1043.2	0.080	mg/L	7.994	mg/kg
1	Zn 206.200	187.2	203.1	0.095	mg/L	9.494	mg/kg
2	Sc 357.253	477919.7	477919.7	91	mg/kg		
2	Y 360.064	240604.1	240604.1	91	mg/kg		
2	Ag 328.068	24.1	26.4	-0.019	mg/L	-1.889	mg/kg
2	Al 396.140	53135.7	58175.1	18.84	mg/L	1886	mg/kg
2	As 188.979	0.2	0.2	0.047	mg/L	4.680	mg/kg
2	B 249.773	1208.6	1323.2	-0.010	mg/L	-1.024	mg/kg
2	Ba 455.403	29933.1	32771.9	0.106	mg/L	10.63	mg/kg
2	Be 234.861	371.3	406.5	-0.001	mg/L	-0.137	mg/kg
2	Ca 315.887	3132867.9	3429987.1	352.8	mg/L	35310	mg/kg
2	Cd 214.438	34.1	37.3	-0.002	mg/L	-0.187	mg/kg
2	Co 228.616	75.9	83.1	0.021	mg/L	2.134	mg/kg
2	Cr 205.558	53.7	58.7	0.086	mg/L	8.626	mg/kg
2	Cu 324.764	785.0	859.4	0.038	mg/L	3.770	mg/kg
2	Fe 238.204	325604.9	356485.0	38.57	mg/L	3860	mg/kg
2	K 766.514	5561.0	6088.4	3.425	mg/L	342.8	mg/kg
2	Li 670.781	1028.8	1126.4	0.012	mg/L	1.160	mg/kg
2	Mg 279.074	188551.1	206433.2	170.5	mg/L	17060	mg/kg
2	Mn 257.610	83655.3	91589.1	1.224	mg/L	122.5	mg/kg
2	Mo 202.031	47.3	51.8	0.020	mg/L	1.990	mg/kg
2	Na 588.995	97235.3	106457.1	1.957	mg/L	195.8	mg/kg
2	Ni 231.603	31.2	34.4	0.018	mg/L	1.813	mg/kg

2 P 178.221	20.5	22.4	1.056 mg/L	105.7 mg/kg
2 Pb 220.353	27.2	29.8	0.100 mg/L	10.04 mg/kg
2 Sb 206.833	-43.0	-47.1	-0.043 mg/L	-4.319 mg/kg
2 Se 196.026	2.2	2.4	0.004 mg/L	0.419 mg/kg
2 Si 251.611	63030.9	69008.7	16.61 mg/L	1662 mg/kg
2 Sn 189.933	40.5	44.3	-1.049 mg/L	-105.0 mg/kg
2 Sr 407.771	143141.3	156716.7	0.194 mg/L	19.46 mg/kg
2 Ti 334.941	90919.7	99542.5	1.065 mg/L	106.6 mg/kg
2 Tl 190.800	1.0	1.1	0.082 mg/L	8.194 mg/kg
2 V 292.402	927.9	1016.0	0.078 mg/L	7.794 mg/kg
2 Zn 206.200	181.5	198.8	0.093 mg/L	9.278 mg/kg

Mean Data ----------

ID: 305052d
Sample Qty: 0.4996 g
Seq. No.: 81 Sample No.: 53
Prep. Vol.: 50.0 mL
Data: Original
A/S Pos: 69
Dilution: 1.0: 1.0
Date: 5/20/02 19:19:54

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	480212.4	92	0.6	mg/kg				0.68%
Y 360.064	241784.0	91	0.6	mg/kg				0.69%
Ag 328.068	20.0	-0.019	0.0005	mg/L	-1.923	0.0477	mg/kg	2.48%
Al 396.140	57970.6	18.78	0.093	mg/L	1879	9.3	mg/kg	0.50%
As 188.979	0.3	0.048	0.0011	mg/L	4.755	0.1058	mg/kg	2.23%
B 249.773	1308.6	-0.012	0.0019	mg/L	-1.160	0.1914	mg/kg	16.51%
Ba 455.403	32682.0	0.106	0.0005	mg/L	10.60	0.050	mg/kg	0.47%
Be 234.861	415.4	-0.001	0.0002	mg/L	-0.125	0.0173	mg/kg	13.77%
Ca 315.887	3408933.9	350.6	3.06	mg/L	35090	306.6	mg/kg	0.87%
Cd 214.438	31.6	-0.003	0.0014	mg/L	-0.285	0.1378	mg/kg	48.43%
Co 228.616	75.7	0.019	0.0030	mg/L	1.924	0.2959	mg/kg	15.38%
Cr 205.558	62.1	0.089	0.0042	mg/L	8.924	0.4219	mg/kg	4.73%
Cu 324.764	851.5	0.037	0.0006	mg/L	3.728	0.0602	mg/kg	1.62%
Fe 238.204	354600.4	38.37	0.288	mg/L	3840	28.9	mg/kg	0.75%
K 766.514	6099.8	3.429	0.0062	mg/L	343.2	0.62	mg/kg	0.18%
Li 670.781	1173.5	0.012	0.0005	mg/L	1.198	0.0532	mg/kg	4.44%
Mg 279.074	205397.3	169.6	1.21	mg/L	16980	121.1	mg/kg	0.71%
Mn 257.610	91277.7	1.220	0.0059	mg/L	122.1	0.59	mg/kg	0.48%
Mo 202.031	50.6	0.018	0.0026	mg/L	1.806	0.2599	mg/kg	14.39%
Na 588.995	105924.1	1.925	0.0451	mg/L	192.7	4.51	mg/kg	2.34%
Ni 231.603	35.2	0.018	0.0005	mg/L	1.851	0.0541	mg/kg	2.92%
P 178.221	21.5	1.012	0.0613	mg/L	101.3	6.13	mg/kg	6.05%
Pb 220.353	32.4	0.110	0.0131	mg/L	10.97	1.313	mg/kg	11.97%
Sb 206.833	-49.4	-0.057	0.0197	mg/L	-5.714	1.9740	mg/kg	34.55%
Se 196.026	0.0	-0.028	0.0458	mg/L	-2.820	4.5798	mg/kg	162.43%
Si 251.611	68743.7	16.54	0.090	mg/L	1656	9.0	mg/kg	0.54%
Sn 189.933	46.6	-1.031	0.0245	mg/L	-103.2	2.45	mg/kg	2.37%
Sr 407.771	155701.3	0.193	0.0018	mg/L	19.34	0.177	mg/kg	0.91%
Ti 334.941	99172.3	1.061	0.0058	mg/L	106.2	0.58	mg/kg	0.55%
Tl 190.800	0.5	0.066	0.0227	mg/L	6.585	2.2764	mg/kg	34.57%
V 292.402	1029.6	0.079	0.0014	mg/L	7.894	0.1411	mg/kg	1.79%
Zn 206.200	200.9	0.094	0.0015	mg/L	9.386	0.1526	mg/kg	1.63%

Replicate Data ----------

ID: 305052s
Date: 5/20/02 19:24:10

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	475093.6	475093.6	91	mg/kg		
1 Y 360.064	238224.5	238224.5	90	mg/kg		
1 Ag 328.068	8605.2	9477.3	0.478	mg/L	47.82	mg/kg
1 Al 396.140	74889.1	82479.3	26.69	mg/L	2668	mg/kg
1 As 188.979	294.5	324.3	2.580	mg/L	257.9	mg/kg
1 B 249.773	5300.6	5837.9	0.488	mg/L	48.82	mg/kg
1 Ba 455.403	199999.1	220269.4	0.612	mg/L	61.20	mg/kg
1 Be 234.861	5047.2	5558.7	0.050	mg/L	5.045	mg/kg
1 Ca 315.887	3116634.7	3432512.1	353.1	mg/L	35280	mg/kg
1 Cd 214.438	2441.5	2689.0	0.486	mg/L	48.60	mg/kg
1 Co 228.616	1612.4	1775.9	0.496	mg/L	49.56	mg/kg
1 Cr 205.558	520.8	573.6	0.590	mg/L	58.99	mg/kg
1 Cu 324.764	7458.4	8214.3	0.515	mg/L	51.50	mg/kg
1 Fe 238.204	268967.0	296227.4	32.05	mg/L	3203	mg/kg

1	K 766.514	70978.1	78171.8	31.28 mg/L	3126 mg/kg
1	Li 670.781	59055.9	65041.3	0.522 mg/L	52.19 mg/kg
1	Mg 279.074	202200.2	222693.6	183.9 mg/L	18380 mg/kg
1	Mn 257.610	171050.7	188387.0	2.519 mg/L	251.7 mg/kg
1	Mo 202.031	665.9	733.4	1.029 mg/L	102.9 mg/kg
1	Na 588.995	489474.8	539084.1	27.84 mg/L	2782 mg/kg
1	Ni 231.603	849.2	945.3	0.487 mg/L	48.65 mg/kg
1	P 178.221	55.4	61.0	2.915 mg/L	291.3 mg/kg
1	Pb 220.353	171.4	188.8	0.660 mg/L	65.98 mg/kg
1	Sb 206.833	698.7	769.5	4.922 mg/L	491.9 mg/kg
1	Se 196.026	169.2	186.4	2.537 mg/L	253.5 mg/kg
1	Si 251.611	83166.2	91595.3	22.30 mg/L	2229 mg/kg
1	Sn 189.933	784.6	864.1	3.801 mg/L	379.8 mg/kg
1	Sr 407.771	520539.5	573297.2	0.706 mg/L	70.58 mg/kg
1	Ti 334.941	218363.2	240494.8	2.529 mg/L	252.7 mg/kg
1	Tl 190.800	83.0	91.5	2.504 mg/L	250.2 mg/kg
1	V 292.402	7211.4	7942.3	0.585 mg/L	58.47 mg/kg
1	Zn 206.200	1048.4	1154.6	0.573 mg/L	57.22 mg/kg
2	Sc 357.253	472070.2	472070.2	90 mg/kg	
2	Y 360.064	236919.8	236919.8	89 mg/kg	
2	Ag 328.068	8641.8	9578.6	0.484 mg/L	48.35 mg/kg
2	Al 396.140	75054.2	83190.5	26.92 mg/L	2691 mg/kg
2	As 188.979	292.1	323.8	2.576 mg/L	257.4 mg/kg
2	B 249.773	5335.1	5913.4	0.496 mg/L	49.62 mg/kg
2	Ba 455.403	200443.8	222173.1	0.618 mg/L	61.73 mg/kg
2	Be 234.861	5080.5	5631.2	0.051 mg/L	5.113 mg/kg
2	Ca 315.887	3124844.2	3463595.3	356.3 mg/L	35600 mg/kg
2	Cd 214.438	2459.6	2726.3	0.493 mg/L	49.27 mg/kg
2	Co 228.616	1602.3	1776.0	0.496 mg/L	49.57 mg/kg
2	Cr 205.558	527.7	584.9	0.602 mg/L	60.14 mg/kg
2	Cu 324.764	7403.8	8206.4	0.515 mg/L	51.43 mg/kg
2	Fe 238.204	269017.4	298180.4	32.26 mg/L	3224 mg/kg
2	K 766.514	71076.0	78781.0	31.52 mg/L	3150 mg/kg
2	Li 670.781	59254.0	65677.5	0.527 mg/L	52.69 mg/kg
2	Mg 279.074	202661.9	224631.6	185.5 mg/L	18540 mg/kg
2	Mn 257.610	170632.1	189129.6	2.528 mg/L	252.7 mg/kg
2	Mo 202.031	660.6	732.2	1.028 mg/L	102.7 mg/kg
2	Na 588.995	490029.3	543151.3	28.08 mg/L	2807 mg/kg
2	Ni 231.603	863.8	966.9	0.498 mg/L	49.76 mg/kg
2	P 178.221	60.8	67.4	3.221 mg/L	321.9 mg/kg
2	Pb 220.353	171.6	190.2	0.665 mg/L	66.47 mg/kg
2	Sb 206.833	708.7	785.6	5.020 mg/L	501.7 mg/kg
2	Se 196.026	162.0	179.5	2.443 mg/L	244.2 mg/kg
2	Si 251.611	83067.5	92072.5	22.42 mg/L	2240 mg/kg
2	Sn 189.933	777.0	861.2	3.775 mg/L	377.2 mg/kg
2	Sr 407.771	521550.5	578089.6	0.712 mg/L	71.17 mg/kg
2	Ti 334.941	218842.8	242566.7	2.551 mg/L	254.9 mg/kg
2	Tl 190.800	82.8	91.8	2.512 mg/L	251.1 mg/kg
2	V 292.402	7192.9	7972.6	0.587 mg/L	58.69 mg/kg
2	Zn 206.200	1041.0	1153.9	0.572 mg/L	57.18 mg/kg

Mean Data

ID: 305052s Seq. No.: 82 Sample No.: 54 A/S Pos: 70
Sample Qty: 0.5003 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 19:24:10

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	473581.9	91	0.4	mg/kg				0.45%
Y 360.064	237572.1	90	0.3	mg/kg				0.39%
Ag 328.068	9528.0	0.481	0.0038	mg/L	48.09	0.377	mg/kg	0.78%
Al 396.140	82834.9	26.81	0.163	mg/L	2679	16.3	mg/kg	0.61%
As 188.979	324.0	2.578	0.0032	mg/L	257.6	0.32	mg/kg	0.12%
B 249.773	5875.7	0.492	0.0057	mg/L	49.22	0.565	mg/kg	1.15%
Ba 455.403	221221.3	0.615	0.0038	mg/L	61.47	0.375	mg/kg	0.61%
Be 234.861	5595.0	0.051	0.0005	mg/L	5.079	0.0481	mg/kg	0.95%
Ca 315.887	3448053.7	354.7	2.26	mg/L	35440	226.0	mg/kg	0.64%
Cd 214.438	2707.6	0.490	0.0048	mg/L	48.93	0.477	mg/kg	0.98%
Co 228.616	1775.9	0.496	0.0000	mg/L	49.57	0.003	mg/kg	0.01%
Cr 205.558	579.2	0.596	0.0081	mg/L	59.56	0.810	mg/kg	1.36%
Cu 324.764	8210.4	0.515	0.0005	mg/L	51.46	0.049	mg/kg	0.09%

Fe 238.204	297203.9	32.15	0.149 mg/L	3213	14.9 mg/kg	0.46%
K 766.514	78476.4	31.40	0.166 mg/L	3138	16.6 mg/kg	0.53%
Li 670.781	65359.4	0.525	0.0036 mg/L	52.44	0.359 mg/kg	0.68%
Mg 279.074	223662.6	184.7	1.13 mg/L	18460	113.1 mg/kg	0.61%
Mn 257.610	188758.3	2.524	0.0070 mg/L	252.2	0.70 mg/kg	0.28%
Mo 202.031	732.8	1.029	0.0013 mg/L	102.8	0.13 mg/kg	0.13%
Na 588.995	541117.7	27.96	0.172 mg/L	2795	17.2 mg/kg	0.62%
Ni 231.603	956.1	0.492	0.0078 mg/L	49.20	0.784 mg/kg	1.59%
P 178.221	64.2	3.068	0.2163 mg/L	306.6	21.62 mg/kg	7.05%
Pb 220.353	189.5	0.663	0.0035 mg/L	66.23	0.347 mg/kg	0.52%
Sb 206.833	777.5	4.971	0.0692 mg/L	496.8	6.91 mg/kg	1.39%
Se 196.026	183.0	2.490	0.0664 mg/L	248.9	6.64 mg/kg	2.67%
Si 251.611	91833.9	22.36	0.081 mg/L	2235	8.1 mg/kg	0.36%
Sn 189.933	862.6	3.788	0.0185 mg/L	378.5	1.85 mg/kg	0.49%
Sr 407.771	575693.4	0.709	0.0042 mg/L	70.88	0.416 mg/kg	0.59%
Ti 334.941	241530.7	2.540	0.0155 mg/L	253.8	1.55 mg/kg	0.61%
Tl 190.800	91.6	2.508	0.0060 mg/L	250.7	0.60 mg/kg	0.24%
V 292.402	7957.5	0.586	0.0016 mg/L	58.58	0.157 mg/kg	0.27%
Zn 206.200	1154.3	0.572	0.0002 mg/L	57.20	0.025 mg/kg	0.04%

Replicate Data ----------

ID: 305052sd Date: 5/20/02 19:28:24

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	471876.9	471876.9	90	mg/kg		
1	Y 360.064	236946.1	236946.1	89	mg/kg		
1	Ag 328.068	8722.4	9671.9	0.489	mg/L	48.90	mg/kg
1	Al 396.140	77157.6	85557.0	27.68	mg/L	2770	mg/kg
1	As 188.979	287.3	318.6	2.535	mg/L	253.7	mg/kg
1	B 249.773	5373.5	5958.5	0.501	mg/L	50.14	mg/kg
1	Ba 455.403	206431.6	228903.7	0.637	mg/L	63.79	mg/kg
1	Be 234.861	5110.0	5666.3	0.051	mg/L	5.123	mg/kg
1	Ca 315.887	3409320.4	3780458.4	388.9	mg/L	38910	mg/kg
1	Cd 214.438	2447.3	2713.7	0.489	mg/L	48.94	mg/kg
1	Co 228.616	1607.8	1782.8	0.498	mg/L	49.82	mg/kg
1	Cr 205.558	514.0	569.9	0.591	mg/L	59.09	mg/kg
1	Cu 324.764	7572.9	8397.3	0.525	mg/L	52.56	mg/kg
1	Fe 238.204	275442.3	305426.9	33.04	mg/L	3306	mg/kg
1	K 766.514	72704.7	80619.3	32.23	mg/L	3225	mg/kg
1	Li 670.781	59857.1	66373.1	0.533	mg/L	53.31	mg/kg
1	Mg 279.074	219787.3	243713.4	201.3	mg/L	20140	mg/kg
1	Mn 257.610	120043.9	133111.8	1.779	mg/L	178.0	mg/kg
1	Mo 202.031	667.7	740.4	1.040	mg/L	104.0	mg/kg
1	Na 588.995	497748.5	551933.3	28.61	mg/L	2863	mg/kg
1	Ni 231.603	861.0	963.6	0.496	mg/L	49.65	mg/kg
1	P 178.221	73.5	81.5	3.898	mg/L	390.1	mg/kg
1	Pb 220.353	151.6	168.1	0.588	mg/L	58.80	mg/kg
1	Sb 206.833	697.3	773.2	4.945	mg/L	494.8	mg/kg
1	Se 196.026	171.2	189.8	2.584	mg/L	258.6	mg/kg
1	Si 251.611	87720.2	97269.4	23.67	mg/L	2368	mg/kg
1	Sn 189.933	793.1	879.5	3.806	mg/L	380.8	mg/kg
1	Sr 407.771	537605.3	596128.9	0.734	mg/L	73.47	mg/kg
1	Ti 334.941	192273.8	213204.7	2.251	mg/L	225.2	mg/kg
1	Tl 190.800	82.3	91.3	2.506	mg/L	250.7	mg/kg
1	V 292.402	7463.6	8276.1	0.609	mg/L	60.99	mg/kg
1	Zn 206.200	1068.3	1184.6	0.588	mg/L	58.79	mg/kg
2	Sc 357.253	468098.5	468098.5	89	mg/kg		
2	Y 360.064	234865.0	234865.0	89	mg/kg		
2	Ag 328.068	8661.0	9681.4	0.489	mg/L	48.95	mg/kg
2	Al 396.140	77307.7	86415.3	27.96	mg/L	2798	mg/kg
2	As 188.979	284.5	318.0	2.530	mg/L	253.2	mg/kg
2	B 249.773	5409.0	6046.2	0.510	mg/L	51.08	mg/kg
2	Ba 455.403	206382.5	230696.5	0.642	mg/L	64.29	mg/kg
2	Be 234.861	5091.5	5691.3	0.051	mg/L	5.144	mg/kg
2	Ca 315.887	3409386.9	3811048.0	392.0	mg/L	39220	mg/kg
2	Cd 214.438	2454.4	2743.6	0.494	mg/L	49.47	mg/kg
2	Co 228.616	1609.5	1799.1	0.502	mg/L	50.28	mg/kg
2	Cr 205.558	518.1	579.1	0.600	mg/L	60.03	mg/kg
2	Cu 324.764	7545.5	8434.4	0.528	mg/L	52.79	mg/kg

001466

2 Fe 238.204	274789.4	307162.5	33.23 mg/L	3325 mg/kg	
2 K 766.514	72478.2	81016.9	32.38 mg/L	3240 mg/kg	
2 Li 670.781	59807.0	66852.9	0.537 mg/L	53.70 mg/kg	
2 Mg 279.074	219602.3	245473.7	202.8 mg/L	20290 mg/kg	
2 Mn 257.610	119850.8	133970.5	1.791 mg/L	179.2 mg/kg	
2 Mo 202.031	667.8	746.5	1.049 mg/L	104.9 mg/kg	
2 Na 588.995	497544.5	556160.4	28.86 mg/L	2888 mg/kg	
2 Ni 231.603	846.8	956.2	0.492 mg/L	49.27 mg/kg	
2 P 178.221	70.0	78.3	3.745 mg/L	374.7 mg/kg	
2 Pb 220.353	137.1	153.2	0.535 mg/L	53.55 mg/kg	
2 Sb 206.833	706.0	789.2	5.042 mg/L	504.5 mg/kg	
2 Se 196.026	168.0	187.8	2.557 mg/L	255.9 mg/kg	
2 Si 251.611	87733.5	98069.4	23.87 mg/L	2388 mg/kg	
2 Sn 189.933	779.8	871.6	3.751 mg/L	375.4 mg/kg	
2 Sr 407.771	537519.1	600844.4	0.740 mg/L	74.05 mg/kg	
2 Ti 334.941	192251.8	214901.0	2.269 mg/L	227.0 mg/kg	
2 Tl 190.800	81.5	91.1	2.501 mg/L	250.3 mg/kg	
2 V 292.402	7394.0	8265.1	0.609 mg/L	60.91 mg/kg	
2 Zn 206.200	1073.9	1200.4	0.595 mg/L	59.58 mg/kg	

Mean Data

ID: 305052sd Seq. No.: 83 Sample No.: 55 A/S Pos: 71
Sample Qty: 0.4997 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 19:28:24

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	469987.7	90	0.5	mg/kg				0.57%
Y 360.064	235905.6	89	0.6	mg/kg				0.62%
Ag 328.068	9676.6	0.489	0.0004	mg/L	48.93	0.035	mg/kg	0.07%
Al 396.140	85986.1	27.82	0.196	mg/L	2784	19.6	mg/kg	0.71%
As 188.979	318.3	2.533	0.0035	mg/L	253.4	0.35	mg/kg	0.14%
B 249.773	6002.3	0.506	0.0066	mg/L	50.61	0.660	mg/kg	1.30%
Ba 455.403	229800.1	0.640	0.0035	mg/L	64.04	0.354	mg/kg	0.55%
Be 234.861	5678.8	0.051	0.0001	mg/L	5.134	0.0148	mg/kg	0.29%
Ca 315.887	3795753.2	390.4	2.23	mg/L	39070	222.7	mg/kg	0.57%
Cd 214.438	2728.7	0.492	0.0038	mg/L	49.21	0.378	mg/kg	0.77%
Co 228.616	1790.9	0.500	0.0032	mg/L	50.05	0.323	mg/kg	0.65%
Cr 205.558	574.5	0.595	0.0067	mg/L	59.56	0.667	mg/kg	1.12%
Cu 324.764	8415.9	0.526	0.0016	mg/L	52.68	0.160	mg/kg	0.30%
Fe 238.204	306294.7	33.14	0.133	mg/L	3316	13.3	mg/kg	0.40%
K 766.514	80818.1	32.30	0.109	mg/L	3232	10.9	mg/kg	0.34%
Li 670.781	66613.0	0.535	0.0027	mg/L	53.50	0.271	mg/kg	0.51%
Mg 279.074	244593.5	202.0	1.03	mg/L	20210	102.9	mg/kg	0.51%
Mn 257.610	133541.2	1.785	0.0081	mg/L	178.6	0.81	mg/kg	0.45%
Mo 202.031	743.4	1.044	0.0064	mg/L	104.5	0.64	mg/kg	0.61%
Na 588.995	554046.9	28.74	0.179	mg/L	2875	17.9	mg/kg	0.62%
Ni 231.603	959.9	0.494	0.0027	mg/L	49.46	0.271	mg/kg	0.55%
P 178.221	79.9	3.822	0.1088	mg/L	382.4	10.88	mg/kg	2.85%
Pb 220.353	160.7	0.561	0.0371	mg/L	56.17	3.714	mg/kg	6.61%
Sb 206.833	781.2	4.993	0.0686	mg/L	499.6	6.87	mg/kg	1.37%
Se 196.026	188.8	2.571	0.0190	mg/L	257.2	1.90	mg/kg	0.74%
Si 251.611	97669.4	23.77	0.139	mg/L	2378	13.9	mg/kg	0.59%
Sn 189.933	875.6	3.779	0.0387	mg/L	378.1	3.87	mg/kg	1.02%
Sr 407.771	598486.7	0.737	0.0041	mg/L	73.76	0.410	mg/kg	0.56%
Ti 334.941	214052.9	2.260	0.0127	mg/L	226.1	1.27	mg/kg	0.56%
Tl 190.800	91.2	2.504	0.0031	mg/L	250.5	0.31	mg/kg	0.12%
V 292.402	8270.6	0.609	0.0006	mg/L	60.95	0.057	mg/kg	0.09%
Zn 206.200	1192.5	0.592	0.0056	mg/L	59.19	0.561	mg/kg	0.95%

Replicate Data

ID: 3050521 Date: 5/20/02 19:32:32

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	487080.0	487080.0	93	mg/kg		
1 Y 360.064	246670.0	246670.0	93	mg/kg		
1 Ag 328.068	186.7	200.6	-0.010	mg/L	-4.857	mg/kg
1 Al 396.140	10346.4	11114.6	3.608	mg/L	1805	mg/kg
1 As 188.979	-3.8	-4.0	0.014	mg/L	6.884	mg/kg
1 B 249.773	414.2	444.9	-0.071	mg/L	-35.51	mg/kg

1	Ba 455.403	9379.6	10076.0	0.029 mg/L	14.49 mg/kg
1	Be 234.861	58.7	63.1	0.000 mg/L	0.029 mg/kg
1	Ca 315.887	668887.7	718552.1	73.83 mg/L	36920 mg/kg
1	Cd 214.438	-48.4	-52.0	0.002 mg/L	1.234 mg/kg
1	Co 228.616	15.6	16.8	0.003 mg/L	1.357 mg/kg
1	Cr 205.558	27.5	29.5	0.014 mg/L	7.206 mg/kg
1	Cu 324.764	638.5	685.9	0.041 mg/L	20.48 mg/kg
1	Fe 238.204	52863.4	56788.4	6.133 mg/L	3067 mg/kg
1	K 766.514	-1321.0	-1419.1	0.524 mg/L	261.9 mg/kg
1	Li 670.781	88.8	95.4	0.003 mg/L	1.679 mg/kg
1	Mg 279.074	38549.3	41411.5	34.20 mg/L	17100 mg/kg
1	Mn 257.610	17394.3	18685.9	0.249 mg/L	124.3 mg/kg
1	Mo 202.031	50.9	54.6	0.024 mg/L	12.06 mg/kg
1	Na 588.995	80269.9	86229.8	0.747 mg/L	373.4 mg/kg
1	Ni 231.603	6.6	7.1	0.004 mg/L	2.017 mg/kg
1	P 178.221	-0.6	-0.6	-0.055 mg/L	-27.40 mg/kg
1	Pb 220.353	6.3	6.7	0.019 mg/L	9.619 mg/kg
1	Sb 206.833	-34.0	-36.5	0.021 mg/L	10.43 mg/kg
1	Se 196.026	6.0	6.5	0.061 mg/L	30.34 mg/kg
1	Si 251.611	13079.4	14050.6	3.233 mg/L	1617 mg/kg
1	Sn 189.933	59.2	63.6	-0.233 mg/L	-116.6 mg/kg
1	Sr 407.771	26992.8	28997.0	0.038 mg/L	18.78 mg/kg
1	Ti 334.941	18745.6	20137.5	0.206 mg/L	103.2 mg/kg
1	Tl 190.800	4.8	5.2	0.133 mg/L	66.59 mg/kg
1	V 292.402	167.2	179.6	0.017 mg/L	8.320 mg/kg
1	Zn 206.200	55.9	60.0	0.023 mg/L	11.54 mg/kg
2	Sc 357.253	490108.4	490108.4	94 mg/kg	
2	Y 360.064	248517.8	248517.8	94 mg/kg	
2	Ag 328.068	79.9	85.3	-0.016 mg/L	-7.890 mg/kg
2	Al 396.140	10333.1	11031.7	3.581 mg/L	1791 mg/kg
2	As 188.979	4.7	5.0	0.084 mg/L	42.07 mg/kg
2	B 249.773	423.6	452.2	-0.070 mg/L	-35.09 mg/kg
2	Ba 455.403	9387.6	10022.3	0.029 mg/L	14.42 mg/kg
2	Be 234.861	65.8	70.2	0.000 mg/L	0.065 mg/kg
2	Ca 315.887	676595.7	722341.4	74.22 mg/L	37120 mg/kg
2	Cd 214.438	-60.7	-64.8	0.000 mg/L	0.037 mg/kg
2	Co 228.616	6.4	6.8	0.000 mg/L	-0.044 mg/kg
2	Cr 205.558	30.6	32.7	0.018 mg/L	8.780 mg/kg
2	Cu 324.764	623.8	666.0	0.040 mg/L	19.85 mg/kg
2	Fe 238.204	52886.1	56461.8	6.097 mg/L	3049 mg/kg
2	K 766.514	-1295.2	-1382.8	0.538 mg/L	268.9 mg/kg
2	Li 670.781	22.8	24.3	0.003 mg/L	1.395 mg/kg
2	Mg 279.074	38437.8	41036.6	33.89 mg/L	16950 mg/kg
2	Mn 257.610	17461.9	18642.5	0.248 mg/L	124.1 mg/kg
2	Mo 202.031	41.9	44.7	0.009 mg/L	4.694 mg/kg
2	Na 588.995	80107.9	85524.1	0.704 mg/L	352.3 mg/kg
2	Ni 231.603	14.6	15.6	0.008 mg/L	4.212 mg/kg
2	P 178.221	6.2	6.6	0.296 mg/L	148.3 mg/kg
2	Pb 220.353	13.8	14.8	0.048 mg/L	23.79 mg/kg
2	Sb 206.833	-34.1	-36.4	0.022 mg/L	10.93 mg/kg
2	Se 196.026	8.6	9.2	0.099 mg/L	49.28 mg/kg
2	Si 251.611	13122.6	14009.9	3.224 mg/L	1612 mg/kg
2	Sn 189.933	65.7	70.2	-0.189 mg/L	-94.54 mg/kg
2	Sr 407.771	27029.7	28857.2	0.037 mg/L	18.69 mg/kg
2	Ti 334.941	18762.4	20030.9	0.205 mg/L	102.7 mg/kg
2	Tl 190.800	0.9	1.0	0.022 mg/L	11.00 mg/kg
2	V 292.402	187.0	199.6	0.018 mg/L	9.055 mg/kg
2	Zn 206.200	61.7	65.9	0.026 mg/L	13.00 mg/kg

Mean Data ----------

ID: 3050521 Seq. No.: 84 Sample No.: 56 A/S Pos: 72
Sample Qty: 0.4999 g Prep. Vol.: 50.0 mL Dilution: 1.0: 5.0
Data: Original Date: 5/20/02 19:32:32

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	488594.2	93	0.4	mg/kg				0.44%
Y 360.064	247593.9	93	0.5	mg/kg				0.53%
Ag 328.068	143.0	-0.013	0.0043	mg/L	-6.373	2.1446	mg/kg	33.65%
Al 396.140	11073.1	3.595	0.0191	mg/L	1798	9.5	mg/kg	0.53%
As 188.979	0.5	0.049	0.0498	mg/L	24.48	24.881	mg/kg	101.65%

B 249.773	448.6	-0.071	0.0006 mg/L	-35.30	0.294 mg/kg	0.83%
Ba 455.403	10049.2	0.029	0.0001 mg/L	14.45	0.050 mg/kg	0.35%
Be 234.861	66.6	0.000	0.0001 mg/L	0.047	0.0252 mg/kg	53.86%
Ca 315.887	720446.7	74.03	0.276 mg/L	37020	137.9 mg/kg	0.37%
Cd 214.438	-58.4	0.001	0.0017 mg/L	0.636	0.8465 mg/kg	133.15%
Co 228.616	11.8	0.001	0.0020 mg/L	0.657	0.9909 mg/kg	150.88%
Cr 205.558	31.1	0.016	0.0022 mg/L	7.993	1.1133 mg/kg	13.93%
Cu 324.764	675.9	0.040	0.0009 mg/L	20.17	0.447 mg/kg	2.22%
Fe 238.204	56625.1	6.115	0.0250 mg/L	3058	12.5 mg/kg	0.41%
K 766.514	-1401.0	0.531	0.0099 mg/L	265.4	4.96 mg/kg	1.87%
Li 670.781	59.9	0.003	0.0004 mg/L	1.537	0.2008 mg/kg	13.06%
Mg 279.074	41224.1	34.04	0.219 mg/L	17020	109.5 mg/kg	0.64%
Mn 257.610	18664.2	0.248	0.0004 mg/L	124.2	0.20 mg/kg	0.16%
Mo 202.031	49.7	0.017	0.0104 mg/L	8.375	5.2059 mg/kg	62.16%
Na 588.995	85877.0	0.726	0.0299 mg/L	362.8	14.93 mg/kg	4.12%
Ni 231.603	11.3	0.006	0.0031 mg/L	3.115	1.5519 mg/kg	49.82%
P 178.221	3.0	0.121	0.2484 mg/L	60.43	124.211 mg/kg	205.56%
Pb 220.353	10.8	0.033	0.0200 mg/L	16.70	10.020 mg/kg	59.98%
Sb 206.833	-36.5	0.021	0.0007 mg/L	10.68	0.358 mg/kg	3.35%
Se 196.026	7.9	0.080	0.0268 mg/L	39.81	13.393 mg/kg	33.64%
Si 251.611	14030.2	3.228	0.0063 mg/L	1614	3.2 mg/kg	0.20%
Sn 189.933	66.9	-0.211	0.0311 mg/L	-105.5	15.56 mg/kg	14.74%
Sr 407.771	28927.1	0.037	0.0001 mg/L	18.74	0.061 mg/kg	0.32%
Ti 334.941	20084.2	0.206	0.0008 mg/L	103.0	0.38 mg/kg	0.37%
Tl 190.800	3.1	0.078	0.0786 mg/L	38.80	39.311 mg/kg	101.33%
V 292.402	189.6	0.017	0.0010 mg/L	8.687	0.5195 mg/kg	5.98%
Zn 206.200	62.9	0.025	0.0021 mg/L	12.27	1.035 mg/kg	8.44%

Replicate Data

ID: 305052pds Date: 5/20/02 19:36:41

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	475152.0	475152.0	91	mg/kg		
1	Y 360.064	238827.0	238827.0	90	mg/kg		
1	Ag 328.068	8486.0	9344.9	0.472	mg/L	47.16	mg/kg
1	Al 396.140	57411.1	63222.1	20.47	mg/L	2048	mg/kg
1	As 188.979	282.5	311.1	2.477	mg/L	247.7	mg/kg
1	B 249.773	5193.2	5718.9	0.478	mg/L	47.82	mg/kg
1	Ba 455.403	211176.0	232550.5	0.647	mg/L	64.67	mg/kg
1	Be 234.861	4942.0	5442.2	0.049	mg/L	4.917	mg/kg
1	Ca 315.887	3438992.3	3787076.0	389.5	mg/L	38960	mg/kg
1	Cd 214.438	2381.6	2622.7	0.478	mg/L	47.85	mg/kg
1	Co 228.616	1581.6	1741.7	0.486	mg/L	48.65	mg/kg
1	Cr 205.558	502.3	553.2	0.573	mg/L	57.34	mg/kg
1	Cu 324.764	9948.0	10954.9	0.692	mg/L	69.20	mg/kg
1	Fe 238.204	259080.2	285303.4	30.87	mg/L	3087	mg/kg
1	K 766.514	69112.4	76107.7	30.48	mg/L	3049	mg/kg
1	Li 670.781	58206.6	64098.1	0.515	mg/L	51.47	mg/kg
1	Mg 279.074	221341.4	243744.9	201.3	mg/L	20140	mg/kg
1	Mn 257.610	113659.0	125163.2	1.673	mg/L	167.3	mg/kg
1	Mo 202.031	46.4	51.1	0.019	mg/L	1.893	mg/kg
1	Na 588.995	476711.9	524963.1	27.00	mg/L	2700	mg/kg
1	Ni 231.603	855.1	949.5	0.489	mg/L	48.90	mg/kg
1	P 178.221	68.9	75.9	3.630	mg/L	363.0	mg/kg
1	Pb 220.353	150.2	165.4	0.578	mg/L	57.82	mg/kg
1	Sb 206.833	-37.9	-41.7	-0.011	mg/L	-1.051	mg/kg
1	Se 196.026	165.3	182.0	2.477	mg/L	247.8	mg/kg
1	Si 251.611	61214.9	67410.8	16.06	mg/L	1606	mg/kg
1	Sn 189.933	35.7	39.3	-1.305	mg/L	-130.5	mg/kg
1	Sr 407.771	502781.8	553671.7	0.682	mg/L	68.23	mg/kg
1	Ti 334.941	86199.4	94924.2	1.025	mg/L	102.6	mg/kg
1	Tl 190.800	87.2	96.0	2.631	mg/L	263.1	mg/kg
1	V 292.402	7122.9	7843.9	0.578	mg/L	57.80	mg/kg
1	Zn 206.200	1085.9	1195.8	0.593	mg/L	59.33	mg/kg
2	Sc 357.253	471877.3	471877.3	90	mg/kg		
2	Y 360.064	237096.8	237096.8	89	mg/kg		
2	Ag 328.068	8518.4	9445.7	0.477	mg/L	47.69	mg/kg
2	Al 396.140	57361.1	63605.4	20.59	mg/L	2060	mg/kg
2	As 188.979	287.7	319.0	2.538	mg/L	253.9	mg/kg

2	B 249.773	5197.9	5763.8	0.483 mg/L	48.28 mg/kg
2	Ba 455.403	211749.8	234800.6	0.653 mg/L	65.30 mg/kg
2	Be 234.861	4988.3	5531.3	0.050 mg/L	5.000 mg/kg
2	Ca 315.887	3451005.1	3826678.0	393.6 mg/L	39370 mg/kg
2	Cd 214.438	2376.5	2635.3	0.481 mg/L	48.07 mg/kg
2	Co 228.616	1594.9	1768.5	0.494 mg/L	49.40 mg/kg
2	Cr 205.558	495.7	549.7	0.570 mg/L	57.05 mg/kg
2	Cu 324.764	9963.1	11047.6	0.698 mg/L	69.79 mg/kg
2	Fe 238.204	259431.6	287673.0	31.12 mg/L	3113 mg/kg
2	K 766.514	69088.4	76609.3	30.68 mg/L	3068 mg/kg
2	Li 670.781	58304.6	64651.6	0.519 mg/L	51.92 mg/kg
2	Mg 279.074	221608.4	245732.5	203.0 mg/L	20300 mg/kg
2	Mn 257.610	113411.8	125757.7	1.681 mg/L	168.1 mg/kg
2	Mo 202.031	51.7	57.4	0.028 mg/L	2.814 mg/kg
2	Na 588.995	476863.6	528774.5	27.22 mg/L	2723 mg/kg
2	Ni 231.603	843.8	943.9	0.486 mg/L	48.61 mg/kg
2	P 178.221	58.2	64.5	3.083 mg/L	308.3 mg/kg
2	Pb 220.353	148.8	165.0	0.576 mg/L	57.66 mg/kg
2	Sb 206.833	-46.5	-51.6	-0.071 mg/L	-7.079 mg/kg
2	Se 196.026	156.0	173.0	2.353 mg/L	235.4 mg/kg
2	Si 251.611	61066.8	67714.4	16.13 mg/L	1613 mg/kg
2	Sn 189.933	53.8	59.7	-1.187 mg/L	-118.7 mg/kg
2	Sr 407.771	503942.7	558801.3	0.688 mg/L	68.86 mg/kg
2	Ti 334.941	86066.5	95435.6	1.031 mg/L	103.1 mg/kg
2	Tl 190.800	80.1	88.8	2.440 mg/L	244.1 mg/kg
2	V 292.402	7129.3	7905.4	0.582 mg/L	58.25 mg/kg
2	Zn 206.200	1095.2	1214.4	0.602 mg/L	60.26 mg/kg

Mean Data

ID: 305052pds Seq. No.: 85 Sample No.: 57 A/S Pos: 73
Sample Qty: 0.4999 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 19:36:41

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	473514.6	90	0.4	mg/kg				0.49%
Y 360.064	237961.9	90	0.5	mg/kg				0.51%
Ag 328.068	9395.3	0.474	0.0038	mg/L	47.43	0.375	mg/kg	0.79%
Al 396.140	63413.7	20.53	0.087	mg/L	2054	8.7	mg/kg	0.43%
As 188.979	315.0	2.507	0.0435	mg/L	250.8	4.36	mg/kg	1.74%
B 249.773	5741.3	0.480	0.0033	mg/L	48.05	0.326	mg/kg	0.68%
Ba 455.403	233675.6	0.650	0.0044	mg/L	64.99	0.443	mg/kg	0.68%
Be 234.861	5486.8	0.050	0.0006	mg/L	4.958	0.0590	mg/kg	1.19%
Ca 315.887	3806877.0	391.6	2.88	mg/L	39170	288.2	mg/kg	0.74%
Cd 214.438	2629.0	0.480	0.0016	mg/L	47.96	0.155	mg/kg	0.32%
Co 228.616	1755.1	0.490	0.0053	mg/L	49.02	0.532	mg/kg	1.09%
Cr 205.558	551.5	0.572	0.0021	mg/L	57.19	0.206	mg/kg	0.36%
Cu 324.764	11001.3	0.695	0.0041	mg/L	69.50	0.415	mg/kg	0.60%
Fe 238.204	286488.2	30.99	0.181	mg/L	3100	18.1	mg/kg	0.59%
K 766.514	76358.5	30.58	0.137	mg/L	3059	13.7	mg/kg	0.45%
Li 670.781	64374.9	0.517	0.0031	mg/L	51.69	0.313	mg/kg	0.60%
Mg 279.074	244738.7	202.1	1.16	mg/L	20220	116.1	mg/kg	0.57%
Mn 257.610	125460.5	1.677	0.0056	mg/L	167.7	0.56	mg/kg	0.34%
Mo 202.031	54.2	0.024	0.0065	mg/L	2.353	0.6509	mg/kg	27.66%
Na 588.995	526868.8	27.11	0.161	mg/L	2712	16.1	mg/kg	0.59%
Ni 231.603	946.7	0.487	0.0020	mg/L	48.76	0.205	mg/kg	0.42%
P 178.221	70.2	3.356	0.3867	mg/L	335.7	38.67	mg/kg	11.52%
Pb 220.353	165.2	0.577	0.0012	mg/L	57.74	0.115	mg/kg	0.20%
Sb 206.833	-46.6	-0.041	0.0426	mg/L	-4.065	4.2624	mg/kg	104.85%
Se 196.026	177.5	2.415	0.0879	mg/L	241.6	8.79	mg/kg	3.64%
Si 251.611	67562.6	16.09	0.049	mg/L	1610	4.9	mg/kg	0.31%
Sn 189.933	49.5	-1.246	0.0831	mg/L	-124.6	8.31	mg/kg	6.67%
Sr 407.771	556236.5	0.685	0.0045	mg/L	68.54	0.446	mg/kg	0.65%
Ti 334.941	95179.9	1.028	0.0041	mg/L	102.8	0.41	mg/kg	0.40%
Tl 190.800	92.4	2.536	0.1346	mg/L	253.6	13.46	mg/kg	5.31%
V 292.402	7874.6	0.580	0.0032	mg/L	58.02	0.319	mg/kg	0.55%
Zn 206.200	1205.1	0.598	0.0066	mg/L	59.80	0.659	mg/kg	1.10%

Replicate Data

ID: 305053 Date: 5/20/02 19:40:49

	Net	Corrected	Calib	Sample

Repl#	Element	Intensity	Intensity	Conc.	Units	Conc.	Units
1	Sc 357.253	486428.7	486428.7	93	mg/kg		
1	Y 360.064	244910.5	244910.5	92	mg/kg		
1	Ag 328.068	-6.8	-7.3	-0.021	mg/L	-2.064	mg/kg
1	Al 396.140	26407.7	28406.5	9.210	mg/L	920.6	mg/kg
1	As 188.979	-1.7	-1.9	0.031	mg/L	3.076	mg/kg
1	B 249.773	803.7	864.5	-0.041	mg/L	-4.074	mg/kg
1	Ba 455.403	17836.3	19186.3	0.061	mg/L	6.090	mg/kg
1	Be 234.861	214.6	230.9	-0.001	mg/L	-0.058	mg/kg
1	Ca 315.887	1859146.7	1999861.3	205.7	mg/L	20560	mg/kg
1	Cd 214.438	-0.6	-0.6	-0.001	mg/L	-0.093	mg/kg
1	Co 228.616	34.0	36.6	0.008	mg/L	0.827	mg/kg
1	Cr 205.558	49.7	53.5	0.060	mg/L	5.969	mg/kg
1	Cu 324.764	416.2	447.7	0.018	mg/L	1.783	mg/kg
1	Fe 238.204	185918.1	199989.8	21.63	mg/L	2162	mg/kg
1	K 766.514	2864.9	3081.7	2.263	mg/L	226.2	mg/kg
1	Li 670.781	864.4	929.8	0.010	mg/L	1.002	mg/kg
1	Mg 279.074	118493.4	127461.9	105.3	mg/L	10520	mg/kg
1	Mn 257.610	57898.6	62280.8	0.832	mg/L	83.14	mg/kg
1	Mo 202.031	50.4	54.2	0.024	mg/L	2.349	mg/kg
1	Na 588.995	92875.9	99905.4	1.565	mg/L	156.4	mg/kg
1	Ni 231.603	16.4	17.8	0.010	mg/L	0.955	mg/kg
1	P 178.221	12.9	13.9	0.646	mg/L	64.62	mg/kg
1	Pb 220.353	14.5	15.6	0.050	mg/L	5.028	mg/kg
1	Sb 206.833	-38.0	-40.9	-0.006	mg/L	-0.563	mg/kg
1	Se 196.026	12.2	13.1	0.152	mg/L	15.21	mg/kg
1	Si 251.611	41524.2	44667.0	10.71	mg/L	1070	mg/kg
1	Sn 189.933	46.6	50.1	-0.714	mg/L	-71.39	mg/kg
1	Sr 407.771	69734.4	75012.4	0.094	mg/L	9.405	mg/kg
1	Ti 334.941	62893.5	67653.7	0.716	mg/L	71.56	mg/kg
1	Tl 190.800	1.3	1.4	0.068	mg/L	6.768	mg/kg
1	V 292.402	653.5	702.9	0.055	mg/L	5.494	mg/kg
1	Zn 206.200	103.7	111.5	0.049	mg/L	4.889	mg/kg
2	Sc 357.253	484915.7	484915.7	93	mg/kg		
2	Y 360.064	244006.2	244006.2	92	mg/kg		
2	Ag 328.068	78.9	85.1	-0.016	mg/L	-1.578	mg/kg
2	Al 396.140	26674.6	28783.1	9.332	mg/L	932.8	mg/kg
2	As 188.979	1.1	1.2	0.055	mg/L	5.486	mg/kg
2	B 249.773	797.9	861.0	-0.041	mg/L	-4.133	mg/kg
2	Ba 455.403	18015.5	19439.5	0.062	mg/L	6.168	mg/kg
2	Be 234.861	224.4	242.2	0.000	mg/L	-0.050	mg/kg
2	Ca 315.887	1871451.4	2019378.5	207.7	mg/L	20760	mg/kg
2	Cd 214.438	-9.4	-10.1	-0.003	mg/L	-0.283	mg/kg
2	Co 228.616	47.4	51.1	0.012	mg/L	1.234	mg/kg
2	Cr 205.558	47.9	51.7	0.058	mg/L	5.816	mg/kg
2	Cu 324.764	458.1	494.3	0.021	mg/L	2.077	mg/kg
2	Fe 238.204	187000.1	201781.3	21.83	mg/L	2182	mg/kg
2	K 766.514	2925.6	3156.9	2.292	mg/L	229.1	mg/kg
2	Li 670.781	753.3	812.9	0.009	mg/L	0.909	mg/kg
2	Mg 279.074	119139.2	128556.5	106.2	mg/L	10610	mg/kg
2	Mn 257.610	58222.2	62824.4	0.839	mg/L	83.87	mg/kg
2	Mo 202.031	36.8	39.7	0.002	mg/L	0.203	mg/kg
2	Na 588.995	92925.8	100271.1	1.587	mg/L	158.6	mg/kg
2	Ni 231.603	38.7	42.1	0.022	mg/L	2.204	mg/kg
2	P 178.221	10.6	11.4	0.525	mg/L	52.49	mg/kg
2	Pb 220.353	11.5	12.4	0.039	mg/L	3.903	mg/kg
2	Sb 206.833	-56.6	-61.1	-0.129	mg/L	-12.85	mg/kg
2	Se 196.026	11.1	11.9	0.136	mg/L	13.57	mg/kg
2	Si 251.611	41898.6	45210.4	10.84	mg/L	1084	mg/kg
2	Sn 189.933	52.8	57.0	-0.677	mg/L	-67.63	mg/kg
2	Sr 407.771	70499.7	76072.3	0.095	mg/L	9.535	mg/kg
2	Ti 334.941	63365.6	68374.3	0.724	mg/L	72.33	mg/kg
2	Tl 190.800	7.3	7.9	0.242	mg/L	24.18	mg/kg
2	V 292.402	652.6	704.2	0.055	mg/L	5.503	mg/kg
2	Zn 206.200	126.6	136.6	0.061	mg/L	6.147	mg/kg

Mean Data

ID: 305053 Seq. No.: 86 Sample No.: 58 A/S Pos: 74

Sample Qty: 0.5002 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 19:40:49

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	485672.2	93	0.2	mg/kg				0.22%
Y 360.064	244458.4	92	0.2	mg/kg				0.26%
Ag 328.068	38.9	-0.018	0.0034	mg/L	-1.821	0.3438	mg/kg	18.88%
Al 396.140	28594.8	9.271	0.0861	mg/L	926.7	8.61	mg/kg	0.93%
As 188.979	-0.3	0.043	0.0170	mg/L	4.281	1.7042	mg/kg	39.81%
B 249.773	862.8	-0.041	0.0004	mg/L	-4.104	0.0417	mg/kg	1.02%
Ba 455.403	19312.9	0.061	0.0006	mg/L	6.129	0.0553	mg/kg	0.90%
Be 234.861	236.5	-0.001	0.0001	mg/L	-0.054	0.0057	mg/kg	10.63%
Ca 315.887	2009619.9	206.7	1.42	mg/L	20660	141.9	mg/kg	0.69%
Cd 214.438	-5.4	-0.002	0.0013	mg/L	-0.188	0.1343	mg/kg	71.58%
Co 228.616	43.9	0.010	0.0029	mg/L	1.031	0.2880	mg/kg	27.94%
Cr 205.558	52.6	0.059	0.0011	mg/L	5.893	0.1079	mg/kg	1.83%
Cu 324.764	471.0	0.019	0.0021	mg/L	1.930	0.2080	mg/kg	10.78%
Fe 238.204	200885.6	21.73	0.137	mg/L	2172	13.7	mg/kg	0.63%
K 766.514	3119.3	2.278	0.0206	mg/L	227.7	2.05	mg/kg	0.90%
Li 670.781	871.3	0.010	0.0007	mg/L	0.955	0.0660	mg/kg	6.91%
Mg 279.074	128009.2	105.7	0.64	mg/L	10570	63.9	mg/kg	0.60%
Mn 257.610	62552.6	0.835	0.0051	mg/L	83.51	0.514	mg/kg	0.62%
Mo 202.031	47.0	0.013	0.0152	mg/L	1.276	1.5175	mg/kg	118.92%
Na 588.995	100088.2	1.576	0.0155	mg/L	157.5	1.55	mg/kg	0.98%
Ni 231.603	30.0	0.016	0.0088	mg/L	1.580	0.8834	mg/kg	55.92%
P 178.221	12.7	0.586	0.0858	mg/L	58.55	8.576	mg/kg	14.65%
Pb 220.353	14.0	0.045	0.0080	mg/L	4.465	0.7958	mg/kg	17.82%
Sb 206.833	-51.0	-0.067	0.0869	mg/L	-6.704	8.6845	mg/kg	129.54%
Se 196.026	12.5	0.144	0.0116	mg/L	14.39	1.158	mg/kg	8.05%
Si 251.611	44938.7	10.77	0.095	mg/L	1077	9.5	mg/kg	0.88%
Sn 189.933	53.6	-0.695	0.0266	mg/L	-69.51	2.663	mg/kg	3.83%
Sr 407.771	75542.3	0.095	0.0009	mg/L	9.470	0.0920	mg/kg	0.97%
Ti 334.941	68014.0	0.720	0.0055	mg/L	71.94	0.545	mg/kg	0.76%
Tl 190.800	4.7	0.155	0.1232	mg/L	15.48	12.315	mg/kg	79.58%
V 292.402	703.6	0.055	0.0001	mg/L	5.498	0.0067	mg/kg	0.12%
Zn 206.200	124.1	0.055	0.0089	mg/L	5.518	0.8897	mg/kg	16.12%

Replicate Data

ID: 305054 Date: 5/20/02 19:44:57

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	483505.8	483505.8	92	mg/kg		
1	Y 360.064	243307.8	243307.8	92	mg/kg		
1	Ag 328.068	39.7	42.9	-0.018	mg/L	-1.800	mg/kg
1	Al 396.140	33958.5	36749.6	11.92	mg/L	1192	mg/kg
1	As 188.979	3.1	3.4	0.072	mg/L	7.167	mg/kg
1	B 249.773	923.8	999.7	-0.037	mg/L	-3.696	mg/kg
1	Ba 455.403	26061.5	28203.5	0.085	mg/L	8.508	mg/kg
1	Be 234.861	295.6	319.9	0.000	mg/L	-0.033	mg/kg
1	Ca 315.887	1755773.6	1900081.5	195.4	mg/L	19540	mg/kg
1	Cd 214.438	-4.5	-4.9	-0.003	mg/L	-0.263	mg/kg
1	Co 228.616	38.9	42.1	0.010	mg/L	0.981	mg/kg
1	Cr 205.558	41.5	44.9	0.054	mg/L	5.352	mg/kg
1	Cu 324.764	582.3	630.1	0.030	mg/L	2.988	mg/kg
1	Fe 238.204	254061.5	274943.0	29.74	mg/L	2974	mg/kg
1	K 766.514	7191.3	7782.4	4.080	mg/L	407.9	mg/kg
1	Li 670.781	865.7	936.8	0.010	mg/L	1.008	mg/kg
1	Mg 279.074	116019.4	125555.1	103.7	mg/L	10370	mg/kg
1	Mn 257.610	68883.9	74545.5	0.996	mg/L	99.56	mg/kg
1	Mo 202.031	48.8	52.8	0.021	mg/L	2.134	mg/kg
1	Na 588.995	93226.6	100889.0	1.624	mg/L	162.3	mg/kg
1	Ni 231.603	25.1	27.4	0.014	mg/L	1.449	mg/kg
1	P 178.221	13.0	14.1	0.654	mg/L	65.34	mg/kg
1	Pb 220.353	12.0	13.0	0.041	mg/L	4.121	mg/kg
1	Sb 206.833	-53.3	-57.7	-0.108	mg/L	-10.78	mg/kg
1	Se 196.026	-1.4	-1.5	-0.049	mg/L	-4.901	mg/kg
1	Si 251.611	42677.7	46185.4	11.10	mg/L	1110	mg/kg
1	Sn 189.933	57.4	62.1	-0.651	mg/L	-65.13	mg/kg
1	Sr 407.771	69898.9	75643.9	0.095	mg/L	9.484	mg/kg
1	Ti 334.941	69523.2	75237.3	0.794	mg/L	79.38	mg/kg
1	Tl 190.800	-2.0	-2.1	-0.028	mg/L	-2.803	mg/kg

1	V 292.402	866.3	937.4	0.072 mg/L	7.212 mg/kg
1	Zn 206.200	135.4	146.5	0.066 mg/L	6.647 mg/kg
2	Sc 357.253	481791.9	481791.9	92 mg/kg	
2	Y 360.064	242602.9	242602.9	91 mg/kg	
2	Ag 328.068	3.7	4.1	-0.020 mg/L	-2.005 mg/kg
2	Al 396.140	34131.3	37068.0	12.03 mg/L	1202 mg/kg
2	As 188.979	-6.4	-6.9	-0.009 mg/L	-0.900 mg/kg
2	B 249.773	927.9	1007.7	-0.036 mg/L	-3.648 mg/kg
2	Ba 455.403	26156.1	28406.5	0.086 mg/L	8.571 mg/kg
2	Be 234.861	306.7	333.1	0.000 mg/L	-0.024 mg/kg
2	Ca 315.887	1767417.2	1919486.2	197.4 mg/L	19730 mg/kg
2	Cd 214.438	-7.0	-7.6	-0.003 mg/L	-0.321 mg/kg
2	Co 228.616	45.9	49.9	0.012 mg/L	1.199 mg/kg
2	Cr 205.558	46.9	50.9	0.060 mg/L	5.972 mg/kg
2	Cu 324.764	549.4	596.7	0.028 mg/L	2.768 mg/kg
2	Fe 238.204	255717.0	277719.0	30.04 mg/L	3004 mg/kg
2	K 766.514	7209.1	7829.4	4.098 mg/L	409.7 mg/kg
2	Li 670.781	825.9	897.0	0.010 mg/L	0.976 mg/kg
2	Mg 279.074	115878.8	125849.1	103.9 mg/L	10390 mg/kg
2	Mn 257.610	68965.9	74899.8	1.001 mg/L	100.0 mg/kg
2	Mo 202.031	38.7	42.0	0.005 mg/L	0.538 mg/kg
2	Na 588.995	93627.2	101682.9	1.671 mg/L	167.1 mg/kg
2	Ni 231.603	20.4	22.3	0.012 mg/L	1.188 mg/kg
2	P 178.221	15.0	16.3	0.761 mg/L	76.06 mg/kg
2	Pb 220.353	13.9	15.2	0.049 mg/L	4.886 mg/kg
2	Sb 206.833	-48.0	-52.2	-0.074 mg/L	-7.422 mg/kg
2	Se 196.026	4.5	4.9	0.039 mg/L	3.875 mg/kg
2	Si 251.611	42755.3	46433.9	11.16 mg/L	1116 mg/kg
2	Sn 189.933	50.2	54.6	-0.695 mg/L	-69.46 mg/kg
2	Sr 407.771	70356.9	76410.4	0.096 mg/L	9.578 mg/kg
2	Ti 334.941	69586.4	75573.6	0.798 mg/L	79.75 mg/kg
2	Tl 190.800	0.2	0.2	0.035 mg/L	3.493 mg/kg
2	V 292.402	854.5	928.0	0.071 mg/L	7.142 mg/kg
2	Zn 206.200	141.2	153.3	0.070 mg/L	6.989 mg/kg

Mean Data ----------

ID: 305054 Seq. No.: 87 Sample No.: 59 A/S Pos: 75
Sample Qty: 0.5001 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 19:44:57

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Sample Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	482648.8	92	0.2	mg/kg				0.25%
Y 360.064	242955.4	92	0.2	mg/kg				0.21%
Ag 328.068	23.5	-0.019	0.0014	mg/L	-1.903	0.1446	mg/kg	7.60%
Al 396.140	36908.8	11.97	0.073	mg/L	1197	7.3	mg/kg	0.61%
As 188.979	-1.8	0.031	0.0571	mg/L	3.134	5.7043	mg/kg	182.03%
B 249.773	1003.7	-0.037	0.0003	mg/L	-3.672	0.0341	mg/kg	0.93%
Ba 455.403	28305.0	0.085	0.0004	mg/L	8.539	0.0445	mg/kg	0.52%
Be 234.861	326.5	0.000	0.0001	mg/L	-0.028	0.0064	mg/kg	22.81%
Ca 315.887	1909783.9	196.4	1.41	mg/L	19640	141.1	mg/kg	0.72%
Cd 214.438	-6.3	-0.003	0.0004	mg/L	-0.292	0.0408	mg/kg	13.95%
Co 228.616	46.0	0.011	0.0015	mg/L	1.090	0.1541	mg/kg	14.15%
Cr 205.558	47.9	0.057	0.0044	mg/L	5.662	0.4386	mg/kg	7.75%
Cu 324.764	613.4	0.029	0.0016	mg/L	2.878	0.1557	mg/kg	5.41%
Fe 238.204	276331.0	29.89	0.212	mg/L	2989	21.2	mg/kg	0.71%
K 766.514	7805.9	4.089	0.0129	mg/L	408.8	1.29	mg/kg	0.31%
Li 670.781	916.9	0.010	0.0002	mg/L	0.992	0.0225	mg/kg	2.27%
Mg 279.074	125702.1	103.8	0.17	mg/L	10380	17.2	mg/kg	0.17%
Mn 257.610	74722.7	0.998	0.0034	mg/L	99.80	0.335	mg/kg	0.34%
Mo 202.031	47.4	0.013	0.0113	mg/L	1.336	1.1288	mg/kg	84.51%
Na 588.995	101286.0	1.647	0.0336	mg/L	164.7	3.36	mg/kg	2.04%
Ni 231.603	24.9	0.013	0.0018	mg/L	1.318	0.1847	mg/kg	14.01%
P 178.221	15.2	0.707	0.0758	mg/L	70.70	7.580	mg/kg	10.72%
Pb 220.353	14.1	0.045	0.0054	mg/L	4.503	0.5409	mg/kg	12.01%
Sb 206.833	-54.9	-0.091	0.0238	mg/L	-9.103	2.3765	mg/kg	26.11%
Se 196.026	1.7	-0.005	0.0621	mg/L	-0.513	6.2054	mg/kg	>999.9%
Si 251.611	46309.6	11.13	0.044	mg/L	1113	4.4	mg/kg	0.40%
Sn 189.933	58.3	-0.673	0.0306	mg/L	-67.29	3.064	mg/kg	4.55%
Sr 407.771	76027.2	0.095	0.0007	mg/L	9.531	0.0666	mg/kg	0.70%
Ti 334.941	75405.5	0.796	0.0026	mg/L	79.57	0.262	mg/kg	0.33%

Tl 190.800	-1.0	0.003	0.0445 mg/L	0.345	4.4518 mg/kg	>999.9%
V 292.402	932.7	0.072	0.0005 mg/L	7.177	0.0490 mg/kg	0.68%
Zn 206.200	149.9	0.068	0.0024 mg/L	6.818	0.2420 mg/kg	3.55%

Replicate Data

ID: 305055 Date: 5/20/02 19:49:07

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	479281.3	479281.3	92	mg/kg		
1	Y 360.064	241476.7	241476.7	91	mg/kg		
1	Ag 328.068	-35.0	-38.2	-0.022	mg/L	-2.228	mg/kg
1	Al 396.140	42012.3	45866.1	14.87	mg/L	1488	mg/kg
1	As 188.979	2.3	2.5	0.065	mg/L	6.515	mg/kg
1	B 249.773	1071.9	1170.2	-0.026	mg/L	-2.585	mg/kg
1	Ba 455.403	28634.3	31260.8	0.097	mg/L	9.659	mg/kg
1	Be 234.861	380.4	415.3	0.000	mg/L	-0.029	mg/kg
1	Ca 315.887	2153079.3	2350579.2	241.7	mg/L	24180	mg/kg
1	Cd 214.438	10.1	11.1	-0.003	mg/L	-0.291	mg/kg
1	Co 228.616	93.0	101.5	0.026	mg/L	2.647	mg/kg
1	Cr 205.558	51.3	56.0	0.072	mg/L	7.165	mg/kg
1	Cu 324.764	593.2	647.6	0.028	mg/L	2.791	mg/kg
1	Fe 238.204	308126.5	336390.7	36.39	mg/L	3640	mg/kg
1	K 766.514	5394.9	5889.8	3.348	mg/L	334.9	mg/kg
1	Li 670.781	833.7	910.1	0.010	mg/L	0.987	mg/kg
1	Mg 279.074	147398.9	160919.7	132.9	mg/L	13290	mg/kg
1	Mn 257.610	90950.6	99293.4	1.327	mg/L	132.7	mg/kg
1	Mo 202.031	52.3	57.1	0.028	mg/L	2.772	mg/kg
1	Na 588.995	98087.7	107085.2	1.994	mg/L	199.5	mg/kg
1	Ni 231.603	26.5	29.1	0.015	mg/L	1.537	mg/kg
1	P 178.221	20.7	22.6	1.064	mg/L	106.4	mg/kg
1	Pb 220.353	9.1	9.9	0.031	mg/L	3.056	mg/kg
1	Sb 206.833	-41.5	-45.3	-0.033	mg/L	-3.267	mg/kg
1	Se 196.026	8.7	9.5	0.103	mg/L	10.27	mg/kg
1	Si 251.611	50495.3	55127.2	13.24	mg/L	1325	mg/kg
1	Sn 189.933	49.1	53.6	-0.887	mg/L	-88.72	mg/kg
1	Sr 407.771	84735.4	92508.1	0.116	mg/L	11.56	mg/kg
1	Ti 334.941	90297.8	98580.8	1.042	mg/L	104.3	mg/kg
1	Tl 190.800	0.4	0.4	0.050	mg/L	4.954	mg/kg
1	V 292.402	1052.4	1148.9	0.088	mg/L	8.764	mg/kg
1	Zn 206.200	170.4	186.0	0.086	mg/L	8.631	mg/kg
2	Sc 357.253	477663.1	477663.1	91	mg/kg		
2	Y 360.064	240575.9	240575.9	91	mg/kg		
2	Ag 328.068	13.3	14.6	-0.020	mg/L	-1.950	mg/kg
2	Al 396.140	41729.9	45712.1	14.82	mg/L	1483	mg/kg
2	As 188.979	-1.6	-1.7	0.032	mg/L	3.170	mg/kg
2	B 249.773	1044.8	1144.5	-0.029	mg/L	-2.917	mg/kg
2	Ba 455.403	28469.9	31186.7	0.097	mg/L	9.655	mg/kg
2	Be 234.861	366.2	401.1	0.000	mg/L	-0.050	mg/kg
2	Ca 315.887	2173247.6	2380635.6	244.8	mg/L	24490	mg/kg
2	Cd 214.438	20.3	22.3	-0.001	mg/L	-0.090	mg/kg
2	Co 228.616	91.7	100.5	0.026	mg/L	2.619	mg/kg
2	Cr 205.558	48.9	53.5	0.070	mg/L	6.976	mg/kg
2	Cu 324.764	555.2	608.1	0.025	mg/L	2.517	mg/kg
2	Fe 238.204	310988.4	340665.3	36.86	mg/L	3686	mg/kg
2	K 766.514	5328.7	5837.2	3.328	mg/L	332.9	mg/kg
2	Li 670.781	1058.7	1159.7	0.012	mg/L	1.186	mg/kg
2	Mg 279.074	148626.1	162809.2	134.5	mg/L	13450	mg/kg
2	Mn 257.610	90265.1	98878.9	1.321	mg/L	132.2	mg/kg
2	Mo 202.031	40.0	43.9	0.008	mg/L	0.813	mg/kg
2	Na 588.995	97987.3	107338.0	2.010	mg/L	201.0	mg/kg
2	Ni 231.603	49.8	54.9	0.029	mg/L	2.865	mg/kg
2	P 178.221	14.6	16.0	0.748	mg/L	74.85	mg/kg
2	Pb 220.353	16.5	18.1	0.059	mg/L	5.926	mg/kg
2	Sb 206.833	-48.0	-52.6	-0.077	mg/L	-7.686	mg/kg
2	Se 196.026	9.6	10.5	0.116	mg/L	11.61	mg/kg
2	Si 251.611	50025.7	54799.5	13.15	mg/L	1316	mg/kg
2	Sn 189.933	51.7	56.7	-0.877	mg/L	-87.70	mg/kg
2	Sr 407.771	85681.4	93857.7	0.117	mg/L	11.73	mg/kg
2	Ti 334.941	89669.0	98225.9	1.039	mg/L	103.9	mg/kg

2 Tl 190.800	3.1	3.4	0.131 mg/L	13.11 mg/kg	
2 V 292.402	1048.5	1148.5	0.088 mg/L	8.761 mg/kg	
2 Zn 206.200	182.7	200.2	0.093 mg/L	9.343 mg/kg	

Mean Data ----------

ID: 305055 Seq. No.: 88 Sample No.: 60 A/S Pos: 76
Sample Qty: 0.4999 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 19:49:07

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	478472.2	91	0.2	mg/kg				0.24%
Y 360.064	241026.3	91	0.2	mg/kg				0.26%
Ag 328.068	-11.8	-0.021	0.0020	mg/L	-2.089	0.1964	mg/kg	9.40%
Al 396.140	45789.1	14.85	0.036	mg/L	1485	3.6	mg/kg	0.24%
As 188.979	0.4	0.048	0.0236	mg/L	4.842	2.3652	mg/kg	48.84%
B 249.773	1157.4	-0.028	0.0023	mg/L	-2.751	0.2345	mg/kg	8.52%
Ba 455.403	31223.8	0.097	0.0000	mg/L	9.657	0.0022	mg/kg	0.02%
Be 234.861	408.2	0.000	0.0001	mg/L	-0.040	0.0144	mg/kg	36.33%
Ca 315.887	2365607.4	243.3	2.19	mg/L	24330	218.7	mg/kg	0.90%
Cd 214.438	16.7	-0.002	0.0014	mg/L	-0.191	0.1419	mg/kg	74.42%
Co 228.616	101.0	0.026	0.0002	mg/L	2.633	0.0201	mg/kg	0.76%
Cr 205.558	54.8	0.071	0.0013	mg/L	7.071	0.1336	mg/kg	1.89%
Cu 324.764	627.9	0.027	0.0019	mg/L	2.654	0.1937	mg/kg	7.30%
Fe 238.204	338528.0	36.63	0.327	mg/L	3663	32.7	mg/kg	0.89%
K 766.514	5863.5	3.338	0.0144	mg/L	333.9	1.44	mg/kg	0.43%
Li 670.781	1034.9	0.011	0.0014	mg/L	1.087	0.1410	mg/kg	12.98%
Mg 279.074	161864.4	133.7	1.10	mg/L	13370	110.4	mg/kg	0.83%
Mn 257.610	99086.1	1.324	0.0039	mg/L	132.4	0.39	mg/kg	0.30%
Mo 202.031	50.5	0.018	0.0138	mg/L	1.793	1.3853	mg/kg	77.27%
Na 588.995	107211.6	2.002	0.0107	mg/L	200.2	1.07	mg/kg	0.53%
Ni 231.603	42.0	0.022	0.0094	mg/L	2.201	0.9390	mg/kg	42.67%
P 178.221	19.3	0.906	0.2232	mg/L	90.64	22.327	mg/kg	24.63%
Pb 220.353	14.0	0.045	0.0203	mg/L	4.491	2.0294	mg/kg	45.19%
Sb 206.833	-49.0	-0.055	0.0312	mg/L	-5.476	3.1251	mg/kg	57.06%
Se 196.026	10.0	0.109	0.0095	mg/L	10.94	0.949	mg/kg	8.67%
Si 251.611	54963.4	13.20	0.064	mg/L	1320	6.4	mg/kg	0.49%
Sn 189.933	55.1	-0.882	0.0072	mg/L	-88.21	0.723	mg/kg	0.82%
Sr 407.771	93182.9	0.116	0.0012	mg/L	11.64	0.117	mg/kg	1.01%
Ti 334.941	98403.3	1.041	0.0023	mg/L	104.1	0.23	mg/kg	0.22%
Tl 190.800	1.9	0.090	0.0577	mg/L	9.032	5.7683	mg/kg	63.86%
V 292.402	1148.7	0.088	0.0000	mg/L	8.762	0.0021	mg/kg	0.02%
Zn 206.200	193.1	0.090	0.0050	mg/L	8.987	0.5029	mg/kg	5.60%

Replicate Data ----------

ID: CCV Date: 5/20/02 19:53:17

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	494296.8	494296.8	94	mg/kg		
1	Y 360.064	250441.8	250441.8	94	mg/kg		
1	Ag 328.068	10814.2	11447.6	0.582	mg/L	582.2	mg/kg
1	Al 396.140	7238.9	7662.8	2.494	mg/L	2494	mg/kg
1	As 188.979	297.7	315.1	2.508	mg/L	2508	mg/kg
1	B 249.773	4458.3	4719.4	0.400	mg/L	400.5	mg/kg
1	Ba 455.403	177207.3	187585.5	0.502	mg/L	502.3	mg/kg
1	Be 234.861	4615.4	4885.7	0.049	mg/L	49.13	mg/kg
1	Ca 315.887	47966.1	50775.2	5.127	mg/L	5127	mg/kg
1	Cd 214.438	2520.5	2668.1	0.508	mg/L	508.4	mg/kg
1	Co 228.616	1718.1	1818.8	0.508	mg/L	508.0	mg/kg
1	Cr 205.558	517.7	548.1	0.517	mg/L	517.4	mg/kg
1	Cu 324.764	7353.7	7784.4	0.507	mg/L	506.9	mg/kg
1	Fe 238.204	4422.9	4681.9	0.493	mg/L	493.2	mg/kg
1	K 766.514	9578.2	10139.1	4.990	mg/L	4990	mg/kg
1	Li 670.781	59059.7	62518.5	0.502	mg/L	502.0	mg/kg
1	Mg 279.074	5823.5	6164.6	5.083	mg/L	5083	mg/kg
1	Mn 257.610	36029.1	38139.1	0.509	mg/L	508.8	mg/kg
1	Mo 202.031	373.3	395.2	0.528	mg/L	528.5	mg/kg
1	Na 588.995	155087.9	164170.7	5.410	mg/L	5410	mg/kg
1	Ni 231.603	940.1	995.5	0.513	mg/L	512.6	mg/kg
1	P 178.221	49.2	52.1	2.486	mg/L	2486	mg/kg

1	Pb 220.353	132.4	140.2	0.489 mg/L	489.0 mg/kg
1	Sb 206.833	357.6	378.6	2.545 mg/L	2545 mg/kg
1	Se 196.026	178.2	188.7	2.568 mg/L	2568 mg/kg
1	Si 251.611	10092.3	10683.3	2.534 mg/L	2534 mg/kg
1	Sn 189.933	469.0	496.5	2.513 mg/L	2513 mg/kg
1	Sr 407.771	383476.1	405934.5	0.501 mg/L	500.6 mg/kg
1	Ti 334.941	47481.5	50262.3	0.510 mg/L	509.8 mg/kg
1	Tl 190.800	86.9	92.0	2.456 mg/L	2456 mg/kg
1	V 292.402	6501.4	6882.1	0.507 mg/L	507.4 mg/kg
1	Zn 206.200	985.8	1043.5	0.517 mg/L	516.7 mg/kg
2	Sc 357.253	492749.4	492749.4	94 mg/kg	
2	Y 360.064	249655.4	249655.4	94 mg/kg	
2	Ag 328.068	10849.8	11521.3	0.586 mg/L	586.1 mg/kg
2	Al 396.140	7272.7	7722.7	2.514 mg/L	2514 mg/kg
2	As 188.979	301.5	320.2	2.548 mg/L	2548 mg/kg
2	B 249.773	4484.7	4762.3	0.405 mg/L	405.1 mg/kg
2	Ba 455.403	178491.5	189538.2	0.508 mg/L	507.5 mg/kg
2	Be 234.861	4629.3	4915.8	0.049 mg/L	49.43 mg/kg
2	Ca 315.887	48272.9	51260.5	5.177 mg/L	5177 mg/kg
2	Cd 214.438	2539.7	2696.9	0.514 mg/L	513.7 mg/kg
2	Co 228.616	1738.0	1845.6	0.515 mg/L	515.5 mg/kg
2	Cr 205.558	519.1	551.2	0.521 mg/L	520.5 mg/kg
2	Cu 324.764	7356.2	7811.4	0.509 mg/L	508.7 mg/kg
2	Fe 238.204	4462.2	4738.3	0.499 mg/L	499.3 mg/kg
2	K 766.514	9639.6	10236.2	5.028 mg/L	5028 mg/kg
2	Li 670.781	59619.1	63308.9	0.508 mg/L	508.3 mg/kg
2	Mg 279.074	5875.2	6238.8	5.144 mg/L	5144 mg/kg
2	Mn 257.610	36247.1	38490.4	0.514 mg/L	513.5 mg/kg
2	Mo 202.031	372.3	395.4	0.529 mg/L	528.8 mg/kg
2	Na 588.995	155370.0	164985.7	5.459 mg/L	5459 mg/kg
2	Ni 231.603	923.6	981.1	0.505 mg/L	505.2 mg/kg
2	P 178.221	52.0	55.3	2.636 mg/L	2636 mg/kg
2	Pb 220.353	148.5	157.6	0.551 mg/L	550.6 mg/kg
2	Sb 206.833	356.0	378.0	2.542 mg/L	2542 mg/kg
2	Se 196.026	178.5	189.6	2.581 mg/L	2581 mg/kg
2	Si 251.611	10113.4	10739.3	2.548 mg/L	2548 mg/kg
2	Sn 189.933	475.3	504.7	2.562 mg/L	2562 mg/kg
2	Sr 407.771	386355.8	410267.1	0.506 mg/L	506.0 mg/kg
2	Ti 334.941	47704.4	50656.8	0.514 mg/L	514.4 mg/kg
2	Tl 190.800	89.2	94.7	2.530 mg/L	2530 mg/kg
2	V 292.402	6510.6	6913.6	0.510 mg/L	509.7 mg/kg
2	Zn 206.200	984.8	1045.7	0.518 mg/L	517.8 mg/kg

Mean Data

ID: CCV
Sample Qty: 1.0000 g

Seq. No.: 89 Sample No.: 9 A/S Pos: 4
Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 19:53:17

Element	Mean Corr. Intensity	Mean Conc.	Std.Dev.	Calib Units	Mean Conc.	Std.Dev.	Sample Units	RSD
Sc 357.253	493523.1	94	0.2	mg/kg				0.22%
Y 360.064	250048.6	94	0.2	mg/kg				0.22%
Ag 328.068	11484.4	0.584	0.0027	mg/L	584.1	2.74	mg/kg	0.47%
*QC exceeds upper limit for Ag 328.068 Recovery = 116.82% Action = Continue								
Al 396.140	7692.8	2.504	0.0137	mg/L	2504	13.7	mg/kg	0.55%
As 188.979	317.6	2.528	0.0280	mg/L	2528	28.0	mg/kg	1.11%
B 249.773	4740.8	0.403	0.0033	mg/L	402.8	3.28	mg/kg	0.81%
*QC exceeds lower limit for B 249.773 Recovery = 80.56% Action = Continue								
Ba 455.403	188561.9	0.505	0.0037	mg/L	504.9	3.71	mg/kg	0.73%
Be 234.861	4900.7	0.049	0.0002	mg/L	49.28	0.212	mg/kg	0.43%
Ca 315.887	51017.8	5.152	0.0353	mg/L	5152	35.3	mg/kg	0.69%
Cd 214.438	2682.5	0.511	0.0038	mg/L	511.1	3.79	mg/kg	0.74%
Co 228.616	1832.2	0.512	0.0053	mg/L	511.7	5.32	mg/kg	1.04%
Cr 205.558	549.6	0.519	0.0022	mg/L	519.0	2.22	mg/kg	0.43%
Cu 324.764	7797.9	0.508	0.0012	mg/L	507.8	1.25	mg/kg	0.25%
Fe 238.204	4710.1	0.496	0.0043	mg/L	496.2	4.31	mg/kg	0.87%
K 766.514	10187.7	5.009	0.0265	mg/L	5009	26.5	mg/kg	0.53%
Li 670.781	62913.7	0.505	0.0045	mg/L	505.2	4.46	mg/kg	0.88%
Mg 279.074	6201.7	5.114	0.0433	mg/L	5114	43.3	mg/kg	0.85%
Mn 257.610	38314.8	0.511	0.0033	mg/L	511.2	3.32	mg/kg	0.65%
Mo 202.031	395.3	0.529	0.0002	mg/L	528.6	0.20	mg/kg	0.04%

Na 588.995	164578.2	5.434	0.0345 mg/L	5434	34.5 mg/kg	0.63%
Ni 231.603	988.3	0.509	0.0052 mg/L	508.9	5.23 mg/kg	1.03%
P 178.221	53.7	2.561	0.1064 mg/L	2561	106.4 mg/kg	4.15%
Pb 220.353	148.9	0.520	0.0435 mg/L	519.8	43.54 mg/kg	8.38%
Sb 206.833	378.3	2.543	0.0024 mg/L	2543	2.4 mg/kg	0.09%
Se 196.026	189.1	2.575	0.0091 mg/L	2575	9.1 mg/kg	0.35%
Si 251.611	10711.3	2.541	0.0101 mg/L	2541	10.1 mg/kg	0.40%
Sn 189.933	500.6	2.538	0.0348 mg/L	2538	34.8 mg/kg	1.37%
Sr 407.771	408100.8	0.503	0.0038 mg/L	503.3	3.76 mg/kg	0.75%
Ti 334.941	50459.6	0.512	0.0032 mg/L	512.1	3.24 mg/kg	0.63%
Tl 190.800	93.3	2.493	0.0520 mg/L	2493	52.0 mg/kg	2.08%
V 292.402	6897.8	0.509	0.0016 mg/L	508.6	1.63 mg/kg	0.32%
Zn 206.200	1044.6	0.517	0.0008 mg/L	517.3	0.78 mg/kg	0.15%

Replicate Data ----------

ID: CCB Date: 5/20/02 19:57:24

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	488348.7	488348.7	93	mg/kg		
1	Y 360.064	247545.1	247545.1	93	mg/kg		
1	Ag 328.068	144.7	155.1	-0.012	mg/L	-12.11	mg/kg
1	Al 396.140	-202.6	-217.0	-0.044	mg/L	-44.16	mg/kg
1	As 188.979	-7.4	-8.0	-0.017	mg/L	-17.14	mg/kg
1	B 249.773	240.8	258.0	-0.083	mg/L	-83.11	mg/kg
1	Ba 455.403	795.1	851.9	0.001	mg/L	0.694	mg/kg
1	Be 234.861	-13.2	-14.1	0.000	mg/L	0.359	mg/kg
1	Ca 315.887	779.1	834.8	-0.011	mg/L	-11.25	mg/kg
1	Cd 214.438	-74.1	-79.3	-0.003	mg/L	-2.623	mg/kg
1	Co 228.616	0.9	0.9	-0.002	mg/L	-1.727	mg/kg
1	Cr 205.558	23.4	25.1	0.003	mg/L	2.754	mg/kg
1	Cu 324.764	-41.1	-44.0	-0.003	mg/L	-2.924	mg/kg
1	Fe 238.204	168.7	180.8	0.006	mg/L	5.995	mg/kg
1	K 766.514	-2921.2	-3129.9	-0.137	mg/L	-137.4	mg/kg
1	Li 670.781	-94.6	-101.4	0.002	mg/L	1.786	mg/kg
1	Mg 279.074	16.0	17.1	0.005	mg/L	5.207	mg/kg
1	Mn 257.610	-34.1	-36.5	-0.002	mg/L	-1.789	mg/kg
1	Mo 202.031	43.8	46.9	0.013	mg/L	12.64	mg/kg
1	Na 588.995	75967.7	81396.3	0.457	mg/L	457.4	mg/kg
1	Ni 231.603	0.5	0.5	0.001	mg/L	0.660	mg/kg
1	P 178.221	-3.7	-4.0	-0.216	mg/L	-216.4	mg/kg
1	Pb 220.353	3.2	3.4	0.008	mg/L	7.623	mg/kg
1	Sb 206.833	-36.9	-39.5	0.003	mg/L	2.790	mg/kg
1	Se 196.026	-0.7	-0.7	-0.039	mg/L	-38.84	mg/kg
1	Si 251.611	523.6	561.0	-0.047	mg/L	-46.60	mg/kg
1	Sn 189.933	80.1	85.8	0.067	mg/L	67.30	mg/kg
1	Sr 407.771	-2009.8	-2153.4	-0.001	mg/L	-0.716	mg/kg
1	Ti 334.941	652.4	699.0	-0.003	mg/L	-3.274	mg/kg
1	Tl 190.800	1.4	1.5	0.035	mg/L	34.92	mg/kg
1	V 292.402	-27.5	-29.5	0.001	mg/L	1.327	mg/kg
1	Zn 206.200	11.0	11.8	-0.001	mg/L	-1.139	mg/kg
2	Sc 357.253	481271.4	481271.4	92	mg/kg		
2	Y 360.064	243844.7	243844.7	92	mg/kg		
2	Ag 328.068	62.6	68.1	-0.017	mg/L	-16.68	mg/kg
2	Al 396.140	-119.8	-130.2	-0.016	mg/L	-16.00	mg/kg
2	As 188.979	-9.0	-9.8	-0.031	mg/L	-31.49	mg/kg
2	B 249.773	227.7	247.5	-0.084	mg/L	-84.24	mg/kg
2	Ba 455.403	792.4	861.5	0.001	mg/L	0.720	mg/kg
2	Be 234.861	-19.5	-21.2	0.000	mg/L	0.289	mg/kg
2	Ca 315.887	697.0	757.7	-0.019	mg/L	-19.18	mg/kg
2	Cd 214.438	-76.4	-83.1	-0.003	mg/L	-3.319	mg/kg
2	Co 228.616	-6.4	-6.9	-0.004	mg/L	-3.937	mg/kg
2	Cr 205.558	26.7	29.1	0.007	mg/L	6.687	mg/kg
2	Cu 324.764	-79.6	-86.5	-0.006	mg/L	-5.690	mg/kg
2	Fe 238.204	164.8	179.1	0.006	mg/L	5.816	mg/kg
2	K 766.514	-2989.4	-3250.1	-0.184	mg/L	-183.9	mg/kg
2	Li 670.781	-4.7	-5.2	0.003	mg/L	2.554	mg/kg
2	Mg 279.074	19.7	21.4	0.009	mg/L	8.761	mg/kg
2	Mn 257.610	-51.7	-56.2	-0.002	mg/L	-2.052	mg/kg
2	Mo 202.031	38.8	42.2	0.006	mg/L	5.631	mg/kg

2 Na 588.995	76089.0	82725.1	0.537 mg/L	537.0 mg/kg
2 Ni 231.603	6.5	7.1	0.004 mg/L	4.024 mg/kg
2 P 178.221	-0.1	-0.1	-0.027 mg/L	-27.41 mg/kg
2 Pb 220.353	15.5	16.8	0.055 mg/L	54.77 mg/kg
2 Sb 206.833	-49.7	-54.0	-0.085 mg/L	-85.42 mg/kg
2 Se 196.026	8.6	9.4	0.100 mg/L	100.3 mg/kg
2 Si 251.611	530.7	576.9	-0.043 mg/L	-42.54 mg/kg
2 Sn 189.933	81.1	88.2	0.081 mg/L	81.49 mg/kg
2 Sr 407.771	-1972.4	-2144.5	-0.001 mg/L	-0.705 mg/kg
2 Ti 334.941	764.5	831.1	-0.002 mg/L	-1.906 mg/kg
2 Tl 190.800	-0.0	-0.0	-0.006 mg/L	-5.660 mg/kg
2 V 292.402	-9.5	-10.3	0.003 mg/L	2.730 mg/kg
2 Zn 206.200	16.9	18.3	0.002 mg/L	2.133 mg/kg

Mean Data ----------

ID: CCB Seq. No.: 90 Sample No.: 10 A/S Pos: 1
Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 19:57:24

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	484810.0	93	1.0	mg/kg				1.03%
Y 360.064	245694.9	93	1.0	mg/kg				1.06%
Ag 328.068	111.6	-0.014	0.0032	mg/L	-14.40	3.237	mg/kg	22.49%
*QC exceeds lower limit for Ag 328.068 Action = Continue								
Al 396.140	-173.6	-0.030	0.0199	mg/L	-30.08	19.908	mg/kg	66.19%
As 188.979	-8.9	-0.024	0.0102	mg/L	-24.31	10.151	mg/kg	41.75%
B 249.773	252.8	-0.084	0.0008	mg/L	-83.67	0.805	mg/kg	0.96%
Ba 455.403	856.7	0.001	0.0000	mg/L	0.707	0.0183	mg/kg	2.59%
Be 234.861	-17.6	0.000	0.0000	mg/L	0.324	0.0495	mg/kg	15.28%
Ca 315.887	796.3	-0.015	0.0056	mg/L	-15.21	5.608	mg/kg	36.86%
Cd 214.438	-81.2	-0.003	0.0005	mg/L	-2.971	0.4918	mg/kg	16.55%
Co 228.616	-3.0	-0.003	0.0016	mg/L	-2.832	1.5628	mg/kg	55.18%
Cr 205.558	27.1	0.005	0.0028	mg/L	4.721	2.7810	mg/kg	58.91%
Cu 324.764	-65.3	-0.004	0.0020	mg/L	-4.307	1.9556	mg/kg	45.40%
Fe 238.204	180.0	0.006	0.0001	mg/L	5.906	0.1263	mg/kg	2.14%
K 766.514	-3190.0	-0.161	0.0328	mg/L	-160.7	32.84	mg/kg	20.44%
*QC exceeds lower limit for K 766.514 Action = Continue								
Li 670.781	-53.3	0.002	0.0005	mg/L	2.170	0.5435	mg/kg	25.04%
Mg 279.074	19.3	0.007	0.0025	mg/L	6.984	2.5128	mg/kg	35.98%
Mn 257.610	-46.4	-0.002	0.0002	mg/L	-1.921	0.1858	mg/kg	9.68%
Mo 202.031	44.5	0.009	0.0050	mg/L	9.136	4.9567	mg/kg	54.25%
Na 588.995	82060.7	0.497	0.0562	mg/L	497.2	56.22	mg/kg	11.31%
Ni 231.603	3.8	0.002	0.0024	mg/L	2.342	2.3784	mg/kg	101.56%
P 178.221	-2.0	-0.122	0.1336	mg/L	-121.9	133.61	mg/kg	109.62%
Pb 220.353	10.1	0.031	0.0333	mg/L	31.20	33.341	mg/kg	106.87%
Sb 206.833	-46.8	-0.041	0.0624	mg/L	-41.32	62.378	mg/kg	150.97%
Se 196.026	4.3	0.031	0.0984	mg/L	30.74	98.395	mg/kg	320.10%
Si 251.611	569.0	-0.045	0.0029	mg/L	-44.57	2.869	mg/kg	6.44%
Sn 189.933	87.0	0.074	0.0100	mg/L	74.39	10.034	mg/kg	13.49%
Sr 407.771	-2148.9	-0.001	0.0000	mg/L	-0.711	0.0078	mg/kg	1.10%
Ti 334.941	765.1	-0.003	0.0010	mg/L	-2.590	0.9672	mg/kg	37.34%
Tl 190.800	0.7	0.015	0.0287	mg/L	14.63	28.697	mg/kg	196.13%
V 292.402	-19.9	0.002	0.0010	mg/L	2.028	0.9922	mg/kg	48.92%
Zn 206.200	15.1	0.000	0.0023	mg/L	0.497	2.3139	mg/kg	465.63%

Replicate Data ----------

ID: Hg_ReAlign Date: 5/20/02 20:00:36

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Hg 253.652	78760.3	78760.3				

Replicate Data ----------

ID: 305056 Date: 5/20/02 20:02:07

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	477763.3	477763.3	91	mg/kg		
1 Y 360.064	240070.7	240070.7	91	mg/kg		

1	Ag 328.068	69.1	75.7	-0.016 mg/L	-1.627 mg/kg
1	Al 396.140	33375.8	36553.1	11.85 mg/L	1184 mg/kg
1	As 188.979	4.8	5.2	0.086 mg/L	8.588 mg/kg
1	B 249.773	849.1	930.0	-0.040 mg/L	-3.953 mg/kg
1	Ba 455.403	24002.3	26287.2	0.081 mg/L	8.103 mg/kg
1	Be 234.861	259.8	284.6	-0.001 mg/L	-0.060 mg/kg
1	Ca 315.887	1992183.8	2181835.4	224.4 mg/L	22420 mg/kg
1	Cd 214.438	-6.1	-6.7	-0.004 mg/L	-0.416 mg/kg
1	Co 228.616	41.6	45.6	0.011 mg/L	1.078 mg/kg
1	Cr 205.558	44.7	49.0	0.059 mg/L	5.897 mg/kg
1	Cu 324.764	395.7	433.4	0.016 mg/L	1.591 mg/kg
1	Fe 238.204	223006.5	244236.2	26.42 mg/L	2640 mg/kg
1	K 766.514	4680.9	5126.5	3.053 mg/L	305.1 mg/kg
1	Li 670.781	806.8	883.7	0.010 mg/L	0.965 mg/kg
1	Mg 279.074	126483.3	138524.2	114.4 mg/L	11430 mg/kg
1	Mn 257.610	68477.5	74996.4	1.002 mg/L	100.1 mg/kg
1	Mo 202.031	44.8	49.1	0.016 mg/L	1.589 mg/kg
1	Na 588.995	96182.9	105339.4	1.890 mg/L	188.8 mg/kg
1	Ni 231.603	23.8	26.2	0.014 mg/L	1.388 mg/kg
1	P 178.221	11.2	12.3	0.566 mg/L	56.58 mg/kg
1	Pb 220.353	106.0	116.1	0.404 mg/L	40.40 mg/kg
1	Sb 206.833	-53.8	-58.9	-0.115 mg/L	-11.50 mg/kg
1	Se 196.026	-0.6	-0.6	-0.037 mg/L	-3.733 mg/kg
1	Si 251.611	49374.2	54074.5	13.06 mg/L	1305 mg/kg
1	Sn 189.933	49.8	54.5	-0.734 mg/L	-73.36 mg/kg
1	Sr 407.771	82910.2	90803.1	0.113 mg/L	11.34 mg/kg
1	Ti 334.941	78401.8	85865.5	0.908 mg/L	90.69 mg/kg
1	Tl 190.800	5.8	6.3	0.202 mg/L	20.21 mg/kg
1	V 292.402	912.0	998.9	0.077 mg/L	7.657 mg/kg
1	Zn 206.200	141.7	155.2	0.071 mg/L	7.079 mg/kg
2	Sc 357.253	477767.7	477767.7	91 mg/kg	
2	Y 360.064	240322.1	240322.1	91 mg/kg	
2	Ag 328.068	49.2	53.9	-0.017 mg/L	-1.742 mg/kg
2	Al 396.140	33603.3	36801.9	11.93 mg/L	1192 mg/kg
2	As 188.979	6.7	7.4	0.103 mg/L	10.28 mg/kg
2	B 249.773	865.4	947.8	-0.038 mg/L	-3.805 mg/kg
2	Ba 455.403	24184.0	26486.0	0.082 mg/L	8.167 mg/kg
2	Be 234.861	261.2	286.0	-0.001 mg/L	-0.063 mg/kg
2	Ca 315.887	2014864.6	2206655.1	226.9 mg/L	22680 mg/kg
2	Cd 214.438	7.6	8.3	-0.001 mg/L	-0.148 mg/kg
2	Co 228.616	47.4	51.9	0.013 mg/L	1.255 mg/kg
2	Cr 205.558	54.2	59.3	0.070 mg/L	6.953 mg/kg
2	Cu 324.764	382.5	418.9	0.015 mg/L	1.493 mg/kg
2	Fe 238.204	225915.3	247419.6	26.77 mg/L	2674 mg/kg
2	K 766.514	4596.3	5033.8	3.017 mg/L	301.5 mg/kg
2	Li 670.781	730.5	800.0	0.009 mg/L	0.898 mg/kg
2	Mg 279.074	126886.5	138964.5	114.8 mg/L	11470 mg/kg
2	Mn 257.610	68748.6	75292.6	1.006 mg/L	100.5 mg/kg
2	Mo 202.031	51.6	56.6	0.027 mg/L	2.692 mg/kg
2	Na 588.995	96182.8	105338.2	1.890 mg/L	188.8 mg/kg
2	Ni 231.603	26.4	29.1	0.015 mg/L	1.536 mg/kg
2	P 178.221	7.3	8.0	0.360 mg/L	35.93 mg/kg
2	Pb 220.353	110.3	120.8	0.421 mg/L	42.06 mg/kg
2	Sb 206.833	-48.5	-53.1	-0.080 mg/L	-7.964 mg/kg
2	Se 196.026	10.5	11.5	0.130 mg/L	12.94 mg/kg
2	Si 251.611	49643.4	54368.9	13.14 mg/L	1312 mg/kg
2	Sn 189.933	45.2	49.5	-0.762 mg/L	-76.14 mg/kg
2	Sr 407.771	83848.2	91829.5	0.115 mg/L	11.47 mg/kg
2	Ti 334.941	78899.9	86410.2	0.914 mg/L	91.28 mg/kg
2	Tl 190.800	-0.9	-1.0	0.008 mg/L	0.759 mg/kg
2	V 292.402	941.4	1031.0	0.079 mg/L	7.892 mg/kg
2	Zn 206.200	159.2	174.3	0.080 mg/L	8.037 mg/kg

Mean Data ----------

ID: 305056 Seq. No.: 92 Sample No.: 61 A/S Pos: 77

Sample Qty: 0.5004 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 20:02:07

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	477765.5	91	0.0	mg/kg				0.00%

Y 360.064	240196.4	91	0.1 mg/kg			0.07%
Ag 328.068	64.8	-0.017	0.0008 mg/L	-1.684	0.0812 mg/kg	4.82%
Al 396.140	36677.5	11.89	0.057 mg/L	1188	5.7 mg/kg	0.48%
As 188.979	6.3	0.094	0.0120 mg/L	9.433	1.1950 mg/kg	12.67%
B 249.773	938.9	-0.039	0.0011 mg/L	-3.879	0.1052 mg/kg	2.71%
Ba 455.403	26386.6	0.081	0.0005 mg/L	8.135	0.0453 mg/kg	0.56%
Be 234.861	285.3	-0.001	0.0000 mg/L	-0.061	0.0024 mg/kg	3.88%
Ca 315.887	2194245.2	225.7	1.81 mg/L	22550	180.4 mg/kg	0.80%
Cd 214.438	0.8	-0.003	0.0019 mg/L	-0.282	0.1901 mg/kg	67.42%
Co 228.616	48.8	0.012	0.0013 mg/L	1.167	0.1249 mg/kg	10.71%
Cr 205.558	54.1	0.064	0.0075 mg/L	6.425	0.7470 mg/kg	11.63%
Cu 324.764	426.1	0.015	0.0007 mg/L	1.542	0.0693 mg/kg	4.49%
Fe 238.204	245827.9	26.59	0.244 mg/L	2657	24.3 mg/kg	0.92%
K 766.514	5080.2	3.035	0.0253 mg/L	303.3	2.53 mg/kg	0.83%
Li 670.781	841.8	0.009	0.0005 mg/L	0.931	0.0472 mg/kg	5.07%
Mg 279.074	138744.4	114.6	0.26 mg/L	11450	25.7 mg/kg	0.22%
Mn 257.610	75144.5	1.004	0.0028 mg/L	100.3	0.28 mg/kg	0.28%
Mo 202.031	52.8	0.021	0.0078 mg/L	2.141	0.7797 mg/kg	36.42%
Na 588.995	105338.8	1.890	0.0000 mg/L	188.8	0.00 mg/kg	0.00%
Ni 231.603	27.7	0.015	0.0010 mg/L	1.462	0.1044 mg/kg	7.14%
P 178.221	10.1	0.463	0.1462 mg/L	46.25	14.606 mg/kg	31.58%
Pb 220.353	118.4	0.413	0.0117 mg/L	41.23	1.174 mg/kg	2.85%
Sb 206.833	-56.0	-0.097	0.0250 mg/L	-9.731	2.4999 mg/kg	25.69%
Se 196.026	5.4	0.046	0.1180 mg/L	4.604	11.7901 mg/kg	256.08%
Si 251.611	54221.7	13.10	0.052 mg/L	1309	5.2 mg/kg	0.40%
Sn 189.933	52.0	-0.748	0.0197 mg/L	-74.75	1.970 mg/kg	2.64%
Sr 407.771	91316.3	0.114	0.0009 mg/L	11.40	0.089 mg/kg	0.78%
Ti 334.941	86137.8	0.911	0.0042 mg/L	90.98	0.419 mg/kg	0.46%
Tl 190.800	2.7	0.105	0.1377 mg/L	10.49	13.757 mg/kg	131.19%
V 292.402	1014.9	0.078	0.0017 mg/L	7.774	0.1661 mg/kg	2.14%
Zn 206.200	164.8	0.076	0.0068 mg/L	7.558	0.6777 mg/kg	8.97%

Replicate Data ----------

ID: 305057 Date: 5/20/02 20:06:17

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	479837.0	479837.0	92	mg/kg		
1	Y 360.064	241629.3	241629.3	91	mg/kg		
1	Ag 328.068	-48.0	-52.4	-0.023	mg/L	-2.304	mg/kg
1	Al 396.140	52234.5	56959.8	18.47	mg/L	1848	mg/kg
1	As 188.979	3.1	3.4	0.072	mg/L	7.175	mg/kg
1	B 249.773	1146.2	1249.8	-0.020	mg/L	-1.968	mg/kg
1	Ba 455.403	38320.6	41787.2	0.126	mg/L	12.64	mg/kg
1	Be 234.861	396.4	432.3	0.000	mg/L	-0.041	mg/kg
1	Ca 315.887	2277830.8	2483894.3	255.5	mg/L	25560	mg/kg
1	Cd 214.438	33.9	37.0	-0.001	mg/L	-0.071	mg/kg
1	Co 228.616	79.9	87.2	0.022	mg/L	2.246	mg/kg
1	Cr 205.558	58.2	63.5	0.081	mg/L	8.124	mg/kg
1	Cu 324.764	800.8	873.2	0.042	mg/L	4.203	mg/kg
1	Fe 238.204	325955.9	355443.4	38.46	mg/L	3848	mg/kg
1	K 766.514	10475.0	11422.6	5.486	mg/L	549.0	mg/kg
1	Li 670.781	1168.0	1273.7	0.013	mg/L	1.278	mg/kg
1	Mg 279.074	153721.9	167628.3	138.5	mg/L	13850	mg/kg
1	Mn 257.610	96739.9	105491.4	1.410	mg/L	141.1	mg/kg
1	Mo 202.031	45.1	49.2	0.016	mg/L	1.601	mg/kg
1	Na 588.995	96935.1	105704.3	1.912	mg/L	191.3	mg/kg
1	Ni 231.603	46.1	50.6	0.026	mg/L	2.644	mg/kg
1	P 178.221	20.2	22.0	1.036	mg/L	103.6	mg/kg
1	Pb 220.353	5.3	5.8	0.016	mg/L	1.588	mg/kg
1	Sb 206.833	-43.3	-47.2	-0.044	mg/L	-4.408	mg/kg
1	Se 196.026	-0.3	-0.3	-0.033	mg/L	-3.275	mg/kg
1	Si 251.611	66016.4	71988.5	17.52	mg/L	1753	mg/kg
1	Sn 189.933	44.6	48.6	-0.940	mg/L	-94.04	mg/kg
1	Sr 407.771	89950.1	98087.5	0.122	mg/L	12.25	mg/kg
1	Ti 334.941	100764.0	109879.6	1.162	mg/L	116.2	mg/kg
1	Tl 190.800	1.0	1.1	0.070	mg/L	7.039	mg/kg
1	V 292.402	1090.1	1188.8	0.091	mg/L	9.059	mg/kg
1	Zn 206.200	176.9	192.9	0.090	mg/L	8.982	mg/kg
2	Sc 357.253	479371.3	479371.3	92	mg/kg		

2 Y 360.064	241803.1	241803.1	91 mg/kg	
2 Ag 328.068	-7.4	-8.1	-0.021 mg/L	-2.070 mg/kg
2 Al 396.140	52573.7	57385.5	18.61 mg/L	1862 mg/kg
2 As 188.979	12.2	13.3	0.149 mg/L	14.92 mg/kg
2 B 249.773	1161.4	1267.7	-0.018 mg/L	-1.809 mg/kg
2 Ba 455.403	38583.0	42114.3	0.127 mg/L	12.74 mg/kg
2 Be 234.861	411.6	449.2	0.000 mg/L	-0.028 mg/kg
2 Ca 315.887	2297251.5	2507505.5	257.9 mg/L	25800 mg/kg
2 Cd 214.438	34.0	37.1	-0.001 mg/L	-0.085 mg/kg
2 Co 228.616	92.0	100.4	0.026 mg/L	2.619 mg/kg
2 Cr 205.558	69.9	76.2	0.094 mg/L	9.420 mg/kg
2 Cu 324.764	812.6	887.0	0.043 mg/L	4.281 mg/kg
2 Fe 238.204	328166.2	358201.3	38.76 mg/L	3878 mg/kg
2 K 766.514	10532.7	11496.7	5.515 mg/L	551.8 mg/kg
2 Li 670.781	1360.9	1485.4	0.014 mg/L	1.447 mg/kg
2 Mg 279.074	154777.1	168942.9	139.5 mg/L	13960 mg/kg
2 Mn 257.610	97170.0	106063.5	1.417 mg/L	141.8 mg/kg
2 Mo 202.031	38.9	42.5	0.006 mg/L	0.615 mg/kg
2 Na 588.995	97085.2	105970.8	1.928 mg/L	192.9 mg/kg
2 Ni 231.603	48.9	53.6	0.028 mg/L	2.800 mg/kg
2 P 178.221	19.0	20.7	0.975 mg/L	97.58 mg/kg
2 Pb 220.353	20.3	22.2	0.074 mg/L	7.371 mg/kg
2 Sb 206.833	-48.4	-52.8	-0.078 mg/L	-7.836 mg/kg
2 Se 196.026	8.0	8.7	0.091 mg/L	9.099 mg/kg
2 Si 251.611	66447.0	72528.5	17.65 mg/L	1766 mg/kg
2 Sn 189.933	45.7	49.9	-0.937 mg/L	-93.75 mg/kg
2 Sr 407.771	90918.0	99239.2	0.124 mg/L	12.39 mg/kg
2 Ti 334.941	101356.5	110633.0	1.170 mg/L	117.0 mg/kg
2 Tl 190.800	1.7	1.9	0.091 mg/L	9.121 mg/kg
2 V 292.402	1056.2	1152.8	0.088 mg/L	8.795 mg/kg
2 Zn 206.200	185.6	202.6	0.095 mg/L	9.467 mg/kg

Mean Data

ID: 305057 Seq. No.: 93 Sample No.: 62 A/S Pos: 78
Sample Qty: 0.4997 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 20:06:17

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	479604.2	92	0.1	mg/kg				0.07%
Y 360.064	241716.2	91	0.0	mg/kg				0.05%
Ag 328.068	-30.2	-0.022	0.0016	mg/L	-2.187	0.1650	mg/kg	7.55%
Al 396.140	57172.7	18.54	0.097	mg/L	1855	9.7	mg/kg	0.53%
As 188.979	8.3	0.110	0.0547	mg/L	11.05	5.476	mg/kg	49.57%
B 249.773	1258.8	-0.019	0.0011	mg/L	-1.889	0.1126	mg/kg	5.96%
Ba 455.403	41950.8	0.127	0.0007	mg/L	12.69	0.072	mg/kg	0.57%
Be 234.861	440.8	0.000	0.0001	mg/L	-0.034	0.0089	mg/kg	25.85%
Ca 315.887	2495699.9	256.7	1.72	mg/L	25680	171.9	mg/kg	0.67%
Cd 214.438	37.0	-0.001	0.0001	mg/L	-0.078	0.0100	mg/kg	12.81%
Co 228.616	93.8	0.024	0.0026	mg/L	2.432	0.2632	mg/kg	10.82%
Cr 205.558	69.9	0.088	0.0092	mg/L	8.772	0.9159	mg/kg	10.44%
Cu 324.764	880.1	0.042	0.0006	mg/L	4.242	0.0551	mg/kg	1.30%
Fe 238.204	356822.3	38.61	0.211	mg/L	3863	21.1	mg/kg	0.55%
K 766.514	11459.7	5.501	0.0203	mg/L	550.4	2.03	mg/kg	0.37%
Li 670.781	1379.6	0.014	0.0012	mg/L	1.362	0.1197	mg/kg	8.78%
Mg 279.074	168285.6	139.0	0.77	mg/L	13910	76.8	mg/kg	0.55%
Mn 257.610	105777.4	1.414	0.0054	mg/L	141.4	0.54	mg/kg	0.38%
Mo 202.031	45.8	0.011	0.0070	mg/L	1.108	0.6978	mg/kg	62.97%
Na 588.995	105837.6	1.920	0.0113	mg/L	192.1	1.13	mg/kg	0.59%
Ni 231.603	52.1	0.027	0.0011	mg/L	2.722	0.1104	mg/kg	4.06%
P 178.221	21.4	1.005	0.0427	mg/L	100.6	4.27	mg/kg	4.24%
Pb 220.353	14.0	0.045	0.0409	mg/L	4.480	4.0896	mg/kg	91.29%
Sb 206.833	-50.0	-0.061	0.0242	mg/L	-6.122	2.4240	mg/kg	39.59%
Se 196.026	4.2	0.029	0.0874	mg/L	2.912	8.7498	mg/kg	300.50%
Si 251.611	72258.5	17.58	0.094	mg/L	1759	9.4	mg/kg	0.53%
Sn 189.933	49.3	-0.938	0.0021	mg/L	-93.90	0.206	mg/kg	0.22%
Sr 407.771	98663.3	0.123	0.0010	mg/L	12.32	0.100	mg/kg	0.81%
Ti 334.941	110256.3	1.166	0.0057	mg/L	116.6	0.57	mg/kg	0.49%
Tl 190.800	1.5	0.081	0.0147	mg/L	8.080	1.4718	mg/kg	18.22%
V 292.402	1170.8	0.089	0.0019	mg/L	8.927	0.1862	mg/kg	2.09%
Zn 206.200	197.7	0.092	0.0034	mg/L	9.225	0.3429	mg/kg	3.72%

Replicate Data ----------

ID: 305058 Date: 5/20/02 20:10:27

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	481289.8	481289.8	92	mg/kg		
1	Y 360.064	241779.4	241779.4	91	mg/kg		
1	Ag 328.068	-17.4	-18.9	-0.021	mg/L	-2.128	mg/kg
1	Al 396.140	54021.9	58731.2	19.04	mg/L	1906	mg/kg
1	As 188.979	3.4	3.8	0.075	mg/L	7.462	mg/kg
1	B 249.773	1107.1	1203.6	-0.023	mg/L	-2.315	mg/kg
1	Ba 455.403	37465.5	40731.5	0.124	mg/L	12.40	mg/kg
1	Be 234.861	387.7	421.5	0.000	mg/L	-0.049	mg/kg
1	Ca 315.887	2359817.7	2565530.6	263.9	mg/L	26410	mg/kg
1	Cd 214.438	34.4	37.4	-0.001	mg/L	-0.075	mg/kg
1	Co 228.616	80.7	87.7	0.023	mg/L	2.262	mg/kg
1	Cr 205.558	58.9	64.1	0.082	mg/L	8.230	mg/kg
1	Cu 324.764	755.5	821.3	0.038	mg/L	3.794	mg/kg
1	Fe 238.204	319175.1	346998.6	37.54	mg/L	3757	mg/kg
1	K 766.514	8105.8	8812.4	4.478	mg/L	448.1	mg/kg
1	Li 670.781	1329.6	1445.5	0.014	mg/L	1.415	mg/kg
1	Mg 279.074	161566.1	175650.4	145.1	mg/L	14520	mg/kg
1	Mn 257.610	94172.3	102381.6	1.368	mg/L	136.9	mg/kg
1	Mo 202.031	55.5	60.3	0.033	mg/L	3.254	mg/kg
1	Na 588.995	103049.4	112032.6	2.290	mg/L	229.2	mg/kg
1	Ni 231.603	32.0	35.1	0.018	mg/L	1.847	mg/kg
1	P 178.221	23.5	25.5	1.205	mg/L	120.6	mg/kg
1	Pb 220.353	19.1	20.7	0.069	mg/L	6.864	mg/kg
1	Sb 206.833	-52.1	-56.7	-0.102	mg/L	-10.16	mg/kg
1	Se 196.026	10.3	11.2	0.126	mg/L	12.63	mg/kg
1	Si 251.611	65294.2	70986.1	17.23	mg/L	1724	mg/kg
1	Sn 189.933	46.4	50.4	-0.976	mg/L	-97.69	mg/kg
1	Sr 407.771	98431.9	107012.5	0.133	mg/L	13.35	mg/kg
1	Ti 334.941	114097.6	124043.8	1.309	mg/L	131.0	mg/kg
1	Tl 190.800	5.1	5.5	0.192	mg/L	19.18	mg/kg
1	V 292.402	1100.3	1196.3	0.091	mg/L	9.116	mg/kg
1	Zn 206.200	163.1	177.3	0.082	mg/L	8.198	mg/kg
2	Sc 357.253	476706.5	476706.5	91	mg/kg		
2	Y 360.064	239671.5	239671.5	90	mg/kg		
2	Ag 328.068	42.7	46.8	-0.018	mg/L	-1.782	mg/kg
2	Al 396.140	54475.8	59794.0	19.39	mg/L	1940	mg/kg
2	As 188.979	2.6	2.9	0.068	mg/L	6.782	mg/kg
2	B 249.773	1102.9	1210.6	-0.023	mg/L	-2.286	mg/kg
2	Ba 455.403	37686.5	41365.7	0.126	mg/L	12.59	mg/kg
2	Be 234.861	422.9	464.1	0.000	mg/L	-0.013	mg/kg
2	Ca 315.887	2367653.3	2598797.2	267.3	mg/L	26750	mg/kg
2	Cd 214.438	23.3	25.6	-0.003	mg/L	-0.321	mg/kg
2	Co 228.616	52.2	57.3	0.014	mg/L	1.409	mg/kg
2	Cr 205.558	63.5	69.7	0.088	mg/L	8.837	mg/kg
2	Cu 324.764	751.6	824.9	0.038	mg/L	3.801	mg/kg
2	Fe 238.204	319627.2	350831.1	37.96	mg/L	3799	mg/kg
2	K 766.514	8160.7	8957.3	4.534	mg/L	453.7	mg/kg
2	Li 670.781	1102.4	1210.0	0.012	mg/L	1.227	mg/kg
2	Mg 279.074	161780.2	177574.1	146.7	mg/L	14680	mg/kg
2	Mn 257.610	94653.6	103894.2	1.388	mg/L	138.9	mg/kg
2	Mo 202.031	45.0	49.4	0.016	mg/L	1.629	mg/kg
2	Na 588.995	103099.7	113164.9	2.358	mg/L	236.0	mg/kg
2	Ni 231.603	54.3	60.1	0.031	mg/L	3.134	mg/kg
2	P 178.221	23.1	25.4	1.199	mg/L	120.0	mg/kg
2	Pb 220.353	17.0	18.6	0.061	mg/L	6.124	mg/kg
2	Sb 206.833	-56.5	-62.0	-0.134	mg/L	-13.43	mg/kg
2	Se 196.026	2.6	2.9	0.011	mg/L	1.112	mg/kg
2	Si 251.611	65800.5	72224.3	17.54	mg/L	1755	mg/kg
2	Sn 189.933	52.7	57.9	-0.939	mg/L	-93.93	mg/kg
2	Sr 407.771	98381.9	107986.5	0.135	mg/L	13.47	mg/kg
2	Ti 334.941	115138.8	126379.3	1.334	mg/L	133.5	mg/kg
2	Tl 190.800	-0.2	-0.2	0.038	mg/L	3.762	mg/kg
2	V 292.402	1135.1	1245.9	0.095	mg/L	9.480	mg/kg
2	Zn 206.200	166.0	182.2	0.084	mg/L	8.444	mg/kg

Mean Data ----------

ID: 305058
Sample Qty: 0.4996 g
Seq. No.: 94 Sample No.: 63 A/S Pos: 79
Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 20:10:27

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	478998.1	92	0.6	mg/kg				0.68%
Y 360.064	240725.4	91	0.6	mg/kg				0.62%
Ag 328.068	14.0	-0.020	0.0024	mg/L	-1.955	0.2447	mg/kg	12.52%
Al 396.140	59262.6	19.22	0.243	mg/L	1923	24.4	mg/kg	1.27%
As 188.979	3.3	0.071	0.0048	mg/L	7.122	0.4811	mg/kg	6.76%
B 249.773	1207.1	-0.023	0.0002	mg/L	-2.300	0.0203	mg/kg	0.88%
Ba 455.403	41048.6	0.125	0.0013	mg/L	12.50	0.135	mg/kg	1.08%
Be 234.861	442.8	0.000	0.0003	mg/L	-0.031	0.0257	mg/kg	82.59%
Ca 315.887	2582163.9	265.6	2.42	mg/L	26580	242.2	mg/kg	0.91%
Cd 214.438	31.5	-0.002	0.0017	mg/L	-0.198	0.1746	mg/kg	88.16%
Co 228.616	72.5	0.018	0.0060	mg/L	1.835	0.6030	mg/kg	32.86%
Cr 205.558	66.9	0.085	0.0043	mg/L	8.534	0.4289	mg/kg	5.03%
Cu 324.764	823.1	0.038	0.0000	mg/L	3.798	0.0045	mg/kg	0.12%
Fe 238.204	348914.8	37.75	0.293	mg/L	3778	29.4	mg/kg	0.78%
K 766.514	8884.9	4.506	0.0396	mg/L	450.9	3.96	mg/kg	0.88%
Li 670.781	1327.8	0.013	0.0013	mg/L	1.321	0.1331	mg/kg	10.07%
Mg 279.074	176612.2	145.9	1.12	mg/L	14600	112.4	mg/kg	0.77%
Mn 257.610	103137.9	1.378	0.0143	mg/L	137.9	1.43	mg/kg	1.04%
Mo 202.031	54.8	0.024	0.0115	mg/L	2.441	1.1494	mg/kg	47.08%
Na 588.995	112598.7	2.324	0.0479	mg/L	232.6	4.79	mg/kg	2.06%
Ni 231.603	47.6	0.025	0.0091	mg/L	2.490	0.9097	mg/kg	36.53%
P 178.221	25.5	1.202	0.0038	mg/L	120.3	0.38	mg/kg	0.31%
Pb 220.353	19.7	0.065	0.0052	mg/L	6.494	0.5234	mg/kg	8.06%
Sb 206.833	-59.3	-0.118	0.0231	mg/L	-11.80	2.312	mg/kg	19.60%
Se 196.026	7.1	0.069	0.0814	mg/L	6.872	8.1456	mg/kg	118.54%
Si 251.611	71605.2	17.38	0.218	mg/L	1740	21.8	mg/kg	1.25%
Sn 189.933	54.1	-0.957	0.0266	mg/L	-95.81	2.660	mg/kg	2.78%
Sr 407.771	107499.5	0.134	0.0008	mg/L	13.41	0.085	mg/kg	0.63%
Ti 334.941	125211.6	1.322	0.0174	mg/L	132.3	1.74	mg/kg	1.32%
Tl 190.800	2.7	0.115	0.1089	mg/L	11.47	10.901	mg/kg	95.04%
V 292.402	1221.1	0.093	0.0026	mg/L	9.298	0.2575	mg/kg	2.77%
Zn 206.200	179.7	0.083	0.0017	mg/L	8.321	0.1742	mg/kg	2.09%

Replicate Data ----------

ID: 305059 Date: 5/20/02 20:14:38

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	484057.5	484057.5	93	mg/kg		
1	Y 360.064	243526.6	243526.6	92	mg/kg		
1	Ag 328.068	91.0	98.3	-0.015	mg/L	-1.511	mg/kg
1	Al 396.140	25345.0	27396.8	8.893	mg/L	890.2	mg/kg
1	As 188.979	-5.0	-5.4	0.003	mg/L	0.268	mg/kg
1	B 249.773	748.3	808.9	-0.052	mg/L	-5.167	mg/kg
1	Ba 455.403	17820.9	19263.6	0.059	mg/L	5.865	mg/kg
1	Be 234.861	224.6	242.8	0.000	mg/L	-0.004	mg/kg
1	Ca 315.887	1372221.5	1483312.4	152.5	mg/L	15270	mg/kg
1	Cd 214.438	-4.4	-4.8	-0.001	mg/L	-0.054	mg/kg
1	Co 228.616	44.3	47.9	0.011	mg/L	1.144	mg/kg
1	Cr 205.558	49.9	53.9	0.055	mg/L	5.480	mg/kg
1	Cu 324.764	306.2	331.0	0.013	mg/L	1.288	mg/kg
1	Fe 238.204	181577.7	196277.7	21.23	mg/L	2125	mg/kg
1	K 766.514	5219.0	5641.5	3.252	mg/L	325.6	mg/kg
1	Li 670.781	577.8	624.6	0.008	mg/L	0.759	mg/kg
1	Mg 279.074	90355.4	97670.3	80.67	mg/L	8075	mg/kg
1	Mn 257.610	60808.3	65731.2	0.878	mg/L	87.88	mg/kg
1	Mo 202.031	41.7	45.1	0.010	mg/L	0.998	mg/kg
1	Na 588.995	92274.6	99744.9	1.555	mg/L	155.7	mg/kg
1	Ni 231.603	15.1	16.4	0.009	mg/L	0.884	mg/kg
1	P 178.221	20.4	22.0	1.037	mg/L	103.8	mg/kg
1	Pb 220.353	7.7	8.3	0.025	mg/L	2.489	mg/kg
1	Sb 206.833	-48.3	-52.2	-0.074	mg/L	-7.445	mg/kg
1	Se 196.026	6.6	7.1	0.070	mg/L	6.957	mg/kg
1	Si 251.611	42049.6	45453.8	11.02	mg/L	1103	mg/kg

1 Sn 189.933	57.6	62.3	-0.522 mg/L	-52.20 mg/kg	
1 Sr 407.771	49535.7	53545.9	0.068 mg/L	6.778 mg/kg	
1 Ti 334.941	64820.7	70068.4	0.735 mg/L	73.54 mg/kg	
1 Tl 190.800	3.2	3.4	0.087 mg/L	8.661 mg/kg	
1 V 292.402	849.2	918.0	0.071 mg/L	7.078 mg/kg	
1 Zn 206.200	96.4	104.2	0.045 mg/L	4.530 mg/kg	
2 Sc 357.253	485270.7	485270.7	93 mg/kg		
2 Y 360.064	244404.6	244404.6	92 mg/kg		
2 Ag 328.068	19.6	21.1	-0.019 mg/L	-1.918 mg/kg	
2 Al 396.140	25589.9	27592.4	8.956 mg/L	896.5 mg/kg	
2 As 188.979	-0.2	-0.2	0.044 mg/L	4.360 mg/kg	
2 B 249.773	755.9	815.0	-0.051 mg/L	-5.117 mg/kg	
2 Ba 455.403	18030.6	19441.6	0.059 mg/L	5.918 mg/kg	
2 Be 234.861	210.6	227.1	0.000 mg/L	-0.021 mg/kg	
2 Ca 315.887	1383571.6	1491842.6	153.4 mg/L	15350 mg/kg	
2 Cd 214.438	-3.7	-3.9	0.000 mg/L	-0.046 mg/kg	
2 Co 228.616	33.4	36.0	0.008 mg/L	0.810 mg/kg	
2 Cr 205.558	35.1	37.8	0.039 mg/L	3.904 mg/kg	
2 Cu 324.764	294.2	317.2	0.012 mg/L	1.194 mg/kg	
2 Fe 238.204	183033.6	197356.8	21.35 mg/L	2137 mg/kg	
2 K 766.514	5305.8	5721.0	3.283 mg/L	328.6 mg/kg	
2 Li 670.781	582.1	627.6	0.008 mg/L	0.762 mg/kg	
2 Mg 279.074	91046.8	98171.7	81.08 mg/L	8116 mg/kg	
2 Mn 257.610	61274.8	66069.8	0.882 mg/L	88.33 mg/kg	
2 Mo 202.031	46.6	50.2	0.018 mg/L	1.758 mg/kg	
2 Na 588.995	92224.3	99441.3	1.537 mg/L	153.9 mg/kg	
2 Ni 231.603	16.2	17.5	0.009 mg/L	0.943 mg/kg	
2 P 178.221	6.9	7.5	0.337 mg/L	33.71 mg/kg	
2 Pb 220.353	10.3	11.1	0.035 mg/L	3.477 mg/kg	
2 Sb 206.833	-50.1	-54.1	-0.086 mg/L	-8.577 mg/kg	
2 Se 196.026	6.8	7.4	0.073 mg/L	7.281 mg/kg	
2 Si 251.611	42477.0	45801.0	11.11 mg/L	1112 mg/kg	
2 Sn 189.933	54.4	58.7	-0.545 mg/L	-54.59 mg/kg	
2 Sr 407.771	50071.2	53989.5	0.068 mg/L	6.833 mg/kg	
2 Ti 334.941	64818.5	69890.9	0.733 mg/L	73.37 mg/kg	
2 Tl 190.800	-1.2	-1.3	-0.039 mg/L	-3.896 mg/kg	
2 V 292.402	889.4	959.0	0.074 mg/L	7.378 mg/kg	
2 Zn 206.200	91.2	98.4	0.042 mg/L	4.236 mg/kg	

Mean Data ----------

ID: 305059 Seq. No.: 95 Sample No.: 64 A/S Pos: 80
Sample Qty: 0.4995 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 20:14:38

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	484664.1	93	0.2	mg/kg				0.18%
Y 360.064	243965.6	92	0.2	mg/kg				0.25%
Ag 328.068	59.7	-0.017	0.0029	mg/L	-1.714	0.2877	mg/kg	16.78%
Al 396.140	27494.6	8.925	0.0448	mg/L	893.4	4.48	mg/kg	0.50%
As 188.979	-2.8	0.023	0.0289	mg/L	2.314	2.8937	mg/kg	125.06%
B 249.773	812.0	-0.051	0.0004	mg/L	-5.142	0.0358	mg/kg	0.70%
Ba 455.403	19352.6	0.059	0.0004	mg/L	5.891	0.0371	mg/kg	0.63%
Be 234.861	235.0	0.000	0.0001	mg/L	-0.013	0.0122	mg/kg	95.75%
Ca 315.887	1487577.5	153.0	0.62	mg/L	15310	62.1	mg/kg	0.41%
Cd 214.438	-4.4	0.000	0.0001	mg/L	-0.050	0.0055	mg/kg	11.02%
Co 228.616	41.9	0.010	0.0024	mg/L	0.977	0.2357	mg/kg	24.12%
Cr 205.558	45.9	0.047	0.0111	mg/L	4.692	1.1141	mg/kg	23.75%
Cu 324.764	324.1	0.012	0.0007	mg/L	1.241	0.0668	mg/kg	5.38%
Fe 238.204	196817.3	21.29	0.083	mg/L	2131	8.3	mg/kg	0.39%
K 766.514	5681.3	3.268	0.0217	mg/L	327.1	2.18	mg/kg	0.67%
Li 670.781	626.1	0.008	0.0000	mg/L	0.760	0.0017	mg/kg	0.22%
Mg 279.074	97921.0	80.87	0.293	mg/L	8095	29.3	mg/kg	0.36%
Mn 257.610	65900.5	0.880	0.0032	mg/L	88.11	0.321	mg/kg	0.36%
Mo 202.031	47.7	0.014	0.0054	mg/L	1.378	0.5377	mg/kg	39.02%
Na 588.995	99593.1	1.546	0.0128	mg/L	154.8	1.29	mg/kg	0.83%
Ni 231.603	17.0	0.009	0.0004	mg/L	0.913	0.0418	mg/kg	4.58%
P 178.221	14.8	0.687	0.4954	mg/L	68.77	49.591	mg/kg	72.11%
Pb 220.353	9.7	0.030	0.0070	mg/L	2.983	0.6987	mg/kg	23.42%
Sb 206.833	-53.1	-0.080	0.0080	mg/L	-8.011	0.8008	mg/kg	10.00%
Se 196.026	7.2	0.071	0.0023	mg/L	7.119	0.2287	mg/kg	3.21%

Si 251.611	45627.4	11.06	0.061 mg/L	1108	6.1 mg/kg	0.55%
Sn 189.933	60.5	-0.533	0.0168 mg/L	-53.39	1.685 mg/kg	3.16%
Sr 407.771	53767.7	0.068	0.0004 mg/L	6.805	0.0386 mg/kg	0.57%
Ti 334.941	69979.7	0.734	0.0012 mg/L	73.46	0.122 mg/kg	0.17%
Tl 190.800	1.1	0.024	0.0887 mg/L	2.382	8.8790 mg/kg	372.68%
V 292.402	938.5	0.072	0.0021 mg/L	7.228	0.2124 mg/kg	2.94%
Zn 206.200	101.3	0.044	0.0021 mg/L	4.383	0.2078 mg/kg	4.74%

Replicate Data ----------

ID: 305060 Date: 5/20/02 20:18:49

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	474496.9	474496.9	91	mg/kg		
1	Y 360.064	240026.8	240026.8	91	mg/kg		
1	Ag 328.068	70.1	77.3	-0.016	mg/L	-1.619	mg/kg
1	Al 396.140	26940.8	29708.6	9.642	mg/L	963.4	mg/kg
1	As 188.979	-5.9	-6.5	-0.006	mg/L	-0.564	mg/kg
1	B 249.773	742.5	818.7	-0.053	mg/L	-5.261	mg/kg
1	Ba 455.403	18290.8	20169.9	0.062	mg/L	6.159	mg/kg
1	Be 234.861	225.1	248.3	0.000	mg/L	-0.020	mg/kg
1	Ca 315.887	1438992.8	1586830.7	163.2	mg/L	16300	mg/kg
1	Cd 214.438	-17.2	-19.0	-0.004	mg/L	-0.404	mg/kg
1	Co 228.616	51.7	57.0	0.014	mg/L	1.399	mg/kg
1	Cr 205.558	41.9	46.2	0.049	mg/L	4.874	mg/kg
1	Cu 324.764	296.5	327.0	0.012	mg/L	1.193	mg/kg
1	Fe 238.204	191176.1	210816.9	22.80	mg/L	2279	mg/kg
1	K 766.514	5485.7	6049.2	3.410	mg/L	340.7	mg/kg
1	Li 670.781	593.5	654.5	0.008	mg/L	0.782	mg/kg
1	Mg 279.074	95440.7	105246.0	86.92	mg/L	8685	mg/kg
1	Mn 257.610	53914.2	59453.1	0.794	mg/L	79.33	mg/kg
1	Mo 202.031	44.0	48.5	0.015	mg/L	1.505	mg/kg
1	Na 588.995	92254.3	101732.2	1.674	mg/L	167.3	mg/kg
1	Ni 231.603	15.4	17.0	0.009	mg/L	0.912	mg/kg
1	P 178.221	11.1	12.2	0.564	mg/L	56.32	mg/kg
1	Pb 220.353	3.3	3.7	0.008	mg/L	0.837	mg/kg
1	Sb 206.833	-39.6	-43.6	-0.022	mg/L	-2.238	mg/kg
1	Se 196.026	9.2	10.1	0.111	mg/L	11.10	mg/kg
1	Si 251.611	43997.0	48517.2	11.77	mg/L	1176	mg/kg
1	Sn 189.933	52.8	58.2	-0.584	mg/L	-58.33	mg/kg
1	Sr 407.771	57491.8	63398.3	0.080	mg/L	7.975	mg/kg
1	Ti 334.941	73964.4	81563.2	0.855	mg/L	85.44	mg/kg
1	Tl 190.800	-1.2	-1.3	-0.040	mg/L	-4.039	mg/kg
1	V 292.402	834.3	920.0	0.071	mg/L	7.080	mg/kg
1	Zn 206.200	101.5	112.0	0.049	mg/L	4.909	mg/kg
2	Sc 357.253	476669.0	476669.0	91	mg/kg		
2	Y 360.064	241256.2	241256.2	91	mg/kg		
2	Ag 328.068	92.2	101.3	-0.015	mg/L	-1.493	mg/kg
2	Al 396.140	27248.6	29911.1	9.707	mg/L	969.9	mg/kg
2	As 188.979	-1.6	-1.8	0.031	mg/L	3.139	mg/kg
2	B 249.773	738.8	810.9	-0.054	mg/L	-5.379	mg/kg
2	Ba 455.403	18505.8	20314.0	0.062	mg/L	6.205	mg/kg
2	Be 234.861	198.9	218.3	-0.001	mg/L	-0.053	mg/kg
2	Ca 315.887	1460264.4	1602949.8	164.8	mg/L	16470	mg/kg
2	Cd 214.438	-10.7	-11.7	-0.003	mg/L	-0.276	mg/kg
2	Co 228.616	41.5	45.6	0.011	mg/L	1.078	mg/kg
2	Cr 205.558	40.0	43.9	0.047	mg/L	4.673	mg/kg
2	Cu 324.764	283.3	311.0	0.011	mg/L	1.087	mg/kg
2	Fe 238.204	194195.9	213171.2	23.06	mg/L	2304	mg/kg
2	K 766.514	5724.7	6284.0	3.501	mg/L	349.8	mg/kg
2	Li 670.781	576.8	633.2	0.008	mg/L	0.765	mg/kg
2	Mg 279.074	96028.3	105411.4	87.06	mg/L	8699	mg/kg
2	Mn 257.610	54303.2	59609.3	0.796	mg/L	79.54	mg/kg
2	Mo 202.031	48.0	52.7	0.021	mg/L	2.124	mg/kg
2	Na 588.995	92434.0	101465.9	1.658	mg/L	165.7	mg/kg
2	Ni 231.603	12.0	13.1	0.007	mg/L	0.715	mg/kg
2	P 178.221	14.7	16.1	0.751	mg/L	75.05	mg/kg
2	Pb 220.353	-0.5	-0.5	-0.006	mg/L	-0.638	mg/kg
2	Sb 206.833	-47.3	-52.0	-0.073	mg/L	-7.285	mg/kg
2	Se 196.026	-1.3	-1.4	-0.048	mg/L	-4.754	mg/kg

2	Si 251.611	44513.3	48862.8	11.86 mg/L	1185 mg/kg
2	Sn 189.933	54.5	59.8	-0.571 mg/L	-57.10 mg/kg
2	Sr 407.771	58571.9	64295.1	0.081 mg/L	8.085 mg/kg
2	Ti 334.941	74641.3	81934.6	0.859 mg/L	85.85 mg/kg
2	Tl 190.800	-0.0	-0.0	-0.006 mg/L	-0.581 mg/kg
2	V 292.402	863.0	947.4	0.073 mg/L	7.280 mg/kg
2	Zn 206.200	113.3	124.3	0.055 mg/L	5.530 mg/kg

Mean Data ----------

ID: 305060 Seq. No.: 96 Sample No.: 65 A/S Pos: 81
Sample Qty: 0.5004 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 20:18:49

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	475583.0	91	0.3	mg/kg				0.32%
Y 360.064	240641.5	91	0.3	mg/kg				0.36%
Ag 328.068	89.3	-0.016	0.0009	mg/L	-1.556	0.0891	mg/kg	5.73%
Al 396.140	29809.8	9.674	0.0462	mg/L	966.7	4.61	mg/kg	0.48%
As 188.979	-4.1	0.013	0.0262	mg/L	1.287	2.6180	mg/kg	203.37%
B 249.773	814.8	-0.053	0.0008	mg/L	-5.320	0.0837	mg/kg	1.57%
Ba 455.403	20241.9	0.062	0.0003	mg/L	6.182	0.0321	mg/kg	0.52%
Be 234.861	233.3	0.000	0.0002	mg/L	-0.037	0.0235	mg/kg	63.90%
Ca 315.887	1594890.3	164.0	1.17	mg/L	16390	117.2	mg/kg	0.72%
Cd 214.438	-15.4	-0.003	0.0009	mg/L	-0.340	0.0904	mg/kg	26.60%
Co 228.616	51.3	0.012	0.0023	mg/L	1.239	0.2265	mg/kg	18.29%
Cr 205.558	45.0	0.048	0.0014	mg/L	4.773	0.1422	mg/kg	2.98%
Cu 324.764	319.0	0.011	0.0007	mg/L	1.140	0.0749	mg/kg	6.57%
Fe 238.204	211994.1	22.93	0.180	mg/L	2291	18.0	mg/kg	0.79%
K 766.514	6166.6	3.455	0.0642	mg/L	345.2	6.41	mg/kg	1.86%
Li 670.781	643.8	0.008	0.0001	mg/L	0.773	0.0120	mg/kg	1.56%
Mg 279.074	105328.7	86.99	0.097	mg/L	8692	9.7	mg/kg	0.11%
Mn 257.610	59531.2	0.795	0.0015	mg/L	79.44	0.148	mg/kg	0.19%
Mo 202.031	50.6	0.018	0.0044	mg/L	1.815	0.4380	mg/kg	24.14%
Na 588.995	101599.1	1.666	0.0113	mg/L	166.5	1.13	mg/kg	0.68%
Ni 231.603	15.1	0.008	0.0014	mg/L	0.814	0.1393	mg/kg	17.12%
P 178.221	14.1	0.657	0.1325	mg/L	65.68	13.240	mg/kg	20.16%
Pb 220.353	1.6	0.001	0.0104	mg/L	0.100	1.0430	mg/kg	>999.9%
Sb 206.833	-47.8	-0.048	0.0357	mg/L	-4.761	3.5693	mg/kg	74.96%
Se 196.026	4.4	0.032	0.1122	mg/L	3.171	11.2079	mg/kg	353.48%
Si 251.611	48690.0	11.82	0.062	mg/L	1181	6.2	mg/kg	0.52%
Sn 189.933	59.0	-0.578	0.0087	mg/L	-57.71	0.872	mg/kg	1.51%
Sr 407.771	63846.7	0.080	0.0008	mg/L	8.030	0.0778	mg/kg	0.97%
Ti 334.941	81748.9	0.857	0.0029	mg/L	85.65	0.285	mg/kg	0.33%
Tl 190.800	-0.7	-0.023	0.0245	mg/L	-2.310	2.4448	mg/kg	105.85%
V 292.402	933.7	0.072	0.0014	mg/L	7.180	0.1414	mg/kg	1.97%
Zn 206.200	118.1	0.052	0.0044	mg/L	5.219	0.4385	mg/kg	8.40%

Replicate Data ----------

ID: 305061 Date: 5/20/02 20:22:59

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	481641.4	481641.4	92	mg/kg		
1	Y 360.064	242251.3	242251.3	91	mg/kg		
1	Ag 328.068	54.7	59.4	-0.017	mg/L	-1.714	mg/kg
1	Al 396.140	36263.9	39396.3	12.78	mg/L	1277	mg/kg
1	As 188.979	5.5	6.0	0.092	mg/L	9.202	mg/kg
1	B 249.773	839.1	911.6	-0.041	mg/L	-4.109	mg/kg
1	Ba 455.403	24501.1	26617.5	0.081	mg/L	8.124	mg/kg
1	Be 234.861	269.0	292.2	0.000	mg/L	-0.036	mg/kg
1	Ca 315.887	1865462.0	2026599.7	208.4	mg/L	20840	mg/kg
1	Cd 214.438	-3.4	-3.7	-0.003	mg/L	-0.341	mg/kg
1	Co 228.616	46.6	50.6	0.012	mg/L	1.220	mg/kg
1	Cr 205.558	45.0	48.9	0.057	mg/L	5.714	mg/kg
1	Cu 324.764	368.4	400.2	0.014	mg/L	1.438	mg/kg
1	Fe 238.204	219946.8	238945.7	25.85	mg/L	2584	mg/kg
1	K 766.514	4982.4	5412.8	3.164	mg/L	316.3	mg/kg
1	Li 670.781	954.5	1037.0	0.011	mg/L	1.088	mg/kg
1	Mg 279.074	121084.1	131543.3	108.6	mg/L	10860	mg/kg
1	Mn 257.610	72011.4	78231.7	1.045	mg/L	104.5	mg/kg

1 Mo 202.031	49.2	53.5	0.022 mg/L	2.235 mg/kg	
1 Na 588.995	93728.0	101824.2	1.680 mg/L	167.9 mg/kg	
1 Ni 231.603	33.9	37.1	0.020 mg/L	1.950 mg/kg	
1 P 178.221	10.6	11.5	0.530 mg/L	52.99 mg/kg	
1 Pb 220.353	14.0	15.2	0.049 mg/L	4.891 mg/kg	
1 Sb 206.833	-49.2	-53.5	-0.082 mg/L	-8.210 mg/kg	
1 Se 196.026	5.9	6.4	0.060 mg/L	5.965 mg/kg	
1 Si 251.611	50758.8	55143.4	13.36 mg/L	1336 mg/kg	
1 Sn 189.933	54.1	58.8	-0.689 mg/L	-68.92 mg/kg	
1 Sr 407.771	76809.2	83443.9	0.104 mg/L	10.44 mg/kg	
1 Ti 334.941	85302.5	92670.9	0.976 mg/L	97.61 mg/kg	
1 Tl 190.800	6.5	7.1	0.221 mg/L	22.06 mg/kg	
1 V 292.402	836.5	908.8	0.070 mg/L	7.002 mg/kg	
1 Zn 206.200	114.1	123.9	0.055 mg/L	5.513 mg/kg	
2 Sc 357.253	478109.8	478109.8	91 mg/kg		
2 Y 360.064	240647.4	240647.4	91 mg/kg		
2 Ag 328.068	86.9	95.1	-0.015 mg/L	-1.526 mg/kg	
2 Al 396.140	36362.8	39795.5	12.91 mg/L	1290 mg/kg	
2 As 188.979	-3.9	-4.3	0.012 mg/L	1.151 mg/kg	
2 B 249.773	813.9	890.7	-0.044 mg/L	-4.367 mg/kg	
2 Ba 455.403	24596.7	26918.8	0.082 mg/L	8.217 mg/kg	
2 Be 234.861	268.5	293.8	0.000 mg/L	-0.038 mg/kg	
2 Ca 315.887	1873860.0	2050760.3	210.9 mg/L	21090 mg/kg	
2 Cd 214.438	10.7	11.7	-0.001 mg/L	-0.071 mg/kg	
2 Co 228.616	47.7	52.2	0.013 mg/L	1.265 mg/kg	
2 Cr 205.558	51.1	55.9	0.064 mg/L	6.437 mg/kg	
2 Cu 324.764	421.0	460.7	0.018 mg/L	1.822 mg/kg	
2 Fe 238.204	220749.0	241588.6	26.13 mg/L	2613 mg/kg	
2 K 766.514	5065.2	5543.4	3.214 mg/L	321.4 mg/kg	
2 Li 670.781	845.4	925.2	0.010 mg/L	0.998 mg/kg	
2 Mg 279.074	121283.5	132733.2	109.6 mg/L	10960 mg/kg	
2 Mn 257.610	72195.7	79011.2	1.056 mg/L	105.5 mg/kg	
2 Mo 202.031	37.5	41.0	0.004 mg/L	0.396 mg/kg	
2 Na 588.995	93928.2	102795.4	1.738 mg/L	173.7 mg/kg	
2 Ni 231.603	28.7	31.7	0.017 mg/L	1.668 mg/kg	
2 P 178.221	8.7	9.5	0.433 mg/L	43.31 mg/kg	
2 Pb 220.353	5.1	5.6	0.015 mg/L	1.516 mg/kg	
2 Sb 206.833	-54.4	-59.5	-0.119 mg/L	-11.88 mg/kg	
2 Se 196.026	1.2	1.3	-0.010 mg/L	-1.036 mg/kg	
2 Si 251.611	50966.3	55777.7	13.52 mg/L	1352 mg/kg	
2 Sn 189.933	48.7	53.3	-0.727 mg/L	-72.65 mg/kg	
2 Sr 407.771	77120.9	84401.5	0.106 mg/L	10.56 mg/kg	
2 Ti 334.941	85501.0	93572.7	0.986 mg/L	98.58 mg/kg	
2 Tl 190.800	3.4	3.7	0.131 mg/L	13.08 mg/kg	
2 V 292.402	866.4	948.2	0.073 mg/L	7.290 mg/kg	
2 Zn 206.200	108.6	118.9	0.053 mg/L	5.260 mg/kg	

Mean Data ----------

ID: 305061 Seq. No.: 97 Sample No.: 66 A/S Pos: 82
Sample Qty: 0.5001 g Prep. Vol.: 50.0 mL Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 20:22:59

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	479875.6	92	0.5	mg/kg				0.52%
Y 360.064	241449.4	91	0.4	mg/kg				0.47%
Ag 328.068	77.3	-0.016	0.0013	mg/L	-1.620	0.1328	mg/kg	8.20%
Al 396.140	39595.9	12.84	0.091	mg/L	1284	9.1	mg/kg	0.71%
As 188.979	0.8	0.052	0.0569	mg/L	5.177	5.6934	mg/kg	109.98%
B 249.773	901.1	-0.042	0.0018	mg/L	-4.238	0.1831	mg/kg	4.32%
Ba 455.403	26768.2	0.082	0.0007	mg/L	8.171	0.0660	mg/kg	0.81%
Be 234.861	293.0	0.000	0.0000	mg/L	-0.037	0.0019	mg/kg	5.15%
Ca 315.887	2038680.0	209.7	1.76	mg/L	20960	175.7	mg/kg	0.84%
Cd 214.438	4.0	-0.002	0.0019	mg/L	-0.206	0.1911	mg/kg	92.78%
Co 228.616	51.4	0.012	0.0003	mg/L	1.242	0.0316	mg/kg	2.55%
Cr 205.558	52.4	0.061	0.0051	mg/L	6.076	0.5114	mg/kg	8.42%
Cu 324.764	430.5	0.016	0.0027	mg/L	1.630	0.2713	mg/kg	16.65%
Fe 238.204	240267.1	25.99	0.202	mg/L	2599	20.2	mg/kg	0.78%
K 766.514	5478.1	3.189	0.0357	mg/L	318.8	3.57	mg/kg	1.12%
Li 670.781	981.1	0.010	0.0006	mg/L	1.043	0.0631	mg/kg	6.05%
Mg 279.074	132138.3	109.1	0.69	mg/L	10910	69.5	mg/kg	0.64%

Mn 257.610	78621.5	1.050	0.0074 mg/L	105.0	0.74 mg/kg	0.70%
Mo 202.031	47.3	0.013	0.0130 mg/L	1.316	1.3004 mg/kg	98.82%
Na 588.995	102309.8	1.709	0.0411 mg/L	170.8	4.11 mg/kg	2.40%
Ni 231.603	34.4	0.018	0.0020 mg/L	1.809	0.1991 mg/kg	11.01%
P 178.221	10.5	0.482	0.0685 mg/L	48.15	6.847 mg/kg	14.22%
Pb 220.353	10.4	0.032	0.0239 mg/L	3.204	2.3867 mg/kg	74.50%
Sb 206.833	-56.5	-0.100	0.0260 mg/L	-10.04	2.595 mg/kg	25.83%
Se 196.026	3.9	0.025	0.0495 mg/L	2.465	4.9500 mg/kg	200.85%
Si 251.611	55460.5	13.44	0.111 mg/L	1344	11.1 mg/kg	0.83%
Sn 189.933	56.1	-0.708	0.0264 mg/L	-70.78	2.637 mg/kg	3.73%
Sr 407.771	83922.7	0.105	0.0008 mg/L	10.50	0.083 mg/kg	0.79%
Ti 334.941	93121.8	0.981	0.0068 mg/L	98.09	0.682 mg/kg	0.70%
Tl 190.800	5.4	0.176	0.0635 mg/L	17.57	6.347 mg/kg	36.13%
V 292.402	928.5	0.071	0.0020 mg/L	7.146	0.2038 mg/kg	2.85%
Zn 206.200	121.4	0.054	0.0018 mg/L	5.386	0.1788 mg/kg	3.32%

Replicate Data ----------

ID: CRDL Date: 5/20/02 20:27:08

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	492932.4	492932.4	94	mg/kg		
1	Y 360.064	249755.5	249755.5	94	mg/kg		
1	Ag 328.068	396.0	420.4	0.002	mg/L	1.855	mg/kg
1	Al 396.140	398.9	423.5	0.164	mg/L	163.6	mg/kg
1	As 188.979	24.2	25.7	0.246	mg/L	246.2	mg/kg
1	B 249.773	1823.3	1935.4	0.099	mg/L	98.71	mg/kg
1	Ba 455.403	8013.5	8506.3	0.021	mg/L	21.26	mg/kg
1	Be 234.861	171.9	182.5	0.002	mg/L	2.316	mg/kg
1	Ca 315.887	9524.0	10109.7	0.943	mg/L	943.0	mg/kg
1	Cd 214.438	29.0	30.8	0.018	mg/L	17.86	mg/kg
1	Co 228.616	59.1	62.8	0.016	mg/L	15.61	mg/kg
1	Cr 205.558	115.6	122.7	0.099	mg/L	98.85	mg/kg
1	Cu 324.764	237.8	252.4	0.016	mg/L	16.39	mg/kg
1	Fe 238.204	371.7	394.5	0.029	mg/L	29.13	mg/kg
1	K 766.514	-2488.0	-2641.0	0.051	mg/L	51.50	mg/kg
1	Li 670.781	4405.7	4676.6	0.040	mg/L	39.95	mg/kg
1	Mg 279.074	1066.3	1131.9	0.926	mg/L	926.0	mg/kg
1	Mn 257.610	1342.4	1424.9	0.018	mg/L	17.76	mg/kg
1	Mo 202.031	170.2	180.7	0.211	mg/L	210.8	mg/kg
1	Na 588.995	91328.5	96944.7	1.388	mg/L	1388	mg/kg
1	Ni 231.603	44.5	47.3	0.025	mg/L	24.70	mg/kg
1	P 178.221	5.9	6.3	0.279	mg/L	279.2	mg/kg
1	Pb 220.353	21.4	22.7	0.075	mg/L	75.37	mg/kg
1	Sb 206.833	-22.9	-24.3	0.095	mg/L	95.25	mg/kg
1	Se 196.026	17.7	18.8	0.230	mg/L	230.5	mg/kg
1	Si 251.611	1334.8	1416.8	0.172	mg/L	171.6	mg/kg
1	Sn 189.933	385.6	409.3	2.036	mg/L	2036	mg/kg
1	Sr 407.771	74738.4	79334.4	0.099	mg/L	99.39	mg/kg
1	Ti 334.941	19929.9	21155.5	0.209	mg/L	208.5	mg/kg
1	Tl 190.800	7.9	8.3	0.218	mg/L	218.0	mg/kg
1	V 292.402	213.3	226.4	0.020	mg/L	20.07	mg/kg
1	Zn 206.200	44.7	47.5	0.017	mg/L	16.77	mg/kg
2	Sc 357.253	489363.3	489363.3	94	mg/kg		
2	Y 360.064	247929.0	247929.0	93	mg/kg		
2	Ag 328.068	412.6	441.2	0.003	mg/L	2.950	mg/kg
2	Al 396.140	428.1	457.7	0.175	mg/L	174.7	mg/kg
2	As 188.979	23.3	24.9	0.240	mg/L	239.8	mg/kg
2	B 249.773	1833.1	1960.0	0.101	mg/L	101.4	mg/kg
2	Ba 455.403	7980.8	8533.4	0.021	mg/L	21.33	mg/kg
2	Be 234.861	167.7	179.3	0.002	mg/L	2.284	mg/kg
2	Ca 315.887	9583.3	10246.8	0.957	mg/L	957.1	mg/kg
2	Cd 214.438	35.5	38.0	0.019	mg/L	19.20	mg/kg
2	Co 228.616	82.4	88.1	0.023	mg/L	22.71	mg/kg
2	Cr 205.558	113.9	121.8	0.098	mg/L	97.91	mg/kg
2	Cu 324.764	227.5	243.3	0.016	mg/L	15.79	mg/kg
2	Fe 238.204	381.9	408.3	0.031	mg/L	30.62	mg/kg
2	K 766.514	-2374.2	-2538.6	0.091	mg/L	91.10	mg/kg
2	Li 670.781	4317.3	4616.2	0.039	mg/L	39.47	mg/kg
2	Mg 279.074	1062.9	1136.5	0.930	mg/L	929.8	mg/kg

2 Mn 257.610	1337.0	1429.6	0.018 mg/L	17.82 mg/kg	
2 Mo 202.031	171.1	183.0	0.214 mg/L	214.2 mg/kg	
2 Na 588.995	91087.3	97393.9	1.415 mg/L	1415 mg/kg	
2 Ni 231.603	42.3	45.3	0.024 mg/L	23.68 mg/kg	
2 P 178.221	10.2	10.9	0.502 mg/L	502.5 mg/kg	
2 Pb 220.353	28.7	30.7	0.104 mg/L	103.5 mg/kg	
2 Sb 206.833	-1.8	-1.9	0.231 mg/L	231.2 mg/kg	
2 Se 196.026	21.7	23.2	0.291 mg/L	290.7 mg/kg	
2 Si 251.611	1364.4	1458.9	0.182 mg/L	182.3 mg/kg	
2 Sn 189.933	386.3	413.0	2.058 mg/L	2058 mg/kg	
2 Sr 407.771	75128.6	80330.3	0.101 mg/L	100.6 mg/kg	
2 Ti 334.941	20017.8	21403.8	0.211 mg/L	211.1 mg/kg	
2 Tl 190.800	7.5	8.0	0.209 mg/L	208.5 mg/kg	
2 V 292.402	207.9	222.3	0.020 mg/L	19.76 mg/kg	
2 Zn 206.200	48.9	52.3	0.019 mg/L	19.19 mg/kg	

Mean Data

ID: CRDL Seq. No.: 98 Sample No.: 4 A/S Pos: 10
Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 20:27:08

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	491147.8	94	0.5	mg/kg				0.51%
Y 360.064	248842.3	94	0.5	mg/kg				0.52%
Ag 328.068	430.8	0.002	0.0008	mg/L	2.403	0.7737	mg/kg	32.20%
*QC exceeds lower limit for Ag 328.068 Recovery = 12.01% Action = Continue								
Al 396.140	440.6	0.169	0.0079	mg/L	169.1	7.85	mg/kg	4.64%
As 188.979	25.3	0.243	0.0045	mg/L	243.0	4.48	mg/kg	1.85%
*QC exceeds upper limit for As 188.979 Recovery = 121.49% Action = Continue								
B 249.773	1947.7	0.100	0.0019	mg/L	100.0	1.89	mg/kg	1.89%
*QC exceeds lower limit for B 249.773 Recovery = 50.02% Action = Continue								
Ba 455.403	8519.8	0.021	0.0001	mg/L	21.29	0.052	mg/kg	0.24%
Be 234.861	180.9	0.002	0.0000	mg/L	2.300	0.0222	mg/kg	0.97%
Ca 315.887	10178.2	0.950	0.0100	mg/L	950.1	9.97	mg/kg	1.05%
Cd 214.438	34.4	0.019	0.0009	mg/L	18.53	0.943	mg/kg	5.09%
Co 228.616	75.4	0.019	0.0050	mg/L	19.16	5.020	mg/kg	26.20%
Cr 205.558	122.3	0.098	0.0007	mg/L	98.38	0.661	mg/kg	0.67%
Cu 324.764	247.8	0.016	0.0004	mg/L	16.09	0.423	mg/kg	2.63%
Fe 238.204	401.4	0.030	0.0011	mg/L	29.88	1.054	mg/kg	3.53%
*QC exceeds upper limit for Fe 238.204 Recovery = 149.38% Action = Continue								
K 766.514	-2589.8	0.071	0.0280	mg/L	71.30	28.004	mg/kg	39.28%
*QC exceeds lower limit for K 766.514 Recovery = 35.65% Action = Continue								
Li 670.781	4646.4	0.040	0.0003	mg/L	39.71	0.341	mg/kg	0.86%
Mg 279.074	1134.2	0.928	0.0027	mg/L	927.9	2.68	mg/kg	0.29%
Mn 257.610	1427.2	0.018	0.0000	mg/L	17.79	0.044	mg/kg	0.25%
Mo 202.031	181.8	0.213	0.0024	mg/L	212.5	2.40	mg/kg	1.13%
Na 588.995	97169.3	1.401	0.0190	mg/L	1401	19.0	mg/kg	1.36%
*QC exceeds upper limit for Na 588.995 Recovery = 140.12% Action = Continue								
Ni 231.603	46.3	0.024	0.0007	mg/L	24.19	0.725	mg/kg	3.00%
P 178.221	8.6	0.391	0.1579	mg/L	390.8	157.88	mg/kg	40.40%
*QC exceeds lower limit for P 178.221 Recovery = 78.16% Action = Continue								
Pb 220.353	26.7	0.089	0.0199	mg/L	89.46	19.923	mg/kg	22.27%
Sb 206.833	-13.1	0.163	0.0961	mg/L	163.2	96.11	mg/kg	58.89%
Se 196.026	21.0	0.261	0.0426	mg/L	260.6	42.57	mg/kg	16.34%
*QC exceeds upper limit for Se 196.026 Recovery = 130.30% Action = Continue								
Si 251.611	1437.8	0.177	0.0076	mg/L	176.9	7.57	mg/kg	4.28%
Sn 189.933	411.2	2.047	0.0158	mg/L	2047	15.8	mg/kg	0.77%
Sr 407.771	79832.4	0.100	0.0009	mg/L	100.0	0.87	mg/kg	0.87%
Ti 334.941	21279.6	0.210	0.0018	mg/L	209.8	1.82	mg/kg	0.87%
Tl 190.800	8.2	0.213	0.0067	mg/L	213.3	6.69	mg/kg	3.14%
V 292.402	224.4	0.020	0.0002	mg/L	19.92	0.215	mg/kg	1.08%
Zn 206.200	49.9	0.018	0.0017	mg/L	17.98	1.711	mg/kg	9.51%

Replicate Data

ID: IEC-1A Date: 5/20/02 20:31:16

Repl# Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1 Sc 357.253	485228.1	485228.1	93	mg/kg		
1 Y 360.064	246001.4	246001.4	93	mg/kg		

1	Ag 328.068	70.8	76.4	-0.016 mg/L	-16.25 mg/kg
1	Al 396.140	286256.8	308684.8	100.2 mg/L	100200 mg/kg
1	As 188.979	3.8	4.1	0.078 mg/L	77.63 mg/kg
1	B 249.773	1194.4	1288.0	-0.027 mg/L	-27.49 mg/kg
1	Ba 455.403	799.6	862.2	0.012 mg/L	12.30 mg/kg
1	Be 234.861	402.0	433.5	0.000 mg/L	-0.174 mg/kg
1	Ca 315.887	889437.4	959124.1	98.58 mg/L	98580 mg/kg
1	Cd 214.438	8.2	8.8	-0.003 mg/L	-3.139 mg/kg
1	Co 228.616	4.8	5.2	-0.006 mg/L	-5.616 mg/kg
1	Cr 205.558	27.5	29.7	0.043 mg/L	43.32 mg/kg
1	Cu 324.764	-89.9	-96.9	-0.016 mg/L	-16.44 mg/kg
1	Fe 238.204	361144.1	389439.4	42.14 mg/L	42140 mg/kg
1	K 766.514	-3006.4	-3241.9	-0.181 mg/L	-180.7 mg/kg
1	Li 670.781	-121.7	-131.2	0.002 mg/L	1.547 mg/kg
1	Mg 279.074	105665.5	113944.3	94.11 mg/L	94110 mg/kg
1	Mn 257.610	200.4	216.1	0.002 mg/L	1.590 mg/kg
1	Mo 202.031	50.3	54.2	0.023 mg/L	23.48 mg/kg
1	Na 588.995	75947.0	81897.4	0.487 mg/L	487.4 mg/kg
1	Ni 231.603	-11.6	-12.5	-0.006 mg/L	-6.046 mg/kg
1	P 178.221	4.3	4.7	0.201 mg/L	201.2 mg/kg
1	Pb 220.353	3.4	3.7	0.008 mg/L	8.423 mg/kg
1	Sb 206.833	-54.0	-58.3	-0.111 mg/L	-111.2 mg/kg
1	Se 196.026	5.7	6.2	0.056 mg/L	56.13 mg/kg
1	Si 251.611	2504.9	2701.2	0.061 mg/L	61.10 mg/kg
1	Sn 189.933	52.0	56.1	-0.837 mg/L	-836.7 mg/kg
1	Sr 407.771	208.5	224.9	0.002 mg/L	2.206 mg/kg
1	Ti 334.941	621.5	670.1	0.019 mg/L	18.88 mg/kg
1	Tl 190.800	0.5	0.6	0.042 mg/L	41.93 mg/kg
1	V 292.402	28.9	31.2	0.006 mg/L	5.770 mg/kg
1	Zn 206.200	10.3	11.1	-0.002 mg/L	-1.500 mg/kg
2	Sc 357.253	480001.9	480001.9	92 mg/kg	
2	Y 360.064	243431.0	243431.0	92 mg/kg	
2	Ag 328.068	129.6	141.2	-0.013 mg/L	-12.83 mg/kg
2	Al 396.140	285937.7	311697.9	101.1 mg/L	101100 mg/kg
2	As 188.979	-0.5	-0.5	0.041 mg/L	41.23 mg/kg
2	B 249.773	1199.0	1307.0	-0.026 mg/L	-25.86 mg/kg
2	Ba 455.403	874.2	953.0	0.013 mg/L	12.69 mg/kg
2	Be 234.861	426.1	464.5	0.000 mg/L	0.094 mg/kg
2	Ca 315.887	888476.9	968519.8	99.55 mg/L	99550 mg/kg
2	Cd 214.438	-3.6	-3.9	-0.006 mg/L	-5.713 mg/kg
2	Co 228.616	10.0	10.9	-0.004 mg/L	-4.070 mg/kg
2	Cr 205.558	29.7	32.4	0.046 mg/L	46.29 mg/kg
2	Cu 324.764	-73.0	-79.5	-0.016 mg/L	-15.53 mg/kg
2	Fe 238.204	360009.7	392443.0	42.46 mg/L	42460 mg/kg
2	K 766.514	-2894.9	-3155.7	-0.147 mg/L	-147.4 mg/kg
2	Li 670.781	-129.4	-141.1	0.001 mg/L	1.469 mg/kg
2	Mg 279.074	106796.8	116418.1	96.15 mg/L	96150 mg/kg
2	Mn 257.610	199.5	217.5	0.002 mg/L	1.608 mg/kg
2	Mo 202.031	38.7	42.2	0.006 mg/L	5.731 mg/kg
2	Na 588.995	76228.9	83096.4	0.559 mg/L	559.2 mg/kg
2	Ni 231.603	-21.8	-23.8	-0.012 mg/L	-11.85 mg/kg
2	P 178.221	4.2	4.6	0.197 mg/L	197.2 mg/kg
2	Pb 220.353	-6.2	-6.8	-0.028 mg/L	-28.44 mg/kg
2	Sb 206.833	-56.4	-61.5	-0.131 mg/L	-130.9 mg/kg
2	Se 196.026	7.0	7.6	0.076 mg/L	75.84 mg/kg
2	Si 251.611	2545.3	2774.6	0.070 mg/L	70.29 mg/kg
2	Sn 189.933	59.7	65.1	-0.801 mg/L	-800.8 mg/kg
2	Sr 407.771	281.6	307.0	0.002 mg/L	2.306 mg/kg
2	Ti 334.941	571.6	623.1	0.019 mg/L	18.65 mg/kg
2	Tl 190.800	1.6	1.7	0.074 mg/L	73.80 mg/kg
2	V 292.402	-13.7	-14.9	0.002 mg/L	2.397 mg/kg
2	Zn 206.200	7.0	7.6	-0.003 mg/L	-3.257 mg/kg

Mean Data ----------

ID: IEC-1A Seq. No.: 99 Sample No.: 5 A/S Pos: 11

Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 20:31:16

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	482615.0	92	0.7	mg/kg				0.77%

Y 360.064	244716.2	92	0.7 mg/kg			0.74%
Ag 328.068	108.8	-0.015	0.0024 mg/L	-14.54	2.413 mg/kg	16.60%
Al 396.140	310191.4	100.6	0.69 mg/L	100600	691.3 mg/kg	0.69%
As 188.979	1.8	0.059	0.0257 mg/L	59.43	25.741 mg/kg	43.31%
B 249.773	1297.5	-0.027	0.0011 mg/L	-26.67	1.150 mg/kg	4.31%
Ba 455.403	907.6	0.012	0.0003 mg/L	12.50	0.277 mg/kg	2.21%
Be 234.861	449.0	0.000	0.0002 mg/L	-0.040	0.1895 mg/kg	478.16%
Ca 315.887	963822.0	99.07	0.684 mg/L	99070	683.5 mg/kg	0.69%
Cd 214.438	2.5	-0.004	0.0018 mg/L	-4.426	1.8202 mg/kg	41.12%
Co 228.616	8.0	-0.005	0.0011 mg/L	-4.843	1.0932 mg/kg	22.57%
Cr 205.558	31.0	0.045	0.0021 mg/L	44.80	2.098 mg/kg	4.68%
Cu 324.764	-88.2	-0.016	0.0006 mg/L	-15.98	0.646 mg/kg	4.04%
Fe 238.204	390941.2	42.30	0.230 mg/L	42300	229.9 mg/kg	0.54%
K 766.514	-3198.8	-0.164	0.0236 mg/L	-164.0	23.58 mg/kg	14.37%
Li 670.781	-136.1	0.002	0.0001 mg/L	1.508	0.0556 mg/kg	3.69%
Mg 279.074	115181.2	95.13	1.445 mg/L	95130	1444.8 mg/kg	1.52%
Mn 257.610	216.8	0.002	0.0000 mg/L	1.599	0.0133 mg/kg	0.83%
Mo 202.031	48.2	0.015	0.0126 mg/L	14.61	12.550 mg/kg	85.93%
Na 588.995	82496.9	0.523	0.0507 mg/L	523.3	50.73 mg/kg	9.69%
Ni 231.603	-18.2	-0.009	0.0041 mg/L	-8.950	4.1069 mg/kg	45.89%
P 178.221	4.6	0.199	0.0029 mg/L	199.2	2.86 mg/kg	1.43%
Pb 220.353	-1.6	-0.010	0.0261 mg/L	-10.01	26.069 mg/kg	260.43%
Sb 206.833	-59.9	-0.121	0.0139 mg/L	-121.1	13.93 mg/kg	11.50%
Se 196.026	6.9	0.066	0.0139 mg/L	65.99	13.941 mg/kg	21.13%
Si 251.611	2737.9	0.066	0.0065 mg/L	65.70	6.500 mg/kg	9.89%
Sn 189.933	60.6	-0.819	0.0253 mg/L	-818.7	25.33 mg/kg	3.09%
Sr 407.771	265.9	0.002	0.0001 mg/L	2.256	0.0713 mg/kg	3.16%
Ti 334.941	646.6	0.019	0.0002 mg/L	18.76	0.162 mg/kg	0.86%
Tl 190.800	1.2	0.058	0.0225 mg/L	57.86	22.535 mg/kg	38.94%
V 292.402	8.1	0.004	0.0024 mg/L	4.084	2.3851 mg/kg	58.41%
Zn 206.200	9.3	-0.002	0.0012 mg/L	-2.379	1.2420 mg/kg	52.21%

Replicate Data

ID: IEC-2A Date: 5/20/02 20:35:27

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	496952.6	496952.6	95	mg/kg		
1	Y 360.064	250158.5	250158.5	94	mg/kg		
1	Ag 328.068	206.4	217.3	-0.009	mg/L	-8.833	mg/kg
1	Al 396.140	-60.8	-64.1	0.022	mg/L	22.15	mg/kg
1	As 188.979	13.1	13.8	0.099	mg/L	99.36	mg/kg
1	B 249.773	427.4	450.0	-0.062	mg/L	-62.30	mg/kg
1	Ba 455.403	-377.6	-397.5	0.002	mg/L	2.206	mg/kg
1	Be 234.861	-51.5	-54.3	0.000	mg/L	-0.041	mg/kg
1	Ca 315.887	1567.1	1650.0	0.073	mg/L	72.62	mg/kg
1	Cd 214.438	-24.3	-25.6	-0.005	mg/L	-4.777	mg/kg
1	Co 228.616	142.0	149.5	0.001	mg/L	1.456	mg/kg
1	Cr 205.558	19274.7	20294.5	19.95	mg/L	19950	mg/kg
1	Cu 324.764	288607.8	303877.4	19.79	mg/L	19790	mg/kg
1	Fe 238.204	278.8	293.6	0.023	mg/L	23.34	mg/kg
1	K 766.514	-2914.4	-3068.6	-0.114	mg/L	-113.7	mg/kg
1	Li 670.781	-48.6	-51.1	0.002	mg/L	2.187	mg/kg
1	Mg 279.074	97.1	102.2	0.075	mg/L	75.47	mg/kg
1	Mn 257.610	1386865.2	1460241.4	19.53	mg/L	19530	mg/kg
1	Mo 202.031	49.5	52.1	0.020	mg/L	20.40	mg/kg
1	Na 588.995	77493.1	81593.1	0.469	mg/L	469.2	mg/kg
1	Ni 231.603	36960.0	39182.6	20.16	mg/L	20160	mg/kg
1	P 178.221	-2.7	-2.9	-0.162	mg/L	-161.7	mg/kg
1	Pb 220.353	7.2	7.6	-0.009	mg/L	-9.431	mg/kg
1	Sb 206.833	13.3	14.0	0.328	mg/L	328.3	mg/kg
1	Se 196.026	5.2	5.4	0.046	mg/L	46.18	mg/kg
1	Si 251.611	2535.8	2669.9	0.329	mg/L	328.6	mg/kg
1	Sn 189.933	73.8	77.7	0.018	mg/L	17.66	mg/kg
1	Sr 407.771	-1826.4	-1923.0	0.000	mg/L	-0.433	mg/kg
1	Ti 334.941	1852936.1	1950971.2	20.19	mg/L	20190	mg/kg
1	Tl 190.800	14.0	14.8	0.300	mg/L	299.6	mg/kg
1	V 292.402	256058.4	269605.9	19.75	mg/L	19750	mg/kg
1	Zn 206.200	43.8	46.1	0.016	mg/L	16.07	mg/kg
2	Sc 357.253	490515.0	490515.0	94	mg/kg		

KW

2 Y 360.064	246921.8	246921.8	93 mg/kg		
2 Ag 328.068	280.8	299.5	-0.005 mg/L	-4.505 mg/kg	
2 Al 396.140	-90.1	-96.1	0.012 mg/L	11.94 mg/kg	
2 As 188.979	10.8	11.5	0.080 mg/L	80.46 mg/kg	
2 B 249.773	437.7	466.9	-0.060 mg/L	-60.46 mg/kg	
2 Ba 455.403	-489.1	-521.7	0.002 mg/L	1.935 mg/kg	
2 Be 234.861	-64.8	-69.1	0.000 mg/L	-0.189 mg/kg	
2 Ca 315.887	1609.0	1716.3	0.079 mg/L	79.45 mg/kg	
2 Cd 214.438	-30.3	-32.3	-0.006 mg/L	-6.263 mg/kg	
2 Co 228.616	127.6	136.1	-0.003 mg/L	-2.721 mg/kg	
2 Cr 205.558	19332.2	20622.1	20.27 mg/L	20270 mg/kg	
2 Cu 324.764	288204.3	307435.2	20.02 mg/L	20020 mg/kg	
2 Fe 238.204	299.0	318.9	0.026 mg/L	26.13 mg/kg	
2 K 766.514	-2924.6	-3119.8	-0.134 mg/L	-133.5 mg/kg	
2 Li 670.781	-80.5	-85.9	0.002 mg/L	1.910 mg/kg	
2 Mg 279.074	113.0	120.5	0.091 mg/L	90.58 mg/kg	
2 Mn 257.610	1382469.0	1474716.5	19.72 mg/L	19720 mg/kg	
2 Mo 202.031	50.3	53.7	0.023 mg/L	22.67 mg/kg	
2 Na 588.995	77744.0	82931.6	0.549 mg/L	549.3 mg/kg	
2 Ni 231.603	37280.9	40040.8	20.60 mg/L	20600 mg/kg	
2 P 178.221	-0.5	-0.5	-0.048 mg/L	-48.22 mg/kg	
2 Pb 220.353	8.3	8.9	-0.005 mg/L	-5.323 mg/kg	
2 Sb 206.833	15.6	16.6	0.344 mg/L	344.0 mg/kg	
2 Se 196.026	-2.3	-2.4	-0.062 mg/L	-61.96 mg/kg	
2 Si 251.611	2578.1	2750.1	0.348 mg/L	347.5 mg/kg	
2 Sn 189.933	76.8	82.0	0.044 mg/L	43.76 mg/kg	
2 Sr 407.771	-1823.3	-1944.9	0.000 mg/L	-0.460 mg/kg	
2 Ti 334.941	1846327.8	1969527.0	20.38 mg/L	20380 mg/kg	
2 Tl 190.800	14.0	15.0	0.304 mg/L	304.4 mg/kg	
2 V 292.402	254959.4	271972.0	19.92 mg/L	19920 mg/kg	
2 Zn 206.200	34.5	36.8	0.011 mg/L	11.42 mg/kg	

Mean Data ----------

ID: IEC-2A Seq. No.: 100 Sample No.: 6 A/S Pos: 12

Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 20:35:27

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	493733.8	94	0.9	mg/kg				0.92%
Y 360.064	248540.1	94	0.9	mg/kg				0.92%
Ag 328.068	258.4	-0.007	0.0031	mg/L	-6.669	3.0606	mg/kg	45.89%
Al 396.140	-80.1	0.017	0.0072	mg/L	17.05	7.219	mg/kg	42.35%
As 188.979	12.7	0.090	0.0134	mg/L	89.91	13.367	mg/kg	14.87%
B 249.773	458.5	-0.061	0.0013	mg/L	-61.38	1.297	mg/kg	2.11%
Ba 455.403	-459.6	0.002	0.0002	mg/L	2.071	0.1915	mg/kg	9.25%
Be 234.861	-61.7	0.000	0.0001	mg/L	-0.115	0.1046	mg/kg	91.30%
Ca 315.887	1683.2	0.076	0.0048	mg/L	76.03	4.829	mg/kg	6.35%
Cd 214.438	-28.9	-0.006	0.0011	mg/L	-5.520	1.0502	mg/kg	19.02%
Co 228.616	142.8	-0.001	0.0030	mg/L	-0.632	2.9534	mg/kg	467.13%
Cr 205.558	20458.3	20.11	0.228	mg/L	20110	228.0	mg/kg	1.13%
Cu 324.764	305656.3	19.91	0.164	mg/L	19910	163.8	mg/kg	0.82%
Fe 238.204	306.2	0.025	0.0020	mg/L	24.74	1.970	mg/kg	7.96%
*QC exceeds upper limit for Fe 238.204 Action = Continue								
K 766.514	-3094.2	-0.124	0.0140	mg/L	-123.6	13.98	mg/kg	11.30%
Li 670.781	-68.5	0.002	0.0002	mg/L	2.048	0.1961	mg/kg	9.57%
Mg 279.074	111.3	0.083	0.0107	mg/L	83.03	10.683	mg/kg	12.87%
Mn 257.610	1467479.0	19.63	0.137	mg/L	19630	136.9	mg/kg	0.70%
Mo 202.031	52.9	0.022	0.0016	mg/L	21.53	1.603	mg/kg	7.44%
Na 588.995	82262.4	0.509	0.0566	mg/L	509.3	56.63	mg/kg	11.12%
Ni 231.603	39611.7	20.38	0.312	mg/L	20380	312.2	mg/kg	1.53%
P 178.221	-1.7	-0.105	0.0802	mg/L	-105.0	80.23	mg/kg	76.45%
Pb 220.353	8.2	-0.007	0.0029	mg/L	-7.377	2.9046	mg/kg	39.38%
Sb 206.833	15.3	0.336	0.0111	mg/L	336.2	11.12	mg/kg	3.31%
*QC exceeds upper limit for Sb 206.833 Action = Continue								
Se 196.026	1.5	-0.008	0.0765	mg/L	-7.886	76.4677	mg/kg	969.68%
Si 251.611	2710.0	0.338	0.0134	mg/L	338.1	13.36	mg/kg	3.95%
Sn 189.933	79.8	0.031	0.0185	mg/L	30.71	18.456	mg/kg	60.10%
Sr 407.771	-1934.0	0.000	0.0000	mg/L	-0.447	0.0190	mg/kg	4.26%
Ti 334.941	1960249.1	20.28	0.136	mg/L	20280	135.8	mg/kg	0.67%
Tl 190.800	14.9	0.302	0.0034	mg/L	302.0	3.40	mg/kg	1.12%
*QC exceeds upper limit for Tl 190.800 Action = Continue								

V 292.402	270789.0	19.83	0.123 mg/L	19830	122.5 mg/kg	0.62%
Zn 206.200	41.5	0.014	0.0033 mg/L	13.74	3.287 mg/kg	23.92%

Calibration Summary ----------
Method: SOL_MULTI_101 Date: 5/20/02 20:38:45

Element	Stds	Equation	Intercept	Slope	Curvature	Corr. Coeff.
Ag 328.068	4	Linear	385.1	19001.9	0.00000	0.994705
Al 396.140	4	Linear	-80.9	3083.1	0.00000	0.999985
As 188.979	4	Linear	-5.8	127.9	0.00000	0.999952
B 249.773	3	Linear	1024.7	9225.4	0.00000	0.999646
Ba 455.403	4	Linear	593.4	372282.5	0.00000	0.999996
Be 234.861	4	Linear	-50.2	100470.0	0.00000	0.999818
Ca 315.887	4	Linear	944.1	9719.6	0.00000	0.999987
Cd 214.438	4	Linear	-65.2	5376.7	0.00000	0.999974
Co 228.616	4	Linear	7.1	3566.4	0.00000	0.999970
Cr 205.558	4	Linear	22.3	1016.2	0.00000	0.999986
Cu 324.764	4	Linear	0.9	15354.0	0.00000	0.999965
Fe 238.204	4	Linear	125.4	9239.4	0.00000	0.999794
K 766.514	4	Linear	-2774.3	2587.7	0.00000	0.999999
Li 670.781	4	Linear	-324.9	125182.9	0.00000	0.999989
Mg 279.074	4	Linear	10.8	1210.7	0.00000	0.999994
Mn 257.610	4	Linear	97.2	74761.1	0.00000	0.999969
Mo 202.031	3	Linear	38.4	675.2	0.00000	0.999989
Na 588.995	4	Linear	73750.5	16713.9	0.00000	0.999991
Ni 231.603	4	Linear	-0.8	1943.6	0.00000	0.999992
P 178.221	4	Linear	0.5	20.8	0.00000	0.999773
Pb 220.353	4	Linear	1.3	284.0	0.00000	0.999858
Sb 206.833	4	Linear	-40.0	164.4	0.00000	0.999878
Se 196.026	4	Linear	2.1	72.6	0.00000	0.999941
Si 251.611	4	Linear	743.8	3923.1	0.00000	0.999895
Sn 189.933	3	Linear	74.8	164.3	0.00000	0.999986
Sr 407.771	4	Linear	-1570.5	813982.9	0.00000	0.999995
Ti 334.941	3	Linear	1015.3	96594.9	0.00000	0.999967
Tl 190.800	4	Linear	0.2	37.4	0.00000	0.999908
V 292.402	4	Linear	-47.6	13656.7	0.00000	0.999993
Zn 206.200	4	Linear	14.1	1992.2	0.00000	0.999979

Method: SOL_MULTI_101 IEC: IEC-17C.IEC MSF:
Results: y20so-a1 Spectra Stored: Yes Method Stored: Yes
Sample Info: y20so-a1 User: User1 Date: 5/20/02 20:38:44
Method Description: SOIL MULTI POINT CURVE

Calibration Summary ----------
Method: SOL_MULTI_101 Date: 5/20/02 20:38:58

Element	Stds	Equation	Intercept	Slope	Curvature	Corr. Coeff.
Ag 328.068	4	Linear	385.1	19001.9	0.00000	0.994705
Al 396.140	4	Linear	-80.9	3083.1	0.00000	0.999985
As 188.979	4	Linear	-5.8	127.9	0.00000	0.999952
B 249.773	3	Linear	1024.7	9225.4	0.00000	0.999646
Ba 455.403	4	Linear	593.4	372282.5	0.00000	0.999996
Be 234.861	4	Linear	-50.2	100470.0	0.00000	0.999818
Ca 315.887	4	Linear	944.1	9719.6	0.00000	0.999987
Cd 214.438	4	Linear	-65.2	5376.7	0.00000	0.999974
Co 228.616	4	Linear	7.1	3566.4	0.00000	0.999970
Cr 205.558	4	Linear	22.3	1016.2	0.00000	0.999986
Cu 324.764	4	Linear	0.9	15354.0	0.00000	0.999965
Fe 238.204	4	Linear	125.4	9239.4	0.00000	0.999794
K 766.514	4	Linear	-2774.3	2587.7	0.00000	0.999999
Li 670.781	4	Linear	-324.9	125182.9	0.00000	0.999989
Mg 279.074	4	Linear	10.8	1210.7	0.00000	0.999994
Mn 257.610	4	Linear	97.2	74761.1	0.00000	0.999969
Mo 202.031	3	Linear	38.4	675.2	0.00000	0.999989
Na 588.995	4	Linear	73750.5	16713.9	0.00000	0.999991
Ni 231.603	4	Linear	-0.8	1943.6	0.00000	0.999992
P 178.221	4	Linear	0.5	20.8	0.00000	0.999773

Pb 220.353	4	Linear	1.3	284.0	0.00000	0.999858
Sb 206.833	4	Linear	-40.0	164.4	0.00000	0.999878
Se 196.026	4	Linear	2.1	72.6	0.00000	0.999941
Si 251.611	4	Linear	743.8	3923.1	0.00000	0.999895
Sn 189.933	3	Linear	74.8	164.3	0.00000	0.999986
Sr 407.771	4	Linear	-1570.5	813982.9	0.00000	0.999995
Ti 334.941	3	Linear	1015.3	96594.9	0.00000	0.999967
Tl 190.800	4	Linear	0.2	37.4	0.00000	0.999908
V 292.402	4	Linear	-47.6	13656.7	0.00000	0.999993
Zn 206.200	4	Linear	14.1	1992.2	0.00000	0.999979

Replicate Data

ID: IEC-2 Date: 5/20/02 20:40:31

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	492720.5	492720.5	94	mg/kg		
1	Y 360.064	247825.9	247825.9	93	mg/kg		
1	Ag 328.068	284.0	301.6	-0.004	mg/L	-4.393	mg/kg
1	Al 396.140	3041.1	3229.5	1.056	mg/L	1056	mg/kg
1	As 188.979	129.1	137.1	1.063	mg/L	1063	mg/kg
1	B 249.773	9046.4	9606.8	0.930	mg/L	930.3	mg/kg
1	Ba 455.403	-357.9	-380.0	0.002	mg/L	2.211	mg/kg
1	Be 234.861	-27.2	-28.9	0.000	mg/L	0.212	mg/kg
1	Ca 315.887	47420.3	50358.0	5.084	mg/L	5084	mg/kg
1	Cd 214.438	-26.3	-28.0	-0.005	mg/L	-5.149	mg/kg
1	Co 228.616	132.5	140.7	-0.001	mg/L	-0.797	mg/kg
1	Cr 205.558	18943.3	20116.8	19.78	mg/L	19780	mg/kg
1	Cu 324.764	282484.4	299984.7	19.54	mg/L	19540	mg/kg
1	Fe 238.204	411.8	437.3	0.039	mg/L	38.87	mg/kg
1	K 766.514	-2973.0	-3157.2	-0.148	mg/L	-148.0	mg/kg
1	Li 670.781	-47.8	-50.7	0.002	mg/L	2.190	mg/kg
1	Mg 279.074	5912.5	6278.8	5.177	mg/L	5177	mg/kg
1	Mn 257.610	1362164.8	1446553.1	19.35	mg/L	19350	mg/kg
1	Mo 202.031	699.8	743.1	1.044	mg/L	1044	mg/kg
1	Na 588.995	155600.2	165239.9	5.474	mg/L	5474	mg/kg
1	Ni 231.603	36492.3	39050.9	20.09	mg/L	20090	mg/kg
1	P 178.221	2.5	2.7	0.106	mg/L	105.6	mg/kg
1	Pb 220.353	13.0	13.8	0.013	mg/L	12.95	mg/kg
1	Sb 206.833	172.2	182.8	1.355	mg/L	1355	mg/kg
1	Se 196.026	75.1	79.8	1.070	mg/L	1070	mg/kg
1	Si 251.611	2282.0	2423.3	0.267	mg/L	266.7	mg/kg
1	Sn 189.933	80.5	85.5	0.012	mg/L	11.55	mg/kg
1	Sr 407.771	-1692.9	-1797.8	0.000	mg/L	-0.279	mg/kg
1	Ti 334.941	1827101.3	1940293.2	20.08	mg/L	20080	mg/kg
1	Tl 190.800	48.4	51.4	1.280	mg/L	1280	mg/kg
1	V 292.402	251940.0	267548.1	19.59	mg/L	19590	mg/kg
1	Zn 206.200	47.8	50.7	0.018	mg/L	18.40	mg/kg
2	Sc 357.253	493728.8	493728.8	94	mg/kg		
2	Y 360.064	248401.3	248401.3	94	mg/kg		
2	Ag 328.068	231.1	244.9	-0.007	mg/L	-7.379	mg/kg
2	Al 396.140	3013.5	3193.7	1.045	mg/L	1045	mg/kg
2	As 188.979	129.2	136.9	1.061	mg/L	1061	mg/kg
2	B 249.773	9139.3	9685.7	0.939	mg/L	938.8	mg/kg
2	Ba 455.403	-371.2	-393.4	0.002	mg/L	2.226	mg/kg
2	Be 234.861	-40.6	-43.1	0.000	mg/L	0.071	mg/kg
2	Ca 315.887	47804.3	50662.1	5.115	mg/L	5115	mg/kg
2	Cd 214.438	-11.9	-12.6	-0.002	mg/L	-2.403	mg/kg
2	Co 228.616	134.1	142.1	-0.001	mg/L	-0.844	mg/kg
2	Cr 205.558	19177.3	20323.8	19.98	mg/L	19980	mg/kg
2	Cu 324.764	286064.4	303166.2	19.75	mg/L	19750	mg/kg
2	Fe 238.204	387.3	410.4	0.036	mg/L	36.02	mg/kg
2	K 766.514	-2886.8	-3059.4	-0.110	mg/L	-110.2	mg/kg
2	Li 670.781	-243.8	-258.3	0.001	mg/L	0.532	mg/kg
2	Mg 279.074	5969.1	6325.9	5.216	mg/L	5216	mg/kg
2	Mn 257.610	1378600.4	1461017.2	19.54	mg/L	19540	mg/kg
2	Mo 202.031	697.7	739.4	1.038	mg/L	1038	mg/kg
2	Na 588.995	156402.6	165752.8	5.505	mg/L	5505	mg/kg
2	Ni 231.603	36907.2	39403.4	20.27	mg/L	20270	mg/kg
2	P 178.221	-3.4	-3.6	-0.199	mg/L	-199.2	mg/kg

2	Pb 220.353	6.3	6.6	-0.013 mg/L	-12.76 mg/kg
2	Sb 206.833	162.8	172.5	1.292 mg/L	1292 mg/kg
2	Se 196.026	68.9	73.0	0.976 mg/L	976.4 mg/kg
2	Si 251.611	2397.6	2540.9	0.295 mg/L	294.8 mg/kg
2	Sn 189.933	72.9	77.2	-0.039 mg/L	-39.04 mg/kg
2	Sr 407.771	-1678.9	-1779.3	0.000 mg/L	-0.257 mg/kg
2	Ti 334.941	1851664.9	1962362.8	20.31 mg/L	20310 mg/kg
2	Tl 190.800	44.7	47.4	1.172 mg/L	1172 mg/kg
2	V 292.402	255251.7	270511.4	19.81 mg/L	19810 mg/kg
2	Zn 206.200	60.5	64.1	0.025 mg/L	25.13 mg/kg

Mean Data ----------

ID: IEC-2 Seq. No.: 93 Sample No.: 8 A/S Pos: 14
Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0
Data: Original Date: 5/20/02 20:40:31

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	493224.7	94	0.1	mg/kg				0.14%
Y 360.064	248113.6	94	0.2	mg/kg				0.16%
Ag 328.068	273.3	-0.006	0.0021	mg/L	-5.886	2.1118	mg/kg	35.88%
Al 396.140	3211.6	1.050	0.0080	mg/L	1050	8.0	mg/kg	0.76%
As 188.979	137.0	1.062	0.0012	mg/L	1062	1.2	mg/kg	0.11%
B 249.773	9646.3	0.935	0.0060	mg/L	934.5	6.04	mg/kg	0.65%
Ba 455.403	-386.7	0.002	0.0000	mg/L	2.218	0.0102	mg/kg	0.46%
Be 234.861	-36.0	0.000	0.0001	mg/L	0.142	0.0998	mg/kg	70.51%
Ca 315.887	50510.1	5.100	0.0221	mg/L	5100	22.1	mg/kg	0.43%
Cd 214.438	-20.3	-0.004	0.0019	mg/L	-3.776	1.9417	mg/kg	51.42%
Co 228.616	141.4	-0.001	0.0000	mg/L	-0.820	0.0334	mg/kg	4.07%
Cr 205.558	20220.3	19.88	0.144	mg/L	19880	144.0	mg/kg	0.72%
Cu 324.764	301575.5	19.64	0.147	mg/L	19640	146.5	mg/kg	0.75%
Fe 238.204	423.9	0.037	0.0020	mg/L	37.44	2.016	mg/kg	5.38%
K 766.514	-3108.3	-0.129	0.0267	mg/L	-129.1	26.73	mg/kg	20.71%
Li 670.781	-154.5	0.001	0.0012	mg/L	1.361	1.1728	mg/kg	86.16%
Mg 279.074	6302.3	5.197	0.0275	mg/L	5197	27.5	mg/kg	0.53%
Mn 257.610	1453785.1	19.44	0.137	mg/L	19440	136.8	mg/kg	0.70%
Mo 202.031	741.3	1.041	0.0039	mg/L	1041	3.9	mg/kg	0.37%
Na 588.995	165496.4	5.489	0.0217	mg/L	5489	21.7	mg/kg	0.40%
Ni 231.603	39227.1	20.18	0.128	mg/L	20180	128.3	mg/kg	0.64%
P 178.221	-0.5	-0.047	0.2155	mg/L	-46.85	215.530	mg/kg	460.08%
Pb 220.353	10.2	0.000	0.0182	mg/L	0.091	18.1800	mg/kg	>999.9%
Sb 206.833	177.7	1.324	0.0442	mg/L	1324	44.2	mg/kg	3.34%
*QC exceeds upper limit for Sb 206.833		Recovery = 132.35%		Action = Continue				
Se 196.026	76.4	1.023	0.0661	mg/L	1023	66.1	mg/kg	6.46%
Si 251.611	2482.1	0.281	0.0199	mg/L	280.7	19.89	mg/kg	7.09%
Sn 189.933	81.4	-0.014	0.0358	mg/L	-13.74	35.771	mg/kg	260.27%
Sr 407.771	-1788.5	0.000	0.0000	mg/L	-0.268	0.0161	mg/kg	6.01%
Ti 334.941	1951328.0	20.19	0.162	mg/L	20190	161.6	mg/kg	0.80%
Tl 190.800	49.4	1.226	0.0761	mg/L	1226	76.1	mg/kg	6.21%
*QC exceeds upper limit for Tl 190.800		Recovery = 122.59%		Action = Continue				
V 292.402	269029.7	19.70	0.153	mg/L	19700	153.4	mg/kg	0.78%
Zn 206.200	57.4	0.022	0.0048	mg/L	21.77	4.762	mg/kg	21.87%

Replicate Data ----------

ID: CCV Date: 5/20/02 20:44:42

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Calib Units	Sample Conc.	Sample Units
1	Sc 357.253	495424.4	495424.4	95	mg/kg		
1	Y 360.064	251067.5	251067.5	95	mg/kg		
1	Ag 328.068	10856.3	11465.9	0.583	mg/L	583.1	mg/kg
1	Al 396.140	7365.1	7778.7	2.532	mg/L	2532	mg/kg
1	As 188.979	309.7	327.1	2.601	mg/L	2601	mg/kg
1	B 249.773	4490.6	4742.8	0.403	mg/L	403.0	mg/kg
1	Ba 455.403	178967.6	189017.7	0.506	mg/L	506.1	mg/kg
1	Be 234.861	4622.3	4881.8	0.049	mg/L	49.09	mg/kg
1	Ca 315.887	47947.8	50640.3	5.113	mg/L	5113	mg/kg
1	Cd 214.438	2530.3	2672.4	0.509	mg/L	509.2	mg/kg
1	Co 228.616	1744.6	1842.5	0.515	mg/L	514.6	mg/kg
1	Cr 205.558	514.8	543.7	0.513	mg/L	513.1	mg/kg
1	Cu 324.764	7393.6	7808.7	0.509	mg/L	508.5	mg/kg

1	Fe 238.204	4433.4	4682.3	0.493 mg/L	493.2 mg/kg
1	K 766.514	9610.0	10149.7	4.994 mg/L	4994 mg/kg
1	Li 670.781	59519.6	62862.0	0.505 mg/L	504.8 mg/kg
1	Mg 279.074	5865.2	6194.6	5.108 mg/L	5108 mg/kg
1	Mn 257.610	36351.4	38392.7	0.512 mg/L	512.2 mg/kg
1	Mo 202.031	369.6	390.3	0.521 mg/L	521.3 mg/kg
1	Na 588.995	155732.7	164478.0	5.428 mg/L	5428 mg/kg
1	Ni 231.603	939.9	992.9	0.511 mg/L	511.2 mg/kg
1	P 178.221	46.7	49.3	2.351 mg/L	2351 mg/kg
1	Pb 220.353	144.8	152.9	0.534 mg/L	534.0 mg/kg
1	Sb 206.833	356.1	376.1	2.530 mg/L	2530 mg/kg
1	Se 196.026	183.2	193.5	2.635 mg/L	2635 mg/kg
1	Si 251.611	9962.7	10522.2	2.493 mg/L	2493 mg/kg
1	Sn 189.933	479.3	506.2	2.572 mg/L	2572 mg/kg
1	Sr 407.771	387524.3	409286.1	0.505 mg/L	504.7 mg/kg
1	Ti 334.941	48019.0	50715.5	0.515 mg/L	514.5 mg/kg
1	Tl 190.800	89.5	94.5	2.524 mg/L	2524 mg/kg
1	V 292.402	6519.5	6885.6	0.508 mg/L	507.7 mg/kg
1	Zn 206.200	977.3	1032.1	0.511 mg/L	511.0 mg/kg
2	Sc 357.253	493609.7	493609.7	94 mg/kg	
2	Y 360.064	250018.9	250018.9	94 mg/kg	
2	Ag 328.068	10976.8	11635.9	0.592 mg/L	592.1 mg/kg
2	Al 396.140	7344.3	7785.2	2.534 mg/L	2534 mg/kg
2	As 188.979	307.6	326.1	2.594 mg/L	2594 mg/kg
2	B 249.773	4523.9	4795.5	0.409 mg/L	408.7 mg/kg
2	Ba 455.403	179759.3	190551.8	0.510 mg/L	510.3 mg/kg
2	Be 234.861	4663.7	4943.7	0.050 mg/L	49.70 mg/kg
2	Ca 315.887	48282.6	51181.5	5.169 mg/L	5169 mg/kg
2	Cd 214.438	2555.2	2708.6	0.516 mg/L	515.9 mg/kg
2	Co 228.616	1737.7	1842.0	0.515 mg/L	514.5 mg/kg
2	Cr 205.558	523.9	555.3	0.525 mg/L	524.6 mg/kg
2	Cu 324.764	7442.1	7888.9	0.514 mg/L	513.7 mg/kg
2	Fe 238.204	4461.6	4729.4	0.498 mg/L	498.3 mg/kg
2	K 766.514	9669.3	10249.9	5.033 mg/L	5033 mg/kg
2	Li 670.781	59841.7	63434.6	0.509 mg/L	509.3 mg/kg
2	Mg 279.074	5869.7	6222.1	5.131 mg/L	5131 mg/kg
2	Mn 257.610	36562.5	38757.6	0.517 mg/L	517.1 mg/kg
2	Mo 202.031	370.4	392.7	0.525 mg/L	524.8 mg/kg
2	Na 588.995	156096.2	165468.0	5.487 mg/L	5487 mg/kg
2	Ni 231.603	938.8	995.8	0.513 mg/L	512.8 mg/kg
2	P 178.221	47.8	50.7	2.417 mg/L	2417 mg/kg
2	Pb 220.353	133.0	141.0	0.492 mg/L	492.1 mg/kg
2	Sb 206.833	356.9	378.3	2.543 mg/L	2543 mg/kg
2	Se 196.026	181.7	192.6	2.623 mg/L	2623 mg/kg
2	Si 251.611	10001.8	10602.3	2.513 mg/L	2513 mg/kg
2	Sn 189.933	476.9	505.6	2.568 mg/L	2568 mg/kg
2	Sr 407.771	389231.7	412600.7	0.509 mg/L	508.8 mg/kg
2	Ti 334.941	48259.7	51157.1	0.519 mg/L	518.6 mg/kg
2	Tl 190.800	92.2	97.8	2.611 mg/L	2611 mg/kg
2	V 292.402	6646.8	7045.8	0.519 mg/L	519.4 mg/kg
2	Zn 206.200	976.1	1034.7	0.512 mg/L	512.3 mg/kg

Mean Data ----------

ID: CCV #9 Seq. No.: 94 Sample No.: 9 A/S Pos: 4

Sample Qty: 1.0000 g Prep. Vol.: 1.0 L Dilution: 1.0: 1.0

Data: Original Date: 5/20/02 20:44:42

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Calib Units	Mean Conc.	Sample Std.Dev.	Sample Units	RSD
Sc 357.253	494517.1	95	0.2	mg/kg				0.26%
Y 360.064	250543.2	94	0.3	mg/kg				0.30%
Ag 328.068	11550.9	0.588	0.0063	mg/L	587.6	6.32	mg/kg	1.08%
*QC exceeds upper limit for Ag 328.068	Recovery = 117.52%	Action = Continue						
Al 396.140	7781.9	2.533	0.0014	mg/L	2533	1.4	mg/kg	0.06%
As 188.979	326.6	2.598	0.0054	mg/L	2598	5.4	mg/kg	0.21%
B 249.773	4769.1	0.406	0.0040	mg/L	405.9	4.04	mg/kg	0.99%
*QC exceeds lower limit for B 249.773	Recovery = 81.18%	Action = Continue						
Ba 455.403	189784.8	0.508	0.0029	mg/L	508.2	2.91	mg/kg	0.57%
Be 234.861	4912.7	0.049	0.0004	mg/L	49.40	0.435	mg/kg	0.88%
Ca 315.887	50910.9	5.141	0.0394	mg/L	5141	39.4	mg/kg	0.77%
Cd 214.438	2690.5	0.513	0.0048	mg/L	512.5	4.76	mg/kg	0.93%

Co 228.616	1842.3	0.515	0.0001 mg/L	514.6	0.10 mg/kg	0.02%
Cr 205.558	549.5	0.519	0.0081 mg/L	518.8	8.12 mg/kg	1.56%
Cu 324.764	7848.8	0.511	0.0037 mg/L	511.1	3.69 mg/kg	0.72%
Fe 238.204	4705.9	0.496	0.0036 mg/L	495.8	3.60 mg/kg	0.73%
K 766.514	10199.8	5.014	0.0274 mg/L	5014	27.4 mg/kg	0.55%
Li 670.781	63148.3	0.507	0.0032 mg/L	507.0	3.23 mg/kg	0.64%
Mg 279.074	6208.3	5.119	0.0161 mg/L	5119	16.1 mg/kg	0.31%
Mn 257.610	38575.2	0.515	0.0035 mg/L	514.7	3.45 mg/kg	0.67%
Mo 202.031	391.5	0.523	0.0025 mg/L	523.1	2.46 mg/kg	0.47%
Na 588.995	164973.0	5.458	0.0419 mg/L	5458	41.9 mg/kg	0.77%
Ni 231.603	994.4	0.512	0.0011 mg/L	512.0	1.08 mg/kg	0.21%
P 178.221	50.0	2.384	0.0464 mg/L	2384	46.4 mg/kg	1.95%
Pb 220.353	147.0	0.513	0.0296 mg/L	513.1	29.65 mg/kg	5.78%
Sb 206.833	377.2	2.537	0.0095 mg/L	2537	9.5 mg/kg	0.37%
Se 196.026	193.1	2.629	0.0092 mg/L	2629	9.2 mg/kg	0.35%
Si 251.611	10562.2	2.503	0.0144 mg/L	2503	14.4 mg/kg	0.58%
Sn 189.933	505.9	2.570	0.0028 mg/L	2570	2.8 mg/kg	0.11%
Sr 407.771	410943.4	0.507	0.0029 mg/L	506.8	2.88 mg/kg	0.57%
Ti 334.941	50936.3	0.517	0.0029 mg/L	516.6	2.88 mg/kg	0.56%
Tl 190.800	96.1	2.568	0.0622 mg/L	2568	62.2 mg/kg	2.42%
V 292.402	6965.7	0.514	0.0083 mg/L	513.5	8.30 mg/kg	1.62%
Zn 206.200	1033.4	0.512	0.0009 mg/L	511.7	0.93 mg/kg	0.18%

Replicate Data

ID: CCB Date: 5/20/02 20:48:51

Repl#	Element	Net Intensity	Corrected Intensity	Calib Conc.	Units	Sample Conc.	Units
1	Sc 357.253	488142.0	488142.0	93	mg/kg		
1	Y 360.064	247526.1	247526.1	93	mg/kg		
1	Ag 328.068	153.0	164.0	-0.012	mg/L	-11.63	mg/kg
1	Al 396.140	-102.8	-110.1	-0.009	mg/L	-9.487	mg/kg
1	As 188.979	-10.9	-11.7	-0.046	mg/L	-46.11	mg/kg
1	B 249.773	233.3	250.1	-0.084	mg/L	-83.97	mg/kg
1	Ba 455.403	785.2	841.6	0.001	mg/L	0.667	mg/kg
1	Be 234.861	-17.2	-18.4	0.000	mg/L	0.316	mg/kg
1	Ca 315.887	740.5	793.7	-0.015	mg/L	-15.48	mg/kg
1	Cd 214.438	-74.2	-79.5	-0.003	mg/L	-2.658	mg/kg
1	Co 228.616	1.6	1.7	-0.002	mg/L	-1.525	mg/kg
1	Cr 205.558	16.8	18.1	-0.004	mg/L	-4.167	mg/kg
1	Cu 324.764	-62.9	-67.4	-0.004	mg/L	-4.449	mg/kg
1	Fe 238.204	148.6	159.3	0.004	mg/L	3.668	mg/kg
1	K 766.514	-2970.9	-3184.6	-0.159	mg/L	-158.5	mg/kg
1	Li 670.781	-143.8	-154.1	0.001	mg/L	1.364	mg/kg
1	Mg 279.074	5.9	6.3	-0.004	mg/L	-3.733	mg/kg
1	Mn 257.610	-34.7	-37.2	-0.002	mg/L	-1.798	mg/kg
1	Mo 202.031	47.2	50.6	0.018	mg/L	18.13	mg/kg
1	Na 588.995	76269.6	81754.3	0.479	mg/L	478.9	mg/kg
1	Ni 231.603	-12.3	-13.2	-0.006	mg/L	-6.406	mg/kg
1	P 178.221	-5.3	-5.7	-0.299	mg/L	-298.8	mg/kg
1	Pb 220.353	9.0	9.7	0.030	mg/L	29.64	mg/kg
1	Sb 206.833	-45.8	-49.1	-0.056	mg/L	-55.69	mg/kg
1	Se 196.026	3.2	3.5	0.019	mg/L	19.34	mg/kg
1	Si 251.611	571.6	612.7	-0.033	mg/L	-33.43	mg/kg
1	Sn 189.933	79.6	85.3	0.064	mg/L	64.18	mg/kg
1	Sr 407.771	-2039.3	-2185.9	-0.001	mg/L	-0.756	mg/kg
1	Ti 334.941	760.0	814.7	-0.002	mg/L	-2.077	mg/kg
1	Tl 190.800	-0.1	-0.1	-0.007	mg/L	-6.629	mg/kg
1	V 292.402	-4.7	-5.1	0.003	mg/L	3.117	mg/kg
1	Zn 206.200	7.6	8.1	-0.003	mg/L	-2.978	mg/kg
2	Sc 357.253	482775.3	482775.3	92	mg/kg		
2	Y 360.064	244441.7	244441.7	92	mg/kg		
2	Ag 328.068	118.2	128.1	-0.014	mg/L	-13.53	mg/kg
2	Al 396.140	-178.6	-193.6	-0.037	mg/L	-36.56	mg/kg
2	As 188.979	-0.3	-0.3	0.043	mg/L	42.57	mg/kg
2	B 249.773	225.1	244.0	-0.085	mg/L	-84.63	mg/kg
2	Ba 455.403	799.0	866.0	0.001	mg/L	0.732	mg/kg
2	Be 234.861	-28.3	-30.7	0.000	mg/L	0.194	mg/kg
2	Ca 315.887	802.1	869.3	-0.008	mg/L	-7.698	mg/kg
2	Cd 214.438	-68.0	-73.7	-0.002	mg/L	-1.565	mg/kg

2 Co 228.616	11.7	12.6	0.002 mg/L	1.553 mg/kg
2 Cr 205.558	23.7	25.7	0.003 mg/L	3.317 mg/kg
2 Cu 324.764	-59.3	-64.2	-0.004 mg/L	-4.240 mg/kg
2 Fe 238.204	178.5	193.5	0.007 mg/L	7.367 mg/kg
2 K 766.514	-3073.6	-3331.3	-0.215 mg/L	-215.2 mg/kg
2 Li 670.781	-41.4	-44.9	0.002 mg/L	2.237 mg/kg
2 Mg 279.074	19.9	21.6	0.009 mg/L	8.863 mg/kg
2 Mn 257.610	-9.1	-9.9	-0.001 mg/L	-1.433 mg/kg
2 Mo 202.031	42.8	46.4	0.012 mg/L	11.84 mg/kg
2 Na 588.995	76270.2	82663.8	0.533 mg/L	533.3 mg/kg
2 Ni 231.603	6.3	6.8	0.004 mg/L	3.908 mg/kg
2 P 178.221	1.5	1.7	0.056 mg/L	56.25 mg/kg
2 Pb 220.353	2.2	2.3	0.004 mg/L	3.735 mg/kg
2 Sb 206.833	-39.2	-42.5	-0.016 mg/L	-15.67 mg/kg
2 Se 196.026	-0.9	-1.0	-0.042 mg/L	-42.01 mg/kg
2 Si 251.611	573.3	621.3	-0.031 mg/L	-31.22 mg/kg
2 Sn 189.933	77.9	84.5	0.059 mg/L	58.95 mg/kg
2 Sr 407.771	-1976.2	-2141.8	-0.001 mg/L	-0.702 mg/kg
2 Ti 334.941	791.8	858.1	-0.002 mg/L	-1.626 mg/kg
2 Tl 190.800	0.5	0.5	0.009 mg/L	9.468 mg/kg
2 V 292.402	-1.4	-1.5	0.003 mg/L	3.377 mg/kg
2 Zn 206.200	12.2	13.2	0.000 mg/L	-0.417 mg/kg

Mean Data ---
ID: CCB
Sample Qty: 1.0000 g
Seq. No.: 95 Sample No.: 10
Prep. Vol.: 1.0 L
Data: Original
A/S Pos: 1
Dilution: 1.0: 1.0
Date: 5/20/02 20:48:51

Element	Mean Corr. Intensity	Mean Conc.	Calib Std.Dev.	Units	Mean Conc.	Sample Std.Dev.	Units	RSD
Sc 357.253	485458.6	93	0.7	mg/kg				0.78%
Y 360.064	245983.9	93	0.8	mg/kg				0.89%
Ag 328.068	146.1	-0.013	0.0013	mg/L	-12.58	1.338	mg/kg	10.64%
*QC exceeds lower limit for Ag 328.068			Action = Continue					
Al 396.140	-151.9	-0.023	0.0191	mg/L	<23.02	19.143	mg/kg	83.15%
As 188.979	-6.0	-0.002	0.0627	mg/L	-1.773	62.7032	mg/kg	>999.9%
B 249.773	247.1	-0.084	0.0005	mg/L	-84.30	0.467	mg/kg	0.55%
Ba 455.403	853.8	0.001	0.0000	mg/L	0.700	0.0462	mg/kg	6.61%
Be 234.861	-24.6	0.000	0.0001	mg/L	0.255	0.0864	mg/kg	33.90%
Ca 315.887	831.5	-0.012	0.0055	mg/L	-11.59	5.500	mg/kg	47.46%
Cd 214.438	-76.6	-0.002	0.0008	mg/L	-2.111	0.7728	mg/kg	36.61%
Co 228.616	7.2	0.000	0.0022	mg/L	0.014	2.1764	mg/kg	>999.9%
Cr 205.558	21.9	0.000	0.0053	mg/L	-0.425	5.2922	mg/kg	>999.9%
Cu 324.764	-65.8	-0.004	0.0001	mg/L	-4.345	0.1473	mg/kg	3.39%
Fe 238.204	176.4	0.006	0.0026	mg/L	5.517	2.6156	mg/kg	47.41%
K 766.514	-3257.9	-0.187	0.0401	mg/L	-186.9	40.09	mg/kg	21.45%
*QC exceeds lower limit for K 766.514			Action = Continue					
Li 670.781	-99.5	0.002	0.0006	mg/L	1.801	0.6169	mg/kg	34.26%
Mg 279.074	13.9	0.003	0.0089	mg/L	2.565	8.9064	mg/kg	347.26%
Mn 257.610	-23.5	-0.002	0.0003	mg/L	-1.615	0.2580	mg/kg	15.98%
Mo 202.031	48.5	0.015	0.0044	mg/L	14.99	4.450	mg/kg	29.69%
Na 588.995	82209.1	0.506	0.0385	mg/L	506.1	38.48	mg/kg	7.60%
*QC exceeds upper limit for Na 588.995			Action = Continue					
Ni 231.603	-3.2	-0.001	0.0073	mg/L	-1.249	7.2934	mg/kg	583.80%
P 178.221	-2.0	-0.121	0.2511	mg/L	-121.3	251.07	mg/kg	207.01%
Pb 220.353	6.0	0.017	0.0183	mg/L	16.69	18.314	mg/kg	109.76%
Sb 206.833	-45.8	-0.036	0.0283	mg/L	-35.68	28.298	mg/kg	79.31%
Se 196.026	1.3	-0.011	0.0434	mg/L	-11.34	43.377	mg/kg	382.64%
Si 251.611	617.0	-0.032	0.0016	mg/L	-32.33	1.562	mg/kg	4.83%
Sn 189.933	84.9	0.062	0.0037	mg/L	61.56	3.698	mg/kg	6.01%
Sr 407.771	-2163.9	-0.001	0.0000	mg/L	-0.729	0.0383	mg/kg	5.26%
Ti 334.941	836.4	-0.002	0.0003	mg/L	-1.852	0.3184	mg/kg	17.20%
Tl 190.800	0.2	0.001	0.0114	mg/L	1.420	11.3817	mg/kg	801.79%
V 292.402	-3.3	0.003	0.0002	mg/L	3.247	0.1832	mg/kg	5.64%
Zn 206.200	10.7	-0.002	0.0018	mg/L	-1.698	1.8109	mg/kg	106.66%

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

5/23

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02
Stock std: Me9.17.11
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: [signature]
on: 5.23.02
Verified by: HLK
on: 5-23-02
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: 186133
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001499

Sample: ICV

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	97.1 ✓	ug/L	100		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	101.8 ✓	ug/L	100		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

written up by SMC

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: _____ on: _____

Sample: LCS

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001500

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			90-110
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			90-110
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			90-110
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	40.6	ug/L	40		90-110
FeT	199.1	10		ug/L			90-110
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			90-110
LiT	216.1	10		ug/L			90-110
MgT	201.1	10		mg/L			90-110
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			90-110
NaT	209.1	10		mg/L			90-110
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			90-110
PbT	200.1	1.0	42.3	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			90-110
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			90-110
TiT	211.1	10		ug/L			90-110
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001501

Sample: ICB

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02
Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____
Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001502

Sample: BLK

Instrument #: 114
Weight/volume: _____

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: _____ on: _____

Sample: CRL initial Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: IH Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001503

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			-
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			-
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			-
BaT	190.1	10		ug/L			-
BeT	191.1	1.0		ug/L			-
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			-
CoT	197.1	10		ug/L			-
CrT	196.1	1.0		ug/L			-
CuT	198.1	1.0	1.12 ✓	ug/L	1.0		-
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			-
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			-

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			-
P T	407.1	10		ug/L			-
PbT	200.1	1.0	1.13 ✓	ug/L	1.0		-
SbT	188.1	2.0		ug/L			-
SeT	207.1	2.0		ug/L			-
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			-
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			-
V T	212.1	10		ug/L			-
ZnT	213.1	10		ug/L			-

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: _____ on: _____

Sample: IEC initial

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001504

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			90-110
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			90-110
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			90-110
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	21.3	ug/L	20		90-110
FeT	199.1	10		ug/L			90-110
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			90-110
LiT	216.1	10		ug/L			90-110
MgT	201.1	10		mg/L			90-110
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			90-110
NaT	209.1	10		mg/L			90-110
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			90-110
PbT	200.1	1.0		ug/L			90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			90-110
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			90-110
TiT	211.1	10		ug/L			90-110
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

10:00 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289260

Run date: 5/22/02 Entered by: _____

Stock std: Me9.17.18 on: _____

Sample: CCV -1

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001505

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	40.9 ✓	ug/L	40		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	42.5 ✓	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001506

Sample: CCB-1

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Analyst: DSC
Run date: 5/22/02
Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____
Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185803-116

001507

Sample: MPB

Instrument #: 114
Weight/volume: _____

		ODL	Reported Conc.	Unit
AgT	208.1	0.50		mg/kg
AlT	187.1	4.0		mg/kg
AsT	189.1	0.10		mg/kg
AuT	495.1	0.10		mg/kg
B T	220.3	6.0		mg/kg
BaT	190.1	0.50		mg/kg
BeT	191.1	0.50		mg/kg
CaT	194.1	0.10		mg/kg
CdT	193.1	0.05		mg/kg
CoT	197.1	0.50		mg/kg
CrT	196.1	0.50		mg/kg
CuT	198.1	~~0.50~~ 0.22	<0.22u	mg/kg
FeT	199.1	0.10		mg/kg
HgT	203.1	0.10		mg/kg
K T	206.1	0.10		mg/kg
LiT	216.1	0.10		mg/kg
MgT	201.1	0.10		mg/kg
MnT	202.1	0.50		mg/kg

		ODL	Reported Conc.	Unit
MoT	219.1	0.50		mg/kg
NaT	209.1	0.10		mg/kg
NiT	205.1	0.50		mg/kg
P T	407.1	0.10		mg/kg
PbT	200.1	~~1.6~~ 0.13	<0.13u	mg/kg
SbT	188.1	0.50		mg/kg
SeT	207.1	0.20		mg/kg
SiT	221.1	0.10		mg/kg
SnT	218.1	0.10		mg/kg
SrT	217.1	0.125		mg/kg
TiT	211.1	0.10		mg/kg
TlT	210.1	0.50		mg/kg
V T	212.1	0.50		mg/kg
ZnT	213.1	0.50		mg/kg

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Sample: LFB

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185203-116

001508

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.50		mg/kg			79-104
AlT	187.1	4.0		mg/kg			85-115
AsT	189.1	0.10		mg/kg			76-110
AuT	495.1	0.10		mg/kg			85-115
B T	220.3	6.0		mg/kg			85-115
BaT	190.1	0.50		mg/kg			78-108
BeT	191.1	0.50		mg/kg			71-120
CaT	194.1	0.10		mg/kg			85-115
CdT	193.1	0.05		mg/kg			76-110
CoT	197.1	0.50		mg/kg			73-113
CrT	196.1	0.50		mg/kg			73-109
CuT	198.1	0.50	23.1 ✓	mg/kg	25		72-115
FeT	199.1	0.10		mg/kg			-
HgT	203.1	0.10		mg/kg			85-115
K T	206.1	0.10		mg/kg			85-115
LiT	216.1	0.10		mg/kg			-
MgT	201.1	0.10		mg/kg			85-115
MnT	202.1	0.50		mg/kg			74-120

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	0.50		mg/kg			80-120
NaT	209.1	0.10		mg/kg			85-115
NiT	205.1	0.50		mg/kg			73-116
P T	407.1	0.10		mg/kg			-
PbT	200.1	1.0	23.9 ✓	mg/kg	25		80-110
SbT	188.1	0.50		mg/kg			71-115
SeT	207.1	0.20		mg/kg			75-107
SiT	221.1	0.10		mg/kg			-
SnT	218.1	0.10		mg/kg			85-115
SrT	217.1	0.125		mg/kg			85-115
TiT	211.1	0.10		mg/kg			85-115
TlT	210.1	0.50		mg/kg			73-120
V T	212.1	0.50		mg/kg			71-112
ZnT	213.1	0.50		mg/kg			75-120

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305052 6807-13 12FNS01001

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185803-116

001509

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	POS	Spike Qty.	Spike Stock	~~% SPK1~~ % RPD	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	4.8 ✓	mg/kg	~~72~~ 6	26.8 ✓	27.5 ✓	~~26.8~~ ~~22.1~~ ✓	25		24 ✓			47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	7.9 ✓	mg/kg	~~72~~ 72	30.7 ✓	33.0 ✓	31.3 ~~26.2~~ ✓	25		7.3 ✓			74-132	= 20	= 20

dmc 5/22/02 dmc 5/22/02

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305053 6807-13 14HWP01002

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 185803-116

001510

		Dilution	MDL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	3.4 ✓	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	1.9 ✓	mg/kg										74-132	= 20	= 20

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305054 6807-13 6FNP01003

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 185803-116

001511

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	4.0	mg/kg										47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	2.3	mg/kg										74-132	= 20	= 20

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

001512

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: Me9.17.18 on: _____

Sample: CCV -2

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	39.7	ug/L	40		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	40.4	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001513

Sample: CCB -2

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

09:39 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305055 6807-13 6CNS01004

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 185803-116

001514

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	4.0	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	2.8	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305056 6807-13 3CNS01005

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185803 -116

001515

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	3.9 ✓	mg/kg										47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	31 ✓	mg/kg										74-132	= 20	= 20

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305057 6807-13 2BNS01006

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185803-116

001516

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	5.1	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	3.4	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305058 6807-13 6BNS01007

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185803-116

001517

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	5.7 ✓	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	3.5 ✓	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305059 6807-13 BENS01008

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259
Run date: 5/22/02 Entered by: _____ Est anal hrs: 2
Stock std: _____ on: _____ Act anal hrs: _____
Stock std: _____ Verified by: _____ Batch number: _____
Stock std: _____ on: _____ Batch open dt: _____
Instrument #: 114 Approved by: _____ Batch sequence: _____
Weight/volume: _____ on: _____ QC Batch #: 85803-116

001518

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	2.5	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	1.8	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305060 6807-13 8EANS01008

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 185803-116

001519

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	2.4	mg/kg										47-144	- 20	- 20
PbT	200.1		~~1.0~~ 0.13	1.6	mg/kg										74-132	- 20	- 20

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305061 6807-13 1DNS01010

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 85803-116

001520

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	3.5	mg/kg										47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	2.2	mg/kg										74-132	= 20	= 20

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Analyst: DSC
Run date: 5/22/02
Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____
Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185914-120

001521

Sample: MPB

Instrument #: 114
Weight/volume: _____

		ODL	Reported Conc.	Unit
AgT	208.1	0.50		mg/kg
AlT	187.1	4.0		mg/kg
AsT	189.1	0.10		mg/kg
AuT	495.1	0.10		mg/kg
B T	220.3	8.0		mg/kg
BaT	190.1	0.50		mg/kg
BeT	191.1	0.50		mg/kg
CaT	194.1	0.10		mg/kg
CdT	193.1	0.05		mg/kg
CoT	197.1	0.50		mg/kg
CrT	196.1	0.50		mg/kg
CuT	198.1	~~0.50~~ 0.22	<0.22u	mg/kg
FeT	199.1	0.10		mg/kg
HgT	203.1	0.10		mg/kg
K T	206.1	0.10		mg/kg
LiT	216.1	0.10		mg/kg
MgT	201.1	0.10		mg/kg
MnT	202.1	0.50		mg/kg
MoT	219.1	0.50		mg/kg
NaT	209.1	0.10		mg/kg
NiT	205.1	0.50		mg/kg
P T	407.1	0.10		mg/kg
PbT	200.1	~~1.0~~ 0.13	<0.13u	mg/kg
SbT	188.1	0.50		mg/kg
SeT	207.1	0.20		mg/kg
SiT	221.1	0.10		mg/kg
SnT	218.1	0.10		mg/kg
SrT	217.1	0.125		mg/kg
TiT	211.1	0.10		mg/kg
TlT	210.1	0.50		mg/kg
V T	212.1	0.50		mg/kg
ZnT	213.1	0.50		mg/kg

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: _____ on: _____

Sample: LFB

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ___

Weight/volume: _____ on: _____ QC Batch #: 185914-120

001522

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.50		mg/kg			79-104
AlT	187.1	4.0		mg/kg			85-115
AsT	189.1	0.10		mg/kg			76-110
AuT	495.1	0.10		mg/kg			85-115
B T	220.3	6.0		mg/kg			85-115
BaT	190.1	0.50		mg/kg			78-106
BeT	191.1	0.50		mg/kg			71-120
CaT	194.1	0.10		mg/kg			85-115
CdT	193.1	0.05		mg/kg			76-110
CoT	197.1	0.50		mg/kg			73-113
CrT	196.1	0.50		mg/kg			73-109
CuT	198.1	0.50	23.2	mg/kg	25		72-115
FeT	199.1	0.10		mg/kg			-
HgT	203.1	0.10		mg/kg			85-115
K T	206.1	0.10		mg/kg			85-115
LiT	216.1	0.10		mg/kg			-
MgT	201.1	0.10		mg/kg			85-115
MnT	202.1	0.50		mg/kg			74-120
MoT	219.1	0.50		mg/kg			80-120
NaT	209.1	0.10		mg/kg			85-115
NiT	205.1	0.50		mg/kg			73-116
P T	407.1	0.10		mg/kg			-
PbT	200.1	1.0	22.9	mg/kg	25		80-110
SbT	188.1	0.50		mg/kg			71-115
SeT	207.1	0.20		mg/kg			75-107
SiT	221.1	0.10		mg/kg			-
SnT	218.1	0.10		mg/kg			85-115
SrT	217.1	0.125		mg/kg			85-115
TiT	211.1	0.10		mg/kg			85-115
TlT	210.1	0.50		mg/kg			73-120
V T	212.1	0.50		mg/kg			71-112
ZnT	213.1	0.50		mg/kg			75-120

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

001523

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305316 6731-2 5AWP01001

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185914-120

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	14	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	9.8	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: Me9.17.18 on: _____

Sample: CCV - 3

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001524

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	40.9	ug/L	40		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	41.3	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001525

Sample: CCB - 3

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305317 6731-2 4BNP01002

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185914-120

001526

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	9.4	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	12	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305318 6731-2 3CWP01003

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259
Run date: 5/22/02 Entered by: _____ Est anal hrs: 2
Stock std: _____ on: _____ Act anal hrs: _____
Stock std: _____ Verified by: _____ Batch number: _____
Stock std: _____ on: _____ Batch open dt: _____
Instrument #: 114 Approved by: _____ Batch sequence: _____
Weight/volume: _____ on: _____ QC Batch #: 185914-HT120

smc 5/22/02

001527

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	6.8	mg/kg										47-144	- 20	- 20
PbT	200.1		~~1.0~~ 0.13	0.0	mg/kg										74-132	- 20	- 20

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

001528

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305319 6731-2 3CAWP01003

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259
Run date: 5/22/02 Entered by: _____ Est anal hrs: 2
Stock std: _____ on: _____ Act anal hrs: _____
Stock std: _____ Verified by: _____ Batch number: _____
Stock std: _____ on: _____ Batch open dt: _____
Instrument #: 114 Approved by: _____ Batch sequence: ___
Weight/volume: _____ on: _____ QC Batch #: 85914 #12C
SMC 5/22/02

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	7.5	mg/kg										47-144	- 20	- 20
PbT	200.1		~~1.0~~ 0.13	9.2	mg/kg										74-132	- 20	- 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

001529

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305320 6731-2 2BWP01004

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185914-120

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	14	mg/kg										47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	12	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305321 6731-2 1DWP01005

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185914-120

001530

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	116 ✓	mg/kg										47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	80 ✓	mg/kg										74-132	= 20	= 20

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305322 6731-2 3DNS01006

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259
Run date: 5/22/02 Entered by: _____ Est anal hrs: 2
Stock std: _____ on: _____ Act anal hrs: _____
Stock std: _____ Verified by: _____ Batch number: _____
Stock std: _____ on: _____ Batch open dt: _____
Instrument #: 114 Approved by: _____ Batch sequence: ____
Weight/volume: _____ on: _____ QC Batch #: 185914-120

001531

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	15	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	12	mg/kg										74-132	= 20	= 20

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305323 6731-2 5CNS01007

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259
Run date: 5/22/02 Entered by: _____ Est anal hrs: 2
Stock std: _____ on: _____ Act anal hrs: _____
Stock std: _____ Verified by: _____ Batch number: _____
Stock std: _____ on: _____ Batch open dt: _____
Instrument #: 114 Approved by: _____ Batch sequence: ___
Weight/volume: _____ on: _____ QC Batch #: 185914-120

001532

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	22	mg/kg										47-144	- 20	- 20
PbT 200.1		~~1.0~~ 0.13	24	mg/kg										74-132	- 20	- 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

001533

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305324 6739 2AWP01001

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259
Run date: 5/22/02 Entered by: _____ Est anal hrs: 2
Stock std: _____ on: _____ Act anal hrs: _____
Stock std: _____ Verified by: _____ Batch number: _____
Stock std: _____ on: _____ Batch open dt: _____
Instrument #: 114 Approved by: _____ Batch sequence: ____
Weight/volume: _____ on: _____ QC Batch #: 185914-120

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	8.6 ✓	mg/kg										47-144	- 20	- 20
PbT	200.1		~~1.0~~ 0.13	3.7 ✓	mg/kg										74-132	- 20	- 20

METALS BENCHSHEET BY GROUP

001534

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305325 6739 4AWP01002

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: _____
QC Batch #: 185914-120

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	~~% SPK1~~ DUP	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	8.0	mg/kg	~~72~~ 8MC 5/22/02	30.9	30.8	~~24.5~~ 29.9 8MC 5/22/02	25		6.8			47-144	- 20	- 20
PbT 200.1		~~1.0~~ 0.13	4.5	mg/kg	~~72~~ 8MC 5/22/02	30.0	28.5	~~21.8~~ 28.5 8MC 5/22/02	25		4.1			74-132	- 20	- 20

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: M09.17.18 on: _____

Sample: CCV -4

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001535

		MDL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	40.9	ug/L	40		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110

		MDL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	42.0	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001536

Sample: CCB -4

Instrument #: 114
Weight/volume: _____

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

001537

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305326 6739 4BNP01003

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 85914-120

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~		mg/kg										47-144	= 20	= 20
		0.22	8.4 ✓													
PbT 200.1		~~1.0~~		mg/kg										74-132	= 20	= 20
		0.13	6.7 ✓													

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

001538

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305327 6739 5CWP01004

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259
Run date: 5/22/02 Entered by: _____ Est anal hrs: 2
Stock std: _____ on: _____ Act anal hrs: _____
Stock std: _____ Verified by: _____ Batch number: _____
Stock std: _____ on: _____ Batch open dt: _____
Instrument #: 114 Approved by: _____ Batch sequence: ____
Weight/volume: _____ on: _____ QC Batch #: 185914-120

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	6.3	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	2.1	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

001539

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305328 6739 5CAWP01004

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185914-120

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	8.4	mg/kg										47-144	- 20	- 20
PbT 200.1		~~1.0~~ 0.13	3.7	mg/kg										74-132	- 20	- 20

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305329 6739 6AWP01005

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 185914-120

001540

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	6.1	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	3.6	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305330 6739 6BWP01006

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 85914-120

0001541

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	8.9	mg/kg										47-144	- 20	- 20
PbT 200.1		~~1.0~~ 0.13	6.1	mg/kg										74-132	- 20	- 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305331 6739 8AWP01007

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 85914-120

001542

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.56~~		mg/kg										47-144	- 20	- 20
			0.22	10													
PbT	200.1		~~1.6~~		mg/kg										74-132	- 20	- 20
			0.13	6.4													

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: Me9.17.18 on: _____

Sample: CCV - 5

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001543

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	41.3	ug/L	40		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	41.7	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

Sample: CCB-5

Instrument #: 114
Weight/volume: _____

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

TRIMATRIX LABORATORIES, INC.

001544

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

001545

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305332 6739 9BWP01008

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____ on: _____
Verified by: _____ on: _____
Approved by: _____ on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: _____
QC Batch #: 185914-120

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	8.9	mg/kg										47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	3.9	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305333 6736 1ANS01001

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 184916-120

001546

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	10	mg/kg										47-144	- 20	- 20
PbT 200.1		~~1.0~~ 0.13	7.7	mg/kg										74-132	- 20	- 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305334 6736 2CNS01002

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185914-120

001547

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	15	mg/kg										47-144	- 20	- 20
PbT 200.1		~~1.0~~ 0.13	8.6	mg/kg										74-132	- 20	- 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

001548

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305335 6736 2CANS01002

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: _____
QC Batch #: 185914-120

	Dilution	~~ODL~~	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	~~% SPK1~~ DUP	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	14	mg/kg	~~U~~	31.1	33.5	30.4	25		11	134		~~47-144~~ 75-125	- 20	- 20
PbT 200.1		~~1.0~~ 0.14	6.1	mg/kg		28.2	28.6	30.0	25		6.3			~~74-132~~ 75-125	- 20	- 20

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Method: 508.4 MS/EPA/SOL USEPA-6020

Sample: MPB

METALS BENCHSHEET BY GROUP

Analyst: DSC
Run date: 5/22/02
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 185916-120

001549

		ODL	Reported Conc.	Unit
AgT	208.1	0.50		mg/kg
AlT	187.1	4.0		mg/kg
AsT	189.1	0.10		mg/kg
AuT	495.1	0.10		mg/kg
B T	220.3	6.0		mg/kg
BaT	190.1	0.50		mg/kg
BeT	191.1	0.50		mg/kg
CaT	194.1	0.10		mg/kg
CdT	193.1	0.05		mg/kg
CoT	197.1	0.50		mg/kg
CrT	196.1	0.50		mg/kg
CuT	198.1	~~0.50~~ 0.22	<0.22 u	mg/kg
FeT	199.1	0.10		mg/kg
HgT	203.1	0.10		mg/kg
K T	206.1	0.10		mg/kg
LiT	216.1	0.10		mg/kg
MgT	201.1	0.10		mg/kg
MnT	202.1	0.50		mg/kg

		ODL	Reported Conc.	Unit
MoT	219.1	0.50		mg/kg
NaT	209.1	0.10		mg/kg
NiT	205.1	0.50		mg/kg
P T	407.1	0.10		mg/kg
PbT	200.1	~~1.0~~ 0.13	<0.13 u	mg/kg
SbT	188.1	0.50		mg/kg
SeT	207.1	0.20		mg/kg
SiT	221.1	0.10		mg/kg
SnT	218.1	0.10		mg/kg
SrT	217.1	0.125		mg/kg
TiT	211.1	0.10		mg/kg
TlT	210.1	0.50		mg/kg
V T	212.1	0.50		mg/kg
ZnT	213.1	0.50		mg/kg

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METALS BENCHSHEET BY GROUP

001550

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: MC9.17.18 on: _____

Sample: CCV -6

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	41.0	ug/L	40		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	40.9	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02

Reviewed by: _____ on: _____
Entered by: _____ on: _____
Verified by: _____ on: _____
Approved by: _____ on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001551

Sample: CCB -6

Instrument #: 14
Weight/volume: _____

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Batch number: _____
Batch open dt: _____
Batch sequence: _____
QC Batch #: 185916-120

001552

Sample: LFB

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.50		mg/kg			79-104
AlT	187.1	4.0		mg/kg			85-115
AsT	189.1	0.10		mg/kg			78-110
AuT	495.1	0.10		mg/kg			85-115
B T	220.3	6.0		mg/kg			85-115
BaT	190.1	0.50		mg/kg			78-108
BeT	191.1	0.50		mg/kg			71-120
CaT	194.1	0.10		mg/kg			85-115
CdT	193.1	0.05		mg/kg			78-110
CoT	197.1	0.50		mg/kg			73-113
CrT	196.1	0.50		mg/kg			73-109
CuT	198.1	0.50	24.3	mg/kg	25		72-115
FeT	199.1	0.10		mg/kg			-
HgT	203.1	0.10		mg/kg			85-115
K T	206.1	0.10		mg/kg			85-115
LiT	216.1	0.10		mg/kg			-
MgT	201.1	0.10		mg/kg			85-115
MnT	202.1	0.50		mg/kg			74-120

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	0.50		mg/kg			80-120
NaT	209.1	0.10		mg/kg			85-115
NiT	205.1	0.50		mg/kg			73-116
P T	407.1	0.10		mg/kg			-
PbT	200.1	1.0	24.1	mg/kg	25		80-110
SbT	188.1	0.50		mg/kg			71-115
SeT	207.1	0.20		mg/kg			75-107
SiT	221.1	0.10		mg/kg			-
SnT	218.1	0.10		mg/kg			85-115
SrT	217.1	0.125		mg/kg			85-115
TiT	211.1	0.10		mg/kg			85-115
TlT	210.1	0.50		mg/kg			73-120
V T	212.1	0.50		mg/kg			71-112
ZnT	213.1	0.50		mg/kg			75-120

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

001553

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305336 6736 2DNS01003

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 185916-120

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	13	mg/kg										47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	10	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305337 6736 1ENS01004

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: _____
QC Batch #: 189916-120

001554

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	16	mg/kg										47-144	- 20	- 20
PbT	200.1		~~1.0~~ 0.13	7.1	mg/kg										74-132	- 20	- 20

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

001555

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305338 6712 1CNP01001

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 85916-120

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	11 ✓	mg/kg										47-144	- 20	- 20
PbT	200.1		~~1.0~~ 0.13	6.3 ✓	mg/kg										74-132	- 20	- 20

09:59 22-MAY-2002 METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305339 6712 1CANP01001

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185916-120

001556

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~		mg/kg										47-144	- 20	- 20
			0.22	10 ✓													
PbT	200.1		~~1.0~~		mg/kg										74-132	- 20	- 20
			0.13	5.8 ✓													

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

001557

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305340 6712 2DNP01002

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 85916-120

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	41	mg/kg										47-144	- 20	- 20
PbT 200.1		~~1.0~~ 0.13		mg/kg										74-132	- 20	- 20

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305341 6712 2ANP01003

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 185916-120

001558

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	14	mg/kg										47-144	- 20	- 20
PbT 200.1		~~1.0~~ 0.13	19	mg/kg										74-132	- 20	- 20

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305342 6712 4BNP01004

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185916-120

001559

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	~~% SPK1~~ DUP	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	6.8	mg/kg	X	33.4	29.4	29.4	25		5.8			47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	5.1	mg/kg		30.9	30.5	28.6	25		4.7			74-132	= 20	= 20

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: Me 9.17.18 on: _____

Sample: CCV -7

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001560

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	40.5	ug/L	40		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	42.2	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

TRIMATRIX LABORATORIES, INC.

10:00 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02
Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____
Benchsheet ID: 289260
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001561

Sample: CCB - 7

Instrument #: 14
Weight/volume: _____

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305343 6712 4DNP01005

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259
Run date: 5/22/02 Entered by: _____ Est anal hrs: 2
Stock std: _____ on: _____ Act anal hrs: _____
Stock std: _____ Verified by: _____ Batch number: _____
Stock std: _____ on: _____ Batch open dt: _____
Instrument #: 114 Approved by: _____ Batch sequence: ____
Weight/volume: _____ on: _____ QC Batch #: 185916-120

001562

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~		mg/kg										47-144	= 20	= 20
			0.22	6.6													
PbT	200.1		~~1.0~~		mg/kg										74-132	= 20	= 20
			0.13	3.4													

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305344 6712 4ANP01006

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 114
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 185916-120

001563

		Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT	198.1		~~0.50~~ 0.22	6.5	mg/kg										47-144	= 20	= 20
PbT	200.1		~~1.0~~ 0.13	3.5	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305345 6712 7BNP01007

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ___
QC Batch #: 185916-120

001564

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22	5.3	mg/kg										47-144	= 20	= 20
PbT 200.1		~~1.0~~ 0.13	3.2	mg/kg										74-132	= 20	= 20

TRIMATRIX LABORATORIES, INC.

10:41 28-FEB-2002 METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 284741

Run date: 5/22/02 Entered by: _____

Stock std: Me9.17.18 on: _____

Sample: CCV -8

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 14 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001565

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	40.6 ✓	ug/L	40		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	42.2 ✓	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

TRIMATRIX LABORATORIES, INC.

10:41 28-FEB-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: QSC
Run date: 5/22/02

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 284741
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

001566

Sample: CCB -8

Instrument #: 114
Weight/volume: _____

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.4 MS/EPA/SOL USEPA-6020

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Proj Chem: LMH
Submittal: 1 May 2002 Samples
Narrative: submit=N sample=N

Received date: 15-MAY-2002 COC: yes QC: LV5
Hold date: 09-NOV-2002
Lab Due date: 23-MAY-2002 C=0 F=0 H=0 R=0
Client Due date: 28-MAY-2002

Sample: 305340 6712 2DNP01002

Analyst: DSC
Run date: 5/22/02
Stock std: _____
Stock std: _____
Stock std: _____
Instrument #: 14
Weight/volume: _____

Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____

Benchsheet ID: 289259
Est anal hrs: 2
Act anal hrs: _____
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: 85916-120

001567

	Dilution	ODL	Reported Conc.	Unit	Qu	SPK-1	SPK-2	PDS	Spike Qty.	Spike Stock	% SPK1	% SPK2	% MSD	SPK limits	MSD-1 limits	MSD-2 limits
CuT 198.1		~~0.50~~ 0.22		mg/kg										47-144	- 20	- 20
PbT 200.1	500	~~1.0~~ 170 ~~0.13~~ 64	2140 ✓	mg/kg										74-132	- 20	- 20

MDL x 3.333 x 500 = ODL

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: _____ on: _____

Sample: CRL final

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 14 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001568

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			-
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			-
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			-
BaT	190.1	10		ug/L			-
BeT	191.1	1.0		ug/L			-
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			-
CoT	197.1	10		ug/L			-
CrT	196.1	1.0		ug/L			-
CuT	198.1	1.0	1.11	ug/L	1.0		-
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			-
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			-

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			-
P T	407.1	10		ug/L			-
PbT	200.1	1.0	1.11	ug/L	1.0		-
SbT	188.1	2.0		ug/L			-
SeT	207.1	2.0		ug/L			-
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			-
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			-
V T	212.1	10		ug/L			-
ZnT	213.1	10		ug/L			-

TRIMATRIX LABORATORIES, INC.

09:59 22-MAY-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 289259

Run date: 5/22/02 Entered by: _____

Stock std: _____ on: _____

Sample: IEC final

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001569

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			90-110
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			90-110
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			90-110
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	20.3	ug/L	20		90-110
FeT	199.1	10		ug/L			90-110
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			90-110
LiT	216.1	10		ug/L			90-110
MgT	201.1	10		mg/L			90-110
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			90-110
NaT	209.1	10		mg/L			90-110
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			90-110
PbT	200.1	1.0		ug/L			90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			90-110
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			90-110
TiT	211.1	10		ug/L			90-110
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

10:41 28-FEB-2002 METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC Reviewed by: _____ Benchsheet ID: 284741

Run date: 5/22/02 Entered by: _____

Stock std: Me9.17.18 on: _____

Sample: CCV -9

Stock std: _____ Verified by: _____ Batch number: _____

Stock std: _____ on: _____ Batch open dt: _____

Instrument #: 114 Approved by: _____ Batch sequence: ____

Weight/volume: _____ on: _____ QC Batch #: _____

001570

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
AgT	208.1	0.2		ug/L			90-110
AlT	187.1	10		ug/L			-
AsT	189.1	1.0		ug/L			90-110
AuT	495.1	10		ug/L			-
B T	220.3	50		ug/L			90-110
BaT	190.1	10		ug/L			90-110
BeT	191.1	1.0		ug/L			90-110
CaT	194.1	10		mg/L			-
CdT	193.1	0.2		ug/L			90-110
CoT	197.1	10		ug/L			90-110
CrT	196.1	1.0		ug/L			90-110
CuT	198.1	1.0	40.0	ug/L	40		90-110
FeT	199.1	10		ug/L			-
HgT	203.1	0.2		ug/L			90-110
K T	206.1	10		mg/L			-
LiT	216.1	10		ug/L			-
MgT	201.1	10		mg/L			-
MnT	202.1	10		ug/L			90-110

		ODL	Reported Conc.	Unit	Spike Qty.	% Rec.	Limits
MoT	219.1	10		ug/L			-
NaT	209.1	10		mg/L			-
NiT	205.1	1.0		ug/L			90-110
P T	407.1	10		ug/L			-
PbT	200.1	1.0	41.4	ug/L	40		90-110
SbT	188.1	2.0		ug/L			90-110
SeT	207.1	2.0		ug/L			90-110
SiT	221.1	10		ug/L			-
SnT	218.1	10		ug/L			90-110
SrT	217.1	10		ug/L			-
TiT	211.1	10		ug/L			-
TlT	210.1	2.0		ug/L			90-110
V T	212.1	10		ug/L			90-110
ZnT	213.1	10		ug/L			90-110

10:41 28-FEB-2002

METALS BENCHSHEET BY GROUP

Method: 508.1 MS/EPA/WT EPA-200.8/6020

Analyst: DSC
Run date: 5/22/02
Reviewed by: _____
Entered by: _____
on: _____
Verified by: _____
on: _____
Approved by: _____
on: _____
Benchsheet ID: 284741
Batch number: _____
Batch open dt: _____
Batch sequence: ____
QC Batch #: _____

Sample: CCB -9

Instrument #: 14
Weight/volume: _____

001571

		ODL	Reported Conc.	Unit
AgT	208.1	0.2		ug/L
AlT	187.1	10		ug/L
AsT	189.1	1.0		ug/L
AuT	495.1	10		ug/L
B T	220.3	50		ug/L
BaT	190.1	10		ug/L
BeT	191.1	1.0		ug/L
CaT	194.1	10		mg/L
CdT	193.1	0.2		ug/L
CoT	197.1	10		ug/L
CrT	196.1	1.0		ug/L
CuT	198.1	1.0	<1.0	ug/L
FeT	199.1	10		ug/L
HgT	203.1	0.2		ug/L
K T	206.1	10		mg/L
LiT	216.1	10		ug/L
MgT	201.1	10		mg/L
MnT	202.1	10		ug/L

		ODL	Reported Conc.	Unit
MoT	219.1	10		ug/L
NaT	209.1	10		mg/L
NiT	205.1	1.0		ug/L
P T	407.1	10		ug/L
PbT	200.1	1.0	<1.0	ug/L
SbT	188.1	2.0		ug/L
SeT	207.1	2.0		ug/L
SiT	221.1	10		ug/L
SnT	218.1	10		ug/L
SrT	217.1	10		ug/L
TiT	211.1	10		ug/L
TlT	210.1	2.0		ug/L
V T	212.1	10		ug/L
ZnT	213.1	10		ug/L

001572

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
186133	22-MAY-02	DSC	2	YES	YES	MS/EPA/WT	WATER	EPA-200.8/6020	80	2	2	2	18	18

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim		Init conc	Final conc		Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	05/22/02	DSC		WATER	1.0			97.1		100	COPPER, TOTAL	ICV- 1	97	90	110				EPA-200.8/6020
v	2.000	-	-	05/22/02	DSC		WATER	1.0			101.8		100	LEAD, TOTAL	ICV- 1	102	90	110				EPA-200.8/6020
v	3.000	-	-	05/22/02	DSC		WATER	1.0			40.6		40	COPPER, TOTAL	LCS- 1	102	90	110				EPA-200.8/6020
v	4.000	-	-	05/22/02	DSC		WATER	1.0			42.3		40	LEAD, TOTAL	LCS- 1	106	90	110				EPA-200.8/6020
v	5.000	-	-	05/22/02	DSC		WATER	1.0			<1.0			COPPER, TOTAL	ICB- 1	0						EPA-200.8/6020
v	6.000	-	-	05/22/02	DSC		WATER	1.0			<1.0			LEAD, TOTAL	ICB- 1	0						EPA-200.8/6020
v	7.000	-	-	05/22/02	DSC		WATER	1.0			<1.0			COPPER, TOTAL	BLK- 1	0						EPA-200.8/6020
v	8.000	-	-	05/22/02	DSC		WATER	1.0			<1.0			LEAD, TOTAL	BLK- 1	0						EPA-200.8/6020
v	9.000	-	-	05/22/02	DSC		WATER	1.0			1.12		1.0	COPPER, TOTAL	CRL- 1	112						EPA-200.8/6020
v	10.000	-	-	05/22/02	DSC		WATER	1.0			1.13		1.0	LEAD, TOTAL	CRL- 1	113						EPA-200.8/6020
v	11.000	-	-	05/22/02	DSC		WATER	1.0			21.3		20	COPPER, TOTAL	IEC- 1	107	90	110				EPA-200.8/6020
v	12.000	-	-	05/22/02	DSC		WATER	1.0			40.9		40	COPPER, TOTAL	CCV- 1	102	90	110				EPA-200.8/6020
v	13.000	-	-	05/22/02	DSC		WATER	1.0			42.5		40	LEAD, TOTAL	CCV- 1	106	90	110				EPA-200.8/6020
v	14.000	-	-	05/22/02	DSC		WATER	1.0			<1.0			COPPER, TOTAL	CCB- 1	0						EPA-200.8/6020
v	15.000	-	-	05/22/02	DSC		WATER	1.0			<1.0			LEAD, TOTAL	CCB- 1	0						EPA-200.8/6020
v	17.000	-	185803-116	05/22/02	DSC		SOIL	0.22			<0.22	U		COPPER, TOTAL	MPB- 1	0						USEPA-6020
v	18.000	-	185803-116	05/22/02	DSC		SOIL	0.13			<0.13	U		LEAD, TOTAL	MPB- 1	0						USEPA-6020
v	19.000	-	185803-116	05/22/02	DSC		SOIL	0.50			23.1		25	COPPER, TOTAL	LFB- 1	92	72	115				USEPA-6020
v	20.000	-	185803-116	05/22/02	DSC		SOIL	1.0			23.9		25	LEAD, TOTAL	LFB- 1	96	80	110				USEPA-6020
v	21.000	-	185803-116	05/22/02	DSC	305052	SOIL	0.22			4.8			COPPER, TOTAL	REG- 1							USEPA-6020
v	22.000	- 21	185803-116	05/22/02	DSC	305052	SOIL	0.22		4.8	26.8		25	COPPER, TOTAL	SPK- 1	88	47	144				USEPA-6020
v	23.000	- 22	185803-116	05/22/02	DSC	305052	SOIL	0.22		4.8	27.5		25	COPPER, TOTAL	SPK- 2	91	47	144				USEPA-6020
v	24.000	- 23	185803-116	05/22/02	DSC	305052	SOIL	0.22		26.8	27.5			COPPER, TOTAL	MSD- 1	3		20				USEPA-6020
v	25.000	- 21	185803-116	05/22/02	DSC	305052	SOIL	0.22		4.8	26.8		25	COPPER, TOTAL	PDS- 1	88	75	125				USEPA-6020
v	26.000	- 21	185803-116	05/22/02	DSC	305052	SOIL	0.22		4.8	24			COPPER, TOTAL	DUP- 1	133		20	CH			USEPA-6020
v	27.000	-	185803-116	05/22/02	DSC	305052	SOIL	0.13			7.9			LEAD, TOTAL	REG- 1							USEPA-6020
v	28.000	- 27	185803-116	05/22/02	DSC	305052	SOIL	0.13		7.9	30.7		25	LEAD, TOTAL	SPK- 1	91	74	132				USEPA-6020
v	29.000	- 28	185803-116	05/22/02	DSC	305052	SOIL	0.13		7.9	33.0		25	LEAD, TOTAL	SPK- 2	100	74	132				USEPA-6020
v	30.000	- 29	185803-116	05/22/02	DSC	305052	SOIL	0.13		30.7	33.0			LEAD, TOTAL	MSD- 1	7		20				USEPA-6020
v	31.000	- 27	185803-116	05/22/02	DSC	305052	SOIL	0.13		7.9	31.3		25	LEAD, TOTAL	PDS- 1	94	75	125				USEPA-6020
v	32.000	- 27	185803-116	05/22/02	DSC	305052	SOIL	0.13		7.9	7.3			LEAD, TOTAL	DUP- 1	8		20				USEPA-6020
v	33.000	-	185803-116	05/22/02	DSC	305053	SOIL	0.22			3.4			COPPER, TOTAL	REG- 1							USEPA-6020

001573

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc		Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	34.000	-	185803-116	05/22/02	DSC	305053	SOIL	0.13		1.9			LEAD, TOTAL	REG- 1							USEPA-6020
v	35.000	-	185803-116	05/22/02	DSC	305054	SOIL	0.22		4.0			COPPER, TOTAL	REG- 1							USEPA-6020
v	36.000	-	185803-116	05/22/02	DSC	305054	SOIL	0.13		2.3			LEAD, TOTAL	REG- 1							USEPA-6020
v	37.000	-	-	05/22/02	DSC		WATER	1.0		39.7		40	COPPER, TOTAL	CCV- 2	99	90	110				EPA-200.8/6020
v	38.000	-	-	05/22/02	DSC		WATER	1.0		40.4		40	LEAD, TOTAL	CCV- 2	101	90	110				EPA-200.8/6020
v	39.000	-	-	05/22/02	DSC		WATER	1.0		<1.0			COPPER, TOTAL	CCB- 2	0						EPA-200.8/6020
v	40.000	-	-	05/22/02	DSC		WATER	1.0		<1.0			LEAD, TOTAL	CCB- 2	0						EPA-200.8/6020
v	41.000	-	185803-116	05/22/02	DSC	305055	SOIL	0.22		4.0			COPPER, TOTAL	REG- 1							USEPA-6020
v	42.000	-	185803-116	05/22/02	DSC	305055	SOIL	0.13		2.8			LEAD, TOTAL	REG- 1							USEPA-6020
v	43.000	-	185803-116	05/22/02	DSC	305056	SOIL	0.22		3.9			COPPER, TOTAL	REG- 1							USEPA-6020
v	44.000	-	185803-116	05/22/02	DSC	305056	SOIL	0.13		31			LEAD, TOTAL	REG- 1							USEPA-6020
v	45.000	-	185803-116	05/22/02	DSC	305057	SOIL	0.22		5.1			COPPER, TOTAL	REG- 1							USEPA-6020
v	46.000	-	185803-116	05/22/02	DSC	305057	SOIL	0.13		3.4			LEAD, TOTAL	REG- 1							USEPA-6020
v	47.000	-	185803-116	05/22/02	DSC	305058	SOIL	0.22		5.7			COPPER, TOTAL	REG- 1							USEPA-6020
v	48.000	-	185803-116	05/22/02	DSC	305058	SOIL	0.13		3.5			LEAD, TOTAL	REG- 1							USEPA-6020
v	49.000	-	185803-116	05/22/02	DSC	305059	SOIL	0.22		2.5			COPPER, TOTAL	REG- 1							USEPA-6020
v	50.000	-	185803-116	05/22/02	DSC	305059	SOIL	0.13		1.8			LEAD, TOTAL	REG- 1							USEPA-6020
v	51.000	-	185803-116	05/22/02	DSC	305060	SOIL	0.22		2.4			COPPER, TOTAL	REG- 1							USEPA-6020
v	52.000	-	185803-116	05/22/02	DSC	305060	SOIL	0.13		1.6			LEAD, TOTAL	REG- 1							USEPA-6020
v	53.000	-	185803-116	05/22/02	DSC	305061	SOIL	0.22		3.5			COPPER, TOTAL	REG- 1							USEPA-6020
v	54.000	-	185803-116	05/22/02	DSC	305061	SOIL	0.13		2.2			LEAD, TOTAL	REG- 1							USEPA-6020
v	55.000	-	185914-120	05/22/02	DSC		SOIL	0.22		<0.22	U		COPPER, TOTAL	MPB- 1	0						USEPA-6020
v	56.000	-	185914-120	05/22/02	DSC		SOIL	0.13		<0.13	U		LEAD, TOTAL	MPB- 1	0						USEPA-6020
v	57.000	-	185914-120	05/22/02	DSC		SOIL	0.50		23.2		25	COPPER, TOTAL	LFB- 1	93	72	115				USEPA-6020
v	58.000	-	185914-120	05/22/02	DSC		SOIL	1.0		22.9		25	LEAD, TOTAL	LFB- 1	92	80	110				USEPA-6020
v	59.000	-	185914-120	05/22/02	DSC	305316	SOIL	0.22		14			COPPER, TOTAL	REG- 1							USEPA-6020
v	60.000	-	185914-120	05/22/02	DSC	305316	SOIL	0.13		9.8			LEAD, TOTAL	REG- 1							USEPA-6020
v	61.000	-	-	05/22/02	DSC		WATER	1.0		40.9		40	COPPER, TOTAL	CCV- 3	102	90	110				EPA-200.8/6020
v	62.000	-	-	05/22/02	DSC		WATER	1.0		41.3		40	LEAD, TOTAL	CCV- 3	103	90	110				EPA-200.8/6020
v	63.000	-	-	05/22/02	DSC		WATER	1.0		<1.0			COPPER, TOTAL	CCB- 3	0						EPA-200.8/6020
v	64.000	-	-	05/22/02	DSC		WATER	1.0		<1.0			LEAD, TOTAL	CCB- 3	0						EPA-200.8/6020
v	65.000	-	185914-120	05/22/02	DSC	305317	SOIL	0.22		9.4			COPPER, TOTAL	REG- 1							USEPA-6020
v	66.000	-	185914-120	05/22/02	DSC	305317	SOIL	0.13		12			LEAD, TOTAL	REG- 1							USEPA-6020
v	67.000	-	185914-120	05/22/02	DSC	305318	SOIL	0.22		6.8			COPPER, TOTAL	REG- 1							USEPA-6020
v	68.000	-	185914-120	05/22/02	DSC	305318	SOIL	0.13		6.0			LEAD, TOTAL	REG- 1							USEPA-6020
v	69.000	-	185914-120	05/22/02	DSC	305319	SOIL	0.22		7.5			COPPER, TOTAL	REG- 1							USEPA-6020
v	70.000	-	185914-120	05/22/02	DSC	305319	SOIL	0.13		9.2			LEAD, TOTAL	REG- 1							USEPA-6020

001574

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	71.000	-	185914-120	05/22/02	DSC	305320	SOIL	0.22		14		COPPER, TOTAL	REG- 1							USEPA-6020
v	72.000	-	185914-120	05/22/02	DSC	305320	SOIL	0.13		12		LEAD, TOTAL	REG- 1							USEPA-6020
v	73.000	-	185914-120	05/22/02	DSC	305321	SOIL	0.22		16		COPPER, TOTAL	REG- 1							USEPA-6020
v	74.000	-	185914-120	05/22/02	DSC	305321	SOIL	0.13		30		LEAD, TOTAL	REG- 1							USEPA-6020
v	75.000	-	185914-120	05/22/02	DSC	305322	SOIL	0.22		15		COPPER, TOTAL	REG- 1							USEPA-6020
v	76.000	-	185914-120	05/22/02	DSC	305322	SOIL	0.13		12		LEAD, TOTAL	REG- 1							USEPA-6020
v	77.000	-	185914-120	05/22/02	DSC	305323	SOIL	0.22		22		COPPER, TOTAL	REG- 1							USEPA-6020
v	78.000	-	185914-120	05/22/02	DSC	305323	SOIL	0.13		24		LEAD, TOTAL	REG- 1							USEPA-6020
v	79.000	-	185914-120	05/22/02	DSC	305324	SOIL	0.22		8.6		COPPER, TOTAL	REG- 1							USEPA-6020
v	80.000	-	185914-120	05/22/02	DSC	305324	SOIL	0.13		3.7		LEAD, TOTAL	REG- 1							USEPA-6020
v	81.000	-	185914-120	05/22/02	DSC	305325	SOIL	0.22		8.0	Remark QC	COPPER, TOTAL	REG- 1							USEPA-6020
v	82.000	- 81	185914-120	05/22/02	DSC	305325	SOIL	0.22	8.0	30.9	25	COPPER, TOTAL	SPK- 1	92	47	144				USEPA-6020
v	83.000	- 82	185914-120	05/22/02	DSC	305325	SOIL	0.22	8.0	30.8	25	COPPER, TOTAL	SPK- 2	91	47	144				USEPA-6020
v	84.000	- 83	185914-120	05/22/02	DSC	305325	SOIL	0.22	30.9	30.8		COPPER, TOTAL	MSD- 1	0		20				USEPA-6020
v	85.000	- 81	185914-120	05/22/02	DSC	305325	SOIL	0.22	8.0	29.9	25	COPPER, TOTAL	PDS- 1	88	75	125				USEPA-6020
v	86.000	- 81	185914-120	05/22/02	DSC	305325	SOIL	0.22	8.0	6.8		COPPER, TOTAL	DUP- 1	16		20				USEPA-6020
v	87.000	-	185914-120	05/22/02	DSC	305325	SOIL	0.13		4.5		LEAD, TOTAL	REG- 1							USEPA-6020
v	88.000	- 87	185914-120	05/22/02	DSC	305325	SOIL	0.13	4.5	30.0	25	LEAD, TOTAL	SPK- 1	102	74	132				USEPA-6020
v	89.000	- 88	185914-120	05/22/02	DSC	305325	SOIL	0.13	4.5	28.5	25	LEAD, TOTAL	SPK- 2	96	74	132				USEPA-6020
v	90.000	- 89	185914-120	05/22/02	DSC	305325	SOIL	0.13	30.0	28.5		LEAD, TOTAL	MSD- 1	5		20				USEPA-6020
v	91.000	- 87	185914-120	05/22/02	DSC	305325	SOIL	0.13	4.5	28.5	25	LEAD, TOTAL	PDS- 1	96	75	125				USEPA-6020
v	92.000	- 87	185914-120	05/22/02	DSC	305325	SOIL	0.13	4.5	4.1		LEAD, TOTAL	DUP- 1	9		20				USEPA-6020
v	93.000	-	-	05/22/02	DSC		WATER	1.0		40.9	40	COPPER, TOTAL	CCV- 4	102	90	110				EPA-200.8/6020
v	94.000	-	-	05/22/02	DSC		WATER	1.0		42.0	40	LEAD, TOTAL	CCV- 4	105	90	110				EPA-200.8/6020
v	95.000	-	-	05/22/02	DSC		WATER	1.0		<1.0		COPPER, TOTAL	CCB- 4	0						EPA-200.8/6020
v	96.000	-	-	05/22/02	DSC		WATER	1.0		<1.0		LEAD, TOTAL	CCB- 4	0						EPA-200.8/6020
v	97.000	-	185914-120	05/22/02	DSC	305326	SOIL	0.22		8.4		COPPER, TOTAL	REG- 1							USEPA-6020
v	98.000	-	185914-120	05/22/02	DSC	305326	SOIL	0.13		6.7		LEAD, TOTAL	REG- 1							USEPA-6020
v	99.000	-	185914-120	05/22/02	DSC	305327	SOIL	0.22		6.3		COPPER, TOTAL	REG- 1							USEPA-6020
v	100.000	-	185914-120	05/22/02	DSC	305327	SOIL	0.13		2.1		LEAD, TOTAL	REG- 1							USEPA-6020
v	101.000	-	185914-120	05/22/02	DSC	305328	SOIL	0.22		8.4		COPPER, TOTAL	REG- 1							USEPA-6020
v	102.000	-	185914-120	05/22/02	DSC	305328	SOIL	0.13		3.7		LEAD, TOTAL	REG- 1							USEPA-6020
v	103.000	-	185914-120	05/22/02	DSC	305329	SOIL	0.22		6.1		COPPER, TOTAL	REG- 1							USEPA-6020
v	104.000	-	185914-120	05/22/02	DSC	305329	SOIL	0.13		3.6		LEAD, TOTAL	REG- 1							USEPA-6020
v	105.000	-	185914-120	05/22/02	DSC	305330	SOIL	0.22		8.9		COPPER, TOTAL	REG- 1							USEPA-6020
v	106.000	-	185914-120	05/22/02	DSC	305330	SOIL	0.13		6.1		LEAD, TOTAL	REG- 1							USEPA-6020
v	107.000	-	185914-120	05/22/02	DSC	305331	SOIL	0.22		10		COPPER, TOTAL	REG- 1							USEPA-6020

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	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc		Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	108.000	-	185914-120	05/22/02	DSC	305331	SOIL	0.13		6.4			LEAD, TOTAL	REG- 1							USEPA-6020
v	109.000	-	-	05/22/02	DSC		WATER	1.0		41.3		40	COPPER, TOTAL	CCV- 5	103	90	110				EPA-200.8/6020
v	110.000	-	-	05/22/02	DSC		WATER	1.0		41.7		40	LEAD, TOTAL	CCV- 5	104	90	110				EPA-200.8/6020
v	111.000	-	-	05/22/02	DSC		WATER	1.0		<1.0			COPPER, TOTAL	CCB- 5	0						EPA-200.8/6020
v	112.000	-	-	05/22/02	DSC		WATER	1.0		<1.0			LEAD, TOTAL	CCB- 5	0						EPA-200.8/6020
v	113.000	-	185914-120	05/22/02	DSC	305332	SOIL	0.22		8.9			COPPER, TOTAL	REG- 1							USEPA-6020
v	114.000	-	185914-120	05/22/02	DSC	305332	SOIL	0.13		3.9			LEAD, TOTAL	REG- 1							USEPA-6020
v	117.000	-	185914-120	05/22/02	DSC	305333	SOIL	0.22		10			COPPER, TOTAL	REG- 1							USEPA-6020
v	118.000	-	185914-120	05/22/02	DSC	305333	SOIL	0.13		7.7			LEAD, TOTAL	REG- 1							USEPA-6020
v	119.000	-	185914-120	05/22/02	DSC	305334	SOIL	0.22		15			COPPER, TOTAL	REG- 1							USEPA-6020
v	120.000	-	185914-120	05/22/02	DSC	305334	SOIL	0.13		8.6			LEAD, TOTAL	REG- 1							USEPA-6020
v	121.000	-	185914-120	05/22/02	DSC	305335	SOIL	0.22		14			COPPER, TOTAL	REG- 1							USEPA-6020
v	122.000	-121	185914-120	05/22/02	DSC	305335	SOIL	0.22	14	31.1		25	COPPER, TOTAL	SPK- 1	68	47	144				USEPA-6020
v	123.000	-122	185914-120	05/22/02	DSC	305335	SOIL	0.22	14	33.5		25	COPPER, TOTAL	SPK- 2	78	47	144				USEPA-6020
v	124.000	-123	185914-120	05/22/02	DSC	305335	SOIL	0.22	31.1	33.5			COPPER, TOTAL	MSD- 1	7		20				USEPA-6020
v	125.000	-121	185914-120	05/22/02	DSC	305335	SOIL	0.22	14	36.4		25	COPPER, TOTAL	PDS- 1	90	75	125				USEPA-6020
v	126.000	-121	185914-120	05/22/02	DSC	305335	SOIL	0.22	14	11			COPPER, TOTAL	DUP- 1	24		20	CH			USEPA-6020
v	127.000	-	185914-120	05/22/02	DSC	305335	SOIL	0.14		6.1			LEAD, TOTAL	REG- 1							USEPA-6020
v	128.000	-127	185914-120	05/22/02	DSC	305335	SOIL	0.14	6.1	28.2		25	LEAD, TOTAL	SPK- 1	88	74	132				USEPA-6020
v	129.000	-128	185914-120	05/22/02	DSC	305335	SOIL	0.14	6.1	28.6		25	LEAD, TOTAL	SPK- 2	90	74	132				USEPA-6020
v	130.000	-129	185914-120	05/22/02	DSC	305335	SOIL	0.14	28.2	28.6			LEAD, TOTAL	MSD- 1	1		20				USEPA-6020
v	131.000	-127	185914-120	05/22/02	DSC	305335	SOIL	0.14	6.1	30.0		25	LEAD, TOTAL	PDS- 1	96	75	125				USEPA-6020
v	132.000	-127	185914-120	05/22/02	DSC	305335	SOIL	0.14	6.1	6.3			LEAD, TOTAL	DUP- 1	3		20				USEPA-6020
v	133.000	-	185916-120	05/22/02	DSC		SOIL	0.22		<0.22	U		COPPER, TOTAL	MPB- 1	0						USEPA-6020
v	134.000	-	185916-120	05/22/02	DSC		SOIL	0.13		<0.13	U		LEAD, TOTAL	MPB- 1	0						USEPA-6020
v	135.000	-	-	05/22/02	DSC		WATER	1.0		41.0		40	COPPER, TOTAL	CCV- 6	103	90	110				EPA-200.8/6020
v	136.000	-	-	05/22/02	DSC		WATER	1.0		40.9		40	LEAD, TOTAL	CCV- 6	102	90	110				EPA-200.8/6020
v	137.000	-	-	05/22/02	DSC		WATER	1.0		<1.0			COPPER, TOTAL	CCB- 6	0						EPA-200.8/6020
v	138.000	-	-	05/22/02	DSC		WATER	1.0		<1.0			LEAD, TOTAL	CCB- 6	0						EPA-200.8/6020
v	139.000	-	185916-120	05/22/02	DSC		SOIL	0.50		24.3		25	COPPER, TOTAL	LFB- 1	97	72	115				USEPA-6020
v	140.000	-	185916-120	05/22/02	DSC		SOIL	1.0		24.1		25	LEAD, TOTAL	LFB- 1	96	80	110				USEPA-6020
v	141.000	-	185916-120	05/22/02	DSC	305336	SOIL	0.22		13			COPPER, TOTAL	REG- 1							USEPA-6020
v	142.000	-	185916-120	05/22/02	DSC	305336	SOIL	0.13		10			LEAD, TOTAL	REG- 1							USEPA-6020
v	143.000	-	185916-120	05/22/02	DSC	305337	SOIL	0.22		16			COPPER, TOTAL	REG- 1							USEPA-6020
v	144.000	-	185916-120	05/22/02	DSC	305337	SOIL	0.13		7.1			LEAD, TOTAL	REG- 1							USEPA-6020
v	145.000	-	185916-120	05/22/02	DSC	305338	SOIL	0.22		11			COPPER, TOTAL	REG- 1							USEPA-6020
v	146.000	-	185916-120	05/22/02	DSC	305338	SOIL	0.13		6.3			LEAD, TOTAL	REG- 1							USEPA-6020

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	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	147.000	-	185916-120	05/22/02	DSC	305339	SOIL	0.22		10		COPPER, TOTAL	REG- 1							USEPA-6020
v	148.000	-	185916-120	05/22/02	DSC	305339	SOIL	0.13		5.8		LEAD, TOTAL	REG- 1							USEPA-6020
v	149.000	-	185916-120	05/22/02	DSC	305340	SOIL	0.22		41		COPPER, TOTAL	REG- 1							USEPA-6020
v	150.000	-	185916-120	05/22/02	DSC	305341	SOIL	0.22		14		COPPER, TOTAL	REG- 1							USEPA-6020
v	151.000	-	185916-120	05/22/02	DSC	305341	SOIL	0.13		19		LEAD, TOTAL	REG- 1							USEPA-6020
v	152.000	-	185916-120	05/22/02	DSC	305342	SOIL	0.22		6.8		COPPER, TOTAL	REG- 1							USEPA-6020
v	153.000	-152	185916-120	05/22/02	DSC	305342	SOIL	0.22	6.8	33.4	25	COPPER, TOTAL	SPK- 1	106	47	144				USEPA-6020
v	154.000	-153	185916-120	05/22/02	DSC	305342	SOIL	0.22	6.8	29.4	25	COPPER, TOTAL	SPK- 2	90	47	144				USEPA-6020
v	155.000	-154	185916-120	05/22/02	DSC	305342	SOIL	0.22	33.4	29.4		COPPER, TOTAL	MSD- 1	13		20				USEPA-6020
v	156.000	-152	185916-120	05/22/02	DSC	305342	SOIL	0.22	6.8	29.4	25	COPPER, TOTAL	PDS- 1	90	75	125				USEPA-6020
v	157.000	-152	185916-120	05/22/02	DSC	305342	SOIL	0.22	6.8	5.8		COPPER, TOTAL	DUP- 1	16		20				USEPA-6020
v	158.000	-	185916-120	05/22/02	DSC	305342	SOIL	0.13		5.1		LEAD, TOTAL	REG- 1							USEPA-6020
v	159.000	-158	185916-120	05/22/02	DSC	305342	SOIL	0.13	5.1	30.9	25	LEAD, TOTAL	SPK- 1	103	74	132				USEPA-6020
v	160.000	-159	185916-120	05/22/02	DSC	305342	SOIL	0.13	5.1	30.5	25	LEAD, TOTAL	SPK- 2	102	74	132				USEPA-6020
v	161.000	-160	185916-120	05/22/02	DSC	305342	SOIL	0.13	30.9	30.5		LEAD, TOTAL	MSD- 1	1		20				USEPA-6020
v	162.000	-158	185916-120	05/22/02	DSC	305342	SOIL	0.13	5.1	28.6	25	LEAD, TOTAL	PDS- 1	94	75	125				USEPA-6020
v	163.000	-158	185916-120	05/22/02	DSC	305342	SOIL	0.13	5.1	4.7		LEAD, TOTAL	DUP- 1	8		20				USEPA-6020
v	164.000	-	-	05/22/02	DSC		WATER	1.0		40.5	40	COPPER, TOTAL	CCV- 7	101	90	110				EPA-200.8/6020
v	165.000	-	-	05/22/02	DSC		WATER	1.0		42.2	40	LEAD, TOTAL	CCV- 7	106	90	110				EPA-200.8/6020
v	166.000	-	-	05/22/02	DSC		WATER	1.0		<1.0		COPPER, TOTAL	CCB- 7	0						EPA-200.8/6020
v	167.000	-	-	05/22/02	DSC		WATER	1.0		<1.0		LEAD, TOTAL	CCB- 7	0						EPA-200.8/6020
v	168.000	-	185916-120	05/22/02	DSC	305343	SOIL	0.22		6.6		COPPER, TOTAL	REG- 1							USEPA-6020
v	169.000	-	185916-120	05/22/02	DSC	305343	SOIL	0.13		3.4		LEAD, TOTAL	REG- 1							USEPA-6020
v	170.000	-	185916-120	05/22/02	DSC	305344	SOIL	0.22		6.5		COPPER, TOTAL	REG- 1							USEPA-6020
v	171.000	-	185916-120	05/22/02	DSC	305344	SOIL	0.13		3.5		LEAD, TOTAL	REG- 1							USEPA-6020
v	172.000	-	185916-120	05/22/02	DSC	305345	SOIL	0.22		5.3		COPPER, TOTAL	REG- 1							USEPA-6020
v	173.000	-	185916-120	05/22/02	DSC	305345	SOIL	0.13		3.2		LEAD, TOTAL	REG- 1							USEPA-6020
v	174.000	-	-	05/22/02	DSC		WATER	1.0		40.6	40	COPPER, TOTAL	CCV- 8	102	90	110				EPA-200.8/6020
v	175.000	-	-	05/22/02	DSC		WATER	1.0		42.2	40	LEAD, TOTAL	CCV- 8	106	90	110				EPA-200.8/6020
v	176.000	-	-	05/22/02	DSC		WATER	1.0		<1.0		COPPER, TOTAL	CCB- 8	0						EPA-200.8/6020
v	177.000	-	-	05/22/02	DSC		WATER	1.0		<1.0		LEAD, TOTAL	CCB- 8	0						EPA-200.8/6020
v	178.000	-	185916-120	05/22/02	DSC	305340	SOIL	~~170~~ 13.3		2140		LEAD, TOTAL	REG- 1							USEPA-6020
v	179.000	-	-	05/22/02	DSC		WATER	1.0		1.11	1.0	COPPER, TOTAL	CRL- 2	111						EPA-200.8/6020
v	180.000	-	-	05/22/02	DSC		WATER	1.0		1.11	1.0	LEAD, TOTAL	CRL- 2	111						EPA-200.8/6020
v	181.000	-	-	05/22/02	DSC		WATER	1.0		20.3	20	COPPER, TOTAL	IEC- 2	102	90	110				EPA-200.8/6020
v	182.000	-	-	05/22/02	DSC		WATER	1.0		40.0	40	COPPER, TOTAL	CCV- 9	100	90	110				EPA-200.8/6020
v	183.000	-	-	05/22/02	DSC		WATER	1.0		41.4	40	LEAD, TOTAL	CCV- 9	104	90	110				EPA-200.8/6020

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Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v 184.000	-	-	05/22/02	DSC		WATER	1.0		<1.0		COPPER, TOTAL	CCB- 9	0						EPA-200.8/6020
v 185.000	-	-	05/22/02	DSC		WATER	1.0		<1.0		LEAD, TOTAL	CCB- 9	0						EPA-200.8/6020

Result Qualifiers

6 The matrix duplicate (DUP) RPD for this sample, fell outside the laboratory established control limits for this method and matrix. The corresponding sample result must be considered estimated.

Batch	Sequence	Sample	Common name	Ref cit	Application	Entered	Analyst
186133	21.000	305052	COPPER, TOTAL	USEPA-6020	SOIL	23-MAY-02	DSC
186133	81.000	305325	COPPER, TOTAL	USEPA-6020	SOIL	23-MAY-02	DSC
186133	121.000	305335	COPPER, TOTAL	USEPA-6020	SOIL	23-MAY-02	DSC
186133	152.000	305342	COPPER, TOTAL	USEPA-6020	SOIL	23-MAY-02	DSC

63 One of the matrix spike accuracies fell outside of the established laboratory control limits, but the precision between the MS/MSD is within the control limits for this matrix and method. The corresponding sample result is not considered estimated.

Batch	Sequence	Sample	Common name	Ref cit	Application	Entered	Analyst
186133	121.000	305335	COPPER, TOTAL	USEPA-6020	SOIL	23-MAY-02	DSC

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THE FOLLOWING RESULTS EXCEEDED A CONTROL LIMIT, AND NEED TO BE INVESTIGATED/QUALIFIED.

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Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v 26.000	- 21	185803-116	05/22/02	DSC	305052	SOIL	0.22	4.8	24		COPPER, TOTAL	DUP- 1	133		20	CH			USEPA-6020
v 126.000	-121	185914-120	05/22/02	DSC	305335	SOIL	0.22	14	11		COPPER, TOTAL	DUP- 1	24		20	CH			USEPA-6020

TriMatrix Laboratories, Inc.

ICP / ICP-MS

Date: 5-22-02
Data File: Y2250-A1
Analyst: OSC
Std#: me 9.17.11
CCV#: ~~me 9.17.15~~ ok smc 5/22/02

LCS 1 ID: _____ /Conc.: _____
LCS 2 ID: _____ /Conc.: _____
LCS 3 ID: _____ /Conc.: _____
CCV Conc.: _____
Instrument ID: 114

Restandardized _____ at _____ AM/PM

mpl x5 x3.333
x5 0.065 0.013 Cu 0.27
0.04 0.008 Pb 0.13

Std's:

S1 _____ S2 _____ S3 _____ S4 _____
S5 _____ S6 _____ S7 _____ S8 _____

9. _____ x _____ 13. _____ x _____
10. _____ x _____ 14. _____ x _____
11. _____ x _____ 15. _____ x _____
12. _____ x _____ 16. _____ x _____

Analysis Number				Analysis Number				Analysis Number			
1.	17	MPB185803-116	x 5	32.	48.	305325 Sd .4995	x 5	63.	79.	pd 5	x
2.	18.	LFB	x	33.	49.	L ↓	x 25	64.	80.	3043 .5005	x
3.	19.	305052 .4999	x	34.	50.	PDS ↓	x 5	65.	81.	3044 .5005	x
4.	20.	dup .4996	x	35.	51.	326 .5005	x	66.	82.	3045 .5000	x
5.	21.	S .4999	x	36.	52.	327 .4998	x	67.	83.	340	x 500
6.	22.	Sd .5002	x	37.	53.	328 .5	x	68.	84.		x
7.	23.	L .4999	x 25	38.	54.	329 ↓	x	69.	85.		x
8.	24.	PDS ↓	x 5	39.	55.	330 .5001	x	70.	86.		x
9.	25.	053 .5003	x	40.	56.	331 .4997	x	71.	87.		x
10.	26.	54 .4999	x	41.	57.	332 .5004	x	72.	88.		x
11.	27.	55 .4996	x	42.	58.	333 .4997	x	73.	89.		x
12.	28.	56 .5	x	43.	59.	334 .5001	x	74.	90.		x
13.	29.	57 .5003	x	44.	60.	335 .5005	x	75.	91.		x
14.	30.	58 .4999	x	45.	61.	dup .5002	x	76.	92.		x
15.	31.	59 ↓	x	46.	62.	S ↓	x	77.	93.		x
16.	32.	60 .5004	x	47.	63.	Sd .4996	x	78.	94.		x
17.	33.	61 .5001	x	48.	64.	L .5005	x 25	79.	95.		x
18.	34.	MPB185914-120	x	49.	65.	PDS ↓	x 5	80.	96.		x
19.	35.	LFB	x	50.	66.	185916-120mpb	x	81.	97.		x
20.	36.	305316 .5	x	51.	67.	lfb	x	82.	98.		x
21.	37.	317 .4999	x	52.	68.	305336 .5003	x	83.	99.		x
22.	38.	318 .4995	x	53.	69.	337 .5002	x	84.	100.		x
23.	39.	319 .5003	x	54.	70.	338 .4997	x	85.	101.		x
24.	40.	320 .5	x	55.	71.	339 .4998	x	86.	102.		x
25.	41.	321 .5004	x	56.	72.	340 .4996	x	87.	103.		x
26.	42.	322 .4998	x	57.	73.	341 .5001	x	88.	104.		x
27.	43.	323 .4996	x	58.	74.	342 .4997	x	89.	105.		x
28.	44.	324 .5001	x	59.	75.	dup .4997	x	90.	106.		x
29.	45.	325 .4995	x	60.	76.	S .4998	x				
30.	46.	dup .4998	x	61.	77.	Sd .5000	x				
31.	47.	S .4999	x	62.	78.	L	x				

Sample/Batch Report

User Name: Administrator
Computer Name: ME84_ELAN_6000
Sample File: C:\elandata\Sample\y02so-a1.sam
Report Date/Time: Wednesday, May 22, 2002 08:17:55

A/S Loc.	Batch ID	Sample ID	Description	Sample Type	Init. Quant.	Prep. Vol.	Aliquot Vol.	Diluted Vol.	Solids Ratio
3		crdl 0.2							
4		crdl 1.0							
10		icsa							
11		icsab							
17		185803-116mpb			500.000	50.000	1.000	5.000	1.000
18		185803-116...			500.000	50.000	1.000	5.000	1.000
19		305052			499.900	50.000	1.000	5.000	1.000
20		305052dup			499.600	50.000	1.000	5.000	1.000
21		305052s			499.900	50.000	1.000	5.000	1.000
22		305052sd			50.200	50.000	1.000	5.000	1.000
23		305052L			499.900	50.000	1.000	25.000	1.000
24		305052pds			499.900	50.000	1.000	5.000	1.000
25		305053			500.300	50.000	1.000	5.000	1.000
26		305054			499.900	50.000	1.000	5.000	1.000
27		305055			499.600	50.000	1.000	5.000	1.000
28		305056			500.000	50.000	1.000	5.000	1.000
29		305057			500.300	50.000	1.000	5.000	1.000
30		305058			499.900	50.000	1.000	5.000	1.000
31		305059			499.900	50.000	1.000	5.000	1.000
32		305060			500.400	50.000	1.000	5.000	1.000
33		305061			500.100	50.000	1.000	5.000	1.000
34		185914-120mpb			500.000	50.000	1.000	5.000	1.000
35		185914-120lfb			500.000	50.000	1.000	5.000	1.000
36		305316			500.000	50.000	1.000	5.000	1.000
37		305317			499.900	50.000	1.000	5.000	1.000
38		305318			499.500	50.000	1.000	5.000	1.000
39		305319			500.300	50.000	1.000	5.000	1.000
40		305320			500.000	50.000	1.000	5.000	1.000
41		305321			500.400	50.000	1.000	5.000	1.000
42		305322			499.800	50.000	1.000	5.000	1.000
43		305323			499.600	50.000	1.000	5.000	1.000
44		305324			500.100	50.000	1.000	5.000	1.000
45		305325			499.500	50.000	1.000	5.000	1.000
46		305325dup			499.800	50.000	1.000	5.000	1.000
47		305325s			499.900	50.000	1.000	5.000	1.000
48		305325sd			499.500	50.000	1.000	5.000	1.000
49		305325L			499.500	50.000	1.000	25.000	1.000
50		305325pds			499.500	50.000	1.000	5.000	1.000
51		305326			500.500	50.000	1.000	5.000	1.000
52		305327			499.800	50.000	1.000	5.000	1.000
53		305328			500.000	50.000	1.000	5.000	1.000
54		305329			500.000	50.000	1.000	5.000	1.000
55		305330			500.100	50.000	1.000	5.000	1.000
56		305331			499.700	50.000	1.000	5.000	1.000
57		305332			500.400	50.000	1.000	5.000	1.000
58		305333			499.700	50.000	1.000	5.000	1.000
59		305334			500.100	50.000	1.000	5.000	1.000
60		305335			500.500	50.000	1.000	5.000	1.000
61		305335dup			500.200	50.000	1.000	5.000	1.000

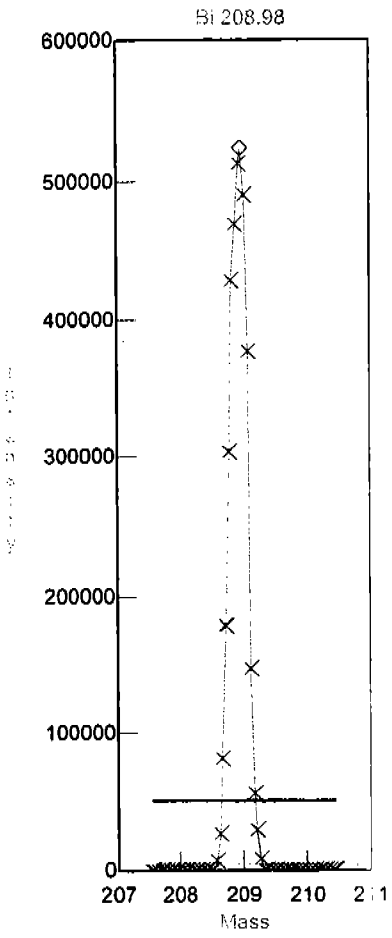
DMC

Instrument Tuning Report

File Name: 22may2002.tun
File Path: C:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
He	3.016	3.027	566	2155	0.567	
Li	6.015	6.079	1294	2175	0.580	
Ge	71.922	71.929	17323	2670	0.553	
Rh	102.905	102.079	24845	2890	0.573	
In	114.904	114.928	27793	2990	0.555	
Tb	158.925	158.928	38498	3330	0.538	
Ho	164.930	164.929	39968	3380	0.551	
Bi	208.980	208.976	50677	3750	0.535	

DMC


Bi 208.98
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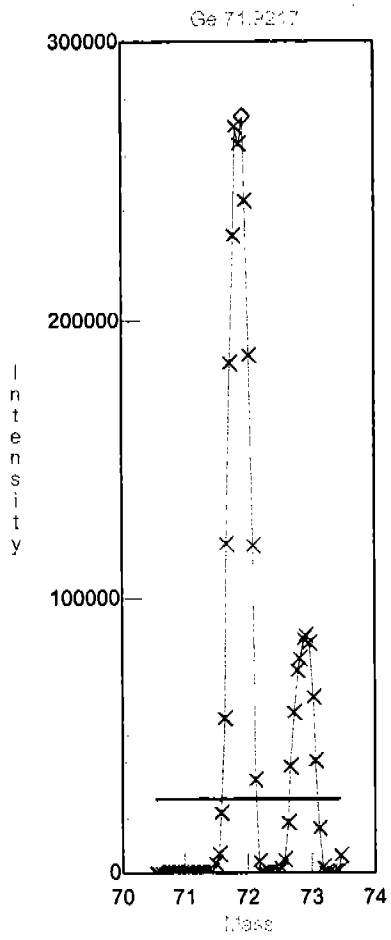
300000
200000
100000
0
207 208 209 210
Mass


Ge 71.9217
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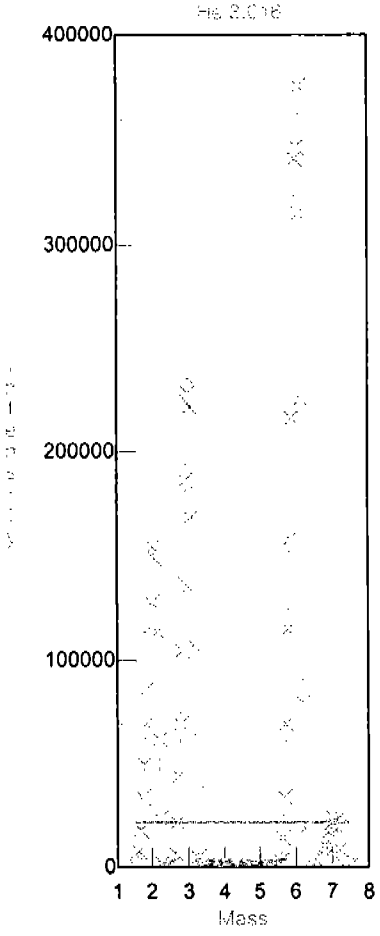
200000
100000
0
Intensity
70 71 72 73 74
Mass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300000
200000
100000
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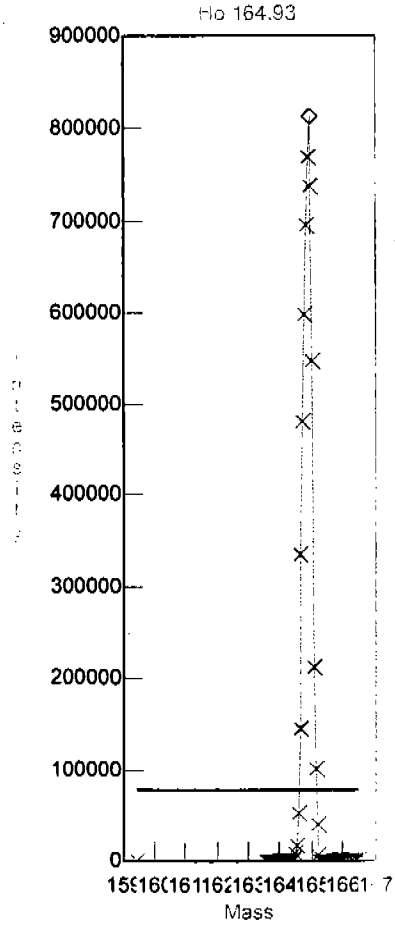
1 2 3 4 5 6 7 8
Mass


Ho 164.93
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600000
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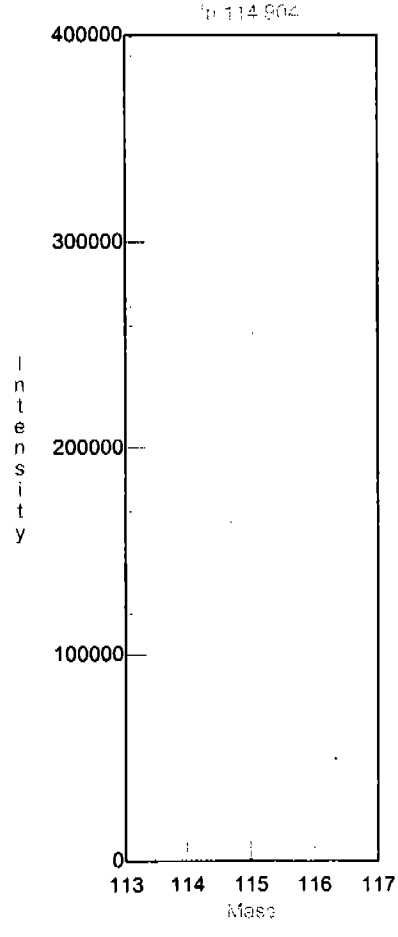
Mass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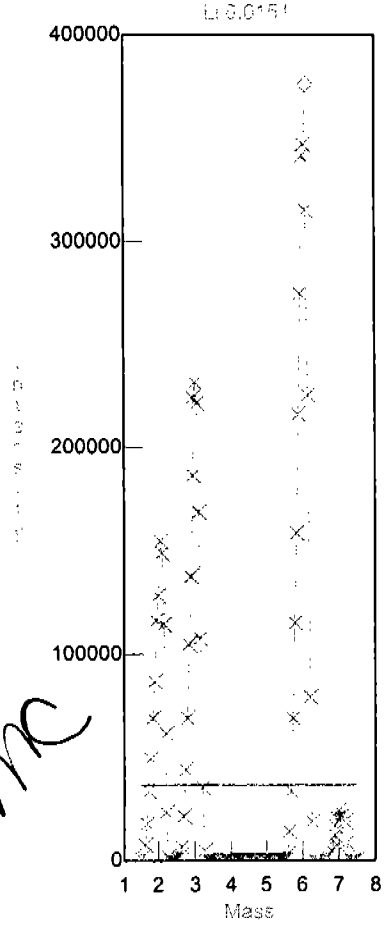
200000
100000
0
Intensity
113 114 115 116 117
Mass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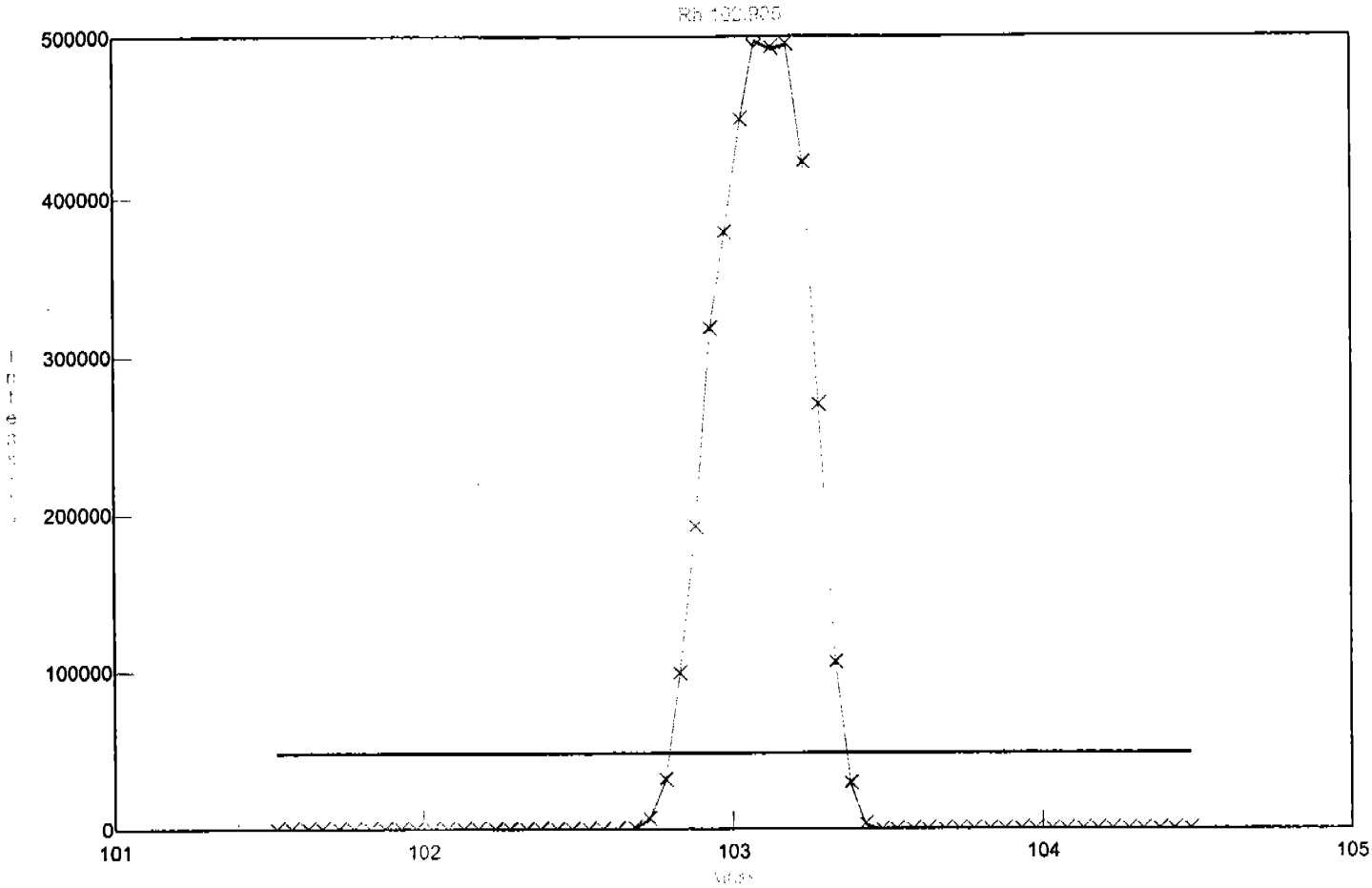
Mass

001581


Rh 102.905
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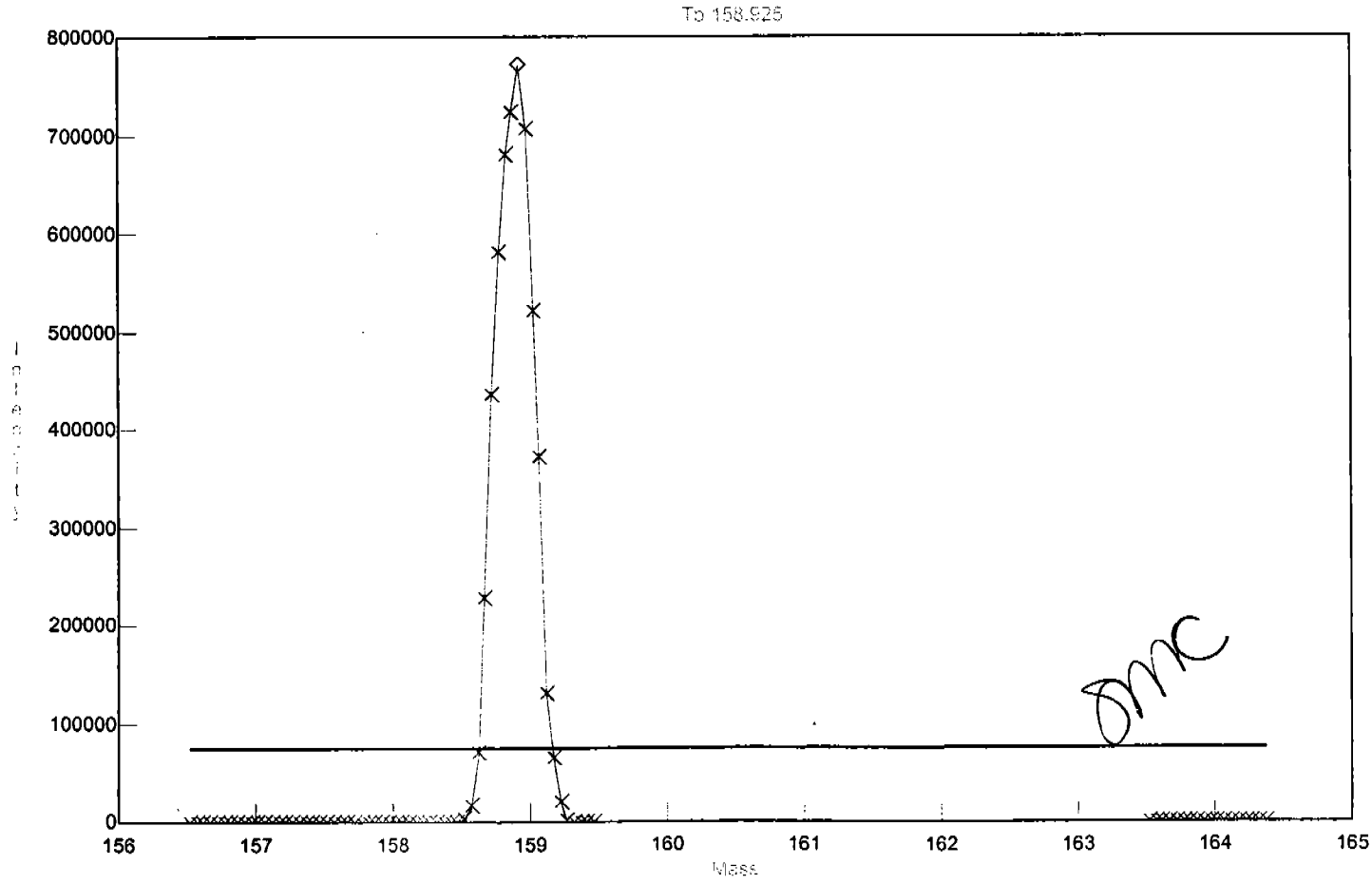
400000
300000
200000
100000
0
101
102
103
104
105


Tb 158.925
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200000
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156
157
158
159
160
161
162
163
164
165
Mass

001582

Daily Performance Report

Sample ID: Sample
Sample Date/Time: Wednesday, May 22, 2002 09:15:53
Sample Description:
Sample File: c:\elandata\Sample\y01wt-b1.sam
Method File: c:\elandata\Method\TriMatrix Daily.mth
Dataset File: c:\elandata\Dataset\daily performance\Sample.043
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac
Number of Replicates: 6
Dual Detector Mode: Dual

Summary

	Analyte	Mass	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Mg	24	30390.297	485.934	1.599
	Rh	103	137887.435	2491.539	1.807
	Pb	208	135109.527	6463.340	3.313
⌈>	Ba	138	132218.565	3181.708	2.406
⌊	Ba++	69	0.007	0.000	6.865
⌈>	Ce	140	213557.219	2376.953	1.113
⌊	CeO	156	0.035	0.002	5.236
	Bkgd	220	8.667	3.266	37.684

Dual Detector Gains

Mass	C
6	140
9	1
10	143
11	1
27	1
51	1
52	1
53	
55	
59	
60	
62	
63	
65	
66	
68	
72	
75	
77	
82	
95	
98	
103	

DMC

ICP-MS Summary Report

Sample ID: Blank

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 09:23:23
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\Blank.001
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	299179.434					ug/g
	P	31	56403.425					ug/g
	S	34	142660.884					ug/g
	Cl	35	50964.610					ug/g
⌈	Cu	63	166.669					ug/g
|	Cu	65	96.668					ug/g
⌊>	Ge	74	442859.594					ug/g
⌈	Pb	206	195.003					ug/g
|	Pb	207	160.002					ug/g
|	Pb	208	729.455					ug/g
⌊>	Bi	209	585947.777					ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	311206.282			ug/g
	P	31	58364.564			ug/g
	S	34	141858.251			ug/g
	Cl	35	51227.195			ug/g
⌈	Cu	63	166.002			ug/g
|	Cu	65	90.001			ug/g
⌊>	Ge	74	447241.148			ug/g
⌈	Pb	206	195.003			ug/g
|	Pb	207	166.003			ug/g
|	Pb	208	745.011			ug/g
⌊>	Bi	209	601445.659			ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	289180.422			ug/g
	P	31	55568.420			ug/g
	S	34	137610.860			ug/g
	Cl	35	49902.505			ug/g
⌈	Cu	63	165.003			ug/g
|	Cu	65	70.001			ug/g
⌊>	Ge	74	431004.294			ug/g
⌈	Pb	206	225.004			ug/g
|	Pb	207	160.002			ug/g
|	Pb	208	725.011			ug/g
⌊>	Bi	209	551057.583			ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	287151.597			ug/g
	P	31	55277.290			ug/g
	S	34	140413.422			ug/g
	Cl	35	51764.130			ug/g
⌈	Cu	63	160.002			ug/g
|	Cu	65	130.002			ug/g
⌊>	Ge	74	450333.340			ug/g
⌈	Pb	206	165.003			ug/g
|	Pb	207	166.003			ug/g
|	Pb	208	718.344			ug/g
⌊>	Bi	209	605340.121			ug/g

ICP-MS Summary Report

Sample ID: Standard 2

Autosampler Position: 3

Sample Date/Time: Wednesday, May 22, 2002 09:25:45
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\Standard 2.002
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	294614.530	-4564.904				ug/g
	P	31	63955.544	7552.120				ug/g
	S	34	139738.354	-2922.530				ug/g
	Cl	35	52953.540	1988.929				ug/g
⌈	Cu	63	690.024	0.001				ug/g
|	Cu	65	301.673	0.000				ug/g
⌊>	Ge	74	447335.008	447335.008				ug/g
⌈	Pb	206	1866.807	0.003				ug/g
|	Pb	207	1486.759	0.002				ug/g
|	Pb	208	7164.630	0.012				ug/g
⌊>	Bi	209	555947.162	555947.162				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	311257.378	12077.844		ug/g
	P	31	66358.430	9956.005		ug/g
	S	34	142109.747	-561.137		ug/g
	Cl	35	51292.429	327.819		ug/g
⌈	Cu	63	720.026	0.001	0.000214	ug/g
|	Cu	65	320.007	0.001	0.000221	ug/g
⌊>	Ge	74	443507.372	443507.372		ug/g
⌈	Pb	206	1890.144	0.003	0.000205	ug/g
|	Pb	207	1425.085	0.002	0.000183	ug/g
|	Pb	208	7100.731	0.012	0.000200	ug/g
⌊>	Bi	209	551119.890	551119.890		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	286129.862	-13049.552		ug/g
	P	31	59167.887	2764.442		ug/g
	S	34	136596.301	-5064.583		ug/g
	Cl	35	54062.643	3096.033		ug/g
⌈	Cu	63	630.020	0.001	0.000179	ug/g
|	Cu	65	280.005	0.000	0.000161	ug/g
⌊>	Ge	74	444129.570	444129.570		ug/g
⌈	Pb	206	1800.131	0.003	0.000190	ug/g
|	Pb	207	1420.106	0.003	0.000218	ug/g
|	Pb	208	7240.750	0.012	0.000201	ug/g
⌊>	Bi	209	560437.154	560437.154		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	286456.330	-12723.103		ug/g
	P	31	68339.357	9935.812		ug/g
	S	34	140509.014	-2151.870		ug/g
	Cl	35	53808.548	2840.936		ug/g
⌈	Cu	63	720.025	0.001	0.000207	ug/g
|	Cu	65	325.007	0.000	0.000216	ug/g
⌊>	Ge	74	454368.082	454368.082		ug/g
⌈	Pb	206	1910.147	0.003	0.000205	ug/g
|	Pb	207	1415.084	0.002	0.000189	ug/g
|	Pb	208	7152.410	0.012	0.000199	ug/g
⌊>	Bi	209	556284.441	556284.441		ug/g

001585

ICP-MS Summary Report

Sample ID: Standard 3

Autosampler Position: 4

Sample Date/Time: Wednesday, May 22, 2002 09:28:09
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\Standard 3.003
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	296935.099	-2244.335				ug/g
	P	31	56150.816	-252.609				ug/g
	S	34	145983.579	3322.695				ug/g
	Cl	35	51163.637	199.027				ug/g
⌈	Cu	63	2435.232	0.005	0.000892	0.000	3.352	ug/g
|	Cu	65	1200.063	0.003	0.001112	0.000	16.435	ug/g
⌊>	Ge	74	436771.079	436771.079				ug/g
⌈	Pb	206	8427.572	0.014	0.000958	0.000	6.587	ug/g
|	Pb	207	7156.866	0.012	0.001025	0.000	3.480	ug/g
|	Pb	208	33462.840	0.058	0.000989	0.000	3.496	ug/g
⌊>	Bi	209	569249.474	569249.474				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	318626.733	18447.300		ug/g
	P	31	56552.279	148.864		ug/g
	S	34	147170.851	4509.787		ug/g
	Cl	35	51372.717	408.107		ug/g
⌈	Cu	63	2450.235	0.005	0.001033	ug/g
|	Cu	65	1370.079	0.003	0.001192	ug/g
⌊>	Ge	74	424428.276	424428.276		ug/g
⌈	Pb	206	8042.344	0.013	0.000926	ug/g
|	Pb	207	7076.823	0.012	0.000964	ug/g
|	Pb	208	33112.157	0.056	0.000983	ug/g
⌊>	Bi	209	563847.531	563847.531		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	291486.809	-7892.825		ug/g
	P	31	53706.299	-3697.125		ug/g
	S	34	145145.086	2484.181		ug/g
	Cl	35	50710.351	-254.260		ug/g
⌈	Cu	63	2408.227	0.005	0.000986	ug/g
|	Cu	65	1065.050	0.002	0.000883	ug/g
⌊>	Ge	74	436114.361	436114.361		ug/g
⌈	Pb	206	8587.866	0.015	0.001055	ug/g
|	Pb	207	6936.763	0.012	0.001008	ug/g
|	Pb	208	33337.184	0.059	0.001033	ug/g
⌊>	Bi	209	549000.564	549000.564		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	283891.954	-15487.478		ug/g
	P	31	58193.858	1790.444		ug/g
	S	34	145835.019	2974.155		ug/g
	Cl	35	51407.844	443.234		ug/g
⌈	Cu	63	2480.236	0.006	0.000988	ug/g
|	Cu	65	1165.059	0.002	0.000937	ug/g
⌊>	Ge	74	450770.598	450770.598		ug/g
⌈	Pb	206	8852.706	0.015	0.001014	ug/g
|	Pb	207	7457.020	0.013	0.001033	ug/g
|	Pb	208	33939.178	0.058	0.001003	ug/g
⌊>	Bi	209	574900.327	574900.327		ug/g

001586

ICP-MS Summary Report

Sample ID: Standard 4

Autosampler Position: 5

Sample Date/Time: Wednesday, May 22, 2002 09:30:34
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\Standard 4.004
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	295712.245	-3467.189				ug/g
	P	31	58471.899	2068.474				ug/g
	S	34	143338.613	677.729				ug/g
	Cl	35	53579.171	2614.561				ug/g
⌈	Cu	63	21805.194	0.046	0.008853	0.000	4.929	ug/g
|	Cu	65	10543.996	0.022	0.008843	0.000	2.053	ug/g
⌊>	Ge	74	467665.284	467665.284				ug/g
⌈	Pb	206	79401.039	0.139	0.009566	0.000	3.984	ug/g
|	Pb	207	65786.797	0.115	0.009359	0.000	1.399	ug/g
|	Pb	208	313838.089	0.549	0.009528	0.000	1.046	ug/g
⌊>	Bi	209	570556.288	570556.288				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	317962.709	18783.276		ug/g
	P	31	59605.520	3402.095		ug/g
	S	34	143624.801	963.917		ug/g
	Cl	35	54393.901	3429.290		ug/g
⌈	Cu	63	22553.014	0.049	0.010513	ug/g
|	Cu	65	10654.003	0.023	0.010174	ug/g
⌊>	Ge	74	459498.087	459498.087		ug/g
⌈	Pb	206	80466.788	0.141	0.010130	ug/g
|	Pb	207	65837.016	0.115	0.010002	ug/g
|	Pb	208	314428.996	0.550	0.010015	ug/g
⌊>	Bi	209	570463.402	570463.402		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	285119.979	-14059.455		ug/g
	P	31	60729.414	4326.990		ug/g
	S	34	143266.224	605.340		ug/g
	Cl	35	53670.791	2606.181		ug/g
⌈	Cu	63	21886.972	0.046	0.009911	ug/g
|	Cu	65	10694.108	0.022	0.010018	ug/g
⌊>	Ge	74	472783.067	472783.067		ug/g
⌈	Pb	206	81656.533	0.143	0.010306	ug/g
|	Pb	207	66490.036	0.117	0.010126	ug/g
|	Pb	208	315872.419	0.554	0.010088	ug/g
⌊>	Bi	209	568954.179	568954.179		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	284084.047	-15126.386		ug/g
	P	31	54860.762	-1522.883		ug/g
	S	34	143124.815	463.851		ug/g
	Cl	35	52772.621	1808.211		ug/g
⌈	Cu	63	20975.597	0.044	0.009537	ug/g
|	Cu	65	10383.676	0.022	0.009768	ug/g
⌊>	Ge	74	470714.698	470714.698		ug/g
⌈	Pb	206	79077.795	0.133	0.009547	ug/g
|	Pb	207	65033.339	0.113	0.009849	ug/g
|	Pb	208	311212.852	0.543	0.009882	ug/g
⌊>	Bi	209	572231.263	572231.263		ug/g

ICP-MS Summary Report

Sample ID: Standard 5

Autosampler Position: 6

Sample Date/Time: Wednesday, May 22, 2002 09:33:01
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\Standard 5.005
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	299361.243	181.809				ug/g
	P	31	63193.306	6789.881				ug/g
	S	34	142630.049	-30.835				ug/g
	Cl	35	54392.278	3427.667				ug/g
⌈	Cu	63	39446.456	0.087	0.018729	0.000	1.679	ug/g
|	Cu	65	19168.060	0.042	0.018838	0.001	4.061	ug/g
⌊>	Ge	74	452698.091	452698.091				ug/g
⌈	Pb	206	150959.956	0.258	0.018579	0.001	2.823	ug/g
|	Pb	207	125221.010	0.214	0.018597	0.001	2.825	ug/g
|	Pb	208	601067.736	1.028	0.018714	0.000	2.451	ug/g
⌊>	Bi	209	584547.378	584547.378				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	314660.749	15711.318		ug/g
	P	31	60955.378	4551.951		ug/g
	S	34	139680.945	-2979.939		ug/g
	Cl	35	52712.599	1747.988		ug/g
⌈	Cu	63	38777.946	0.087	0.018665	ug/g
|	Cu	65	18417.048	0.041	0.018440	ug/g
⌊>	Ge	74	441945.601	441945.601		ug/g
⌈	Pb	206	151562.309	0.259	0.018060	ug/g
|	Pb	207	126125.577	0.216	0.018113	ug/g
|	Pb	208	608647.056	1.002	0.018243	ug/g
⌊>	Bi	209	606486.998	606486.998		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	293639.096	-5340.336		ug/g
	P	31	56371.566	-31.860		ug/g
	S	34	144145.006	1484.122		ug/g
	Cl	35	55422.954	4466.244		ug/g
⌈	Cu	63	40066.508	0.088	0.019973	ug/g
|	Cu	65	20114.352	0.044	0.020666	ug/g
⌊>	Ge	74	454174.876	454174.876		ug/g
⌈	Pb	206	151667.362	0.261	0.019939	ug/g
|	Pb	207	124708.201	0.215	0.019759	ug/g
|	Pb	208	595509.484	1.028	0.019727	ug/g
⌊>	Bi	209	579776.827	579776.827		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	289353.883	-9625.861		ug/g
	P	31	72252.977	15649.552		ug/g
	S	34	144064.196	1403.312		ug/g
	Cl	35	55041.380	4078.770		ug/g
⌈	Cu	63	39484.914	0.085	0.019353	ug/g
|	Cu	65	18972.780	0.041	0.019157	ug/g
⌊>	Ge	74	461973.797	461973.797		ug/g
⌈	Pb	206	149560.195	0.263	0.020090	ug/g
|	Pb	207	124829.252	0.220	0.020220	ug/g
|	Pb	208	596046.560	1.053	0.020210	ug/g
⌊>	Bi	209	567409.513	567409.513		ug/g

001588

ICP-MS Summary Report

Sample ID: Standard 6

Autosampler Position: 7

Sample Date/Time: Wednesday, May 22, 2002 09:35:27
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\Standard 6.006
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	297523.590	-1655.844				ug/g
	P	31	70084.703	13681.278				ug/g
	S	34	135985.713	-6675.171				ug/g
	Cl	35	56689.552	5724.941				ug/g
⌈	Cu	63	99639.144	0.223	0.050734	0.002	4.066	ug/g
|	Cu	65	48496.019	0.109	0.050906	0.001	2.803	ug/g
⌊>	Ge	74	445952.464	445952.464				ug/g
⌈	Pb	206	383671.362	0.648	0.049431	0.002	3.279	ug/g
|	Pb	207	316368.320	0.534	0.049144	0.001	2.230	ug/g
|	Pb	208	1502140.930	2.536	0.048690	0.002	3.101	ug/g
⌊>	Bi	209	592396.787	592396.787				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	313376.011	14188.577		ug/g
	P	31	73846.527	17543.202		ug/g
	S	34	139160.901	-3499.983		ug/g
	Cl	35	57475.964	6511.353		ug/g
⌈	Cu	63	96244.073	0.213	0.047818	ug/g
|	Cu	65	47514.360	0.105	0.048536	ug/g
⌊>	Ge	74	451318.430	451318.430		ug/g
⌈	Pb	206	379292.966	0.667	0.051383	ug/g
|	Pb	207	311517.959	0.548	0.051131	ug/g
|	Pb	208	1494046.706	2.627	0.051555	ug/g
⌊>	Bi	209	568470.478	568470.478		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	291721.330	-7458.104		ug/g
	P	31	65134.893	6731.406		ug/g
	S	34	135495.865	-7184.990		ug/g
	Cl	35	57767.216	6822.606		ug/g
⌈	Cu	63	100553.647	0.230	0.051668	ug/g
|	Cu	65	48362.206	0.111	0.051110	ug/g
⌊>	Ge	74	436281.610	436281.610		ug/g
⌈	Pb	206	394635.430	0.651	0.050184	ug/g
|	Pb	207	320217.256	0.529	0.049338	ug/g
|	Pb	208	1506302.148	2.486	0.048792	ug/g
⌊>	Bi	209	605579.974	605579.974		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	287471.426	-11706.006		ug/g
	P	31	73172.649	16769.225		ug/g
	S	34	133300.353	-9360.531		ug/g
	Cl	35	54806.473	3840.883		ug/g
|	Cu	63	102119.713	0.226	0.050851	ug/g
|	Cu	65	49511.491	0.110	0.050802	ug/g
⌊>	Ge	74	450257.352	450257.352		ug/g
⌈	Pb	206	377085.670	0.625	0.048146	ug/g
|	Pb	207	317369.734	0.528	0.049098	ug/g
|	Pb	208	1508073.931	2.496	0.048982	ug/g
⌊>	Bi	209	603139.909	603139.909		ug/g

001589

ICP-MS Summary Report

Sample ID: Standard 7

Autosampler Position: 8

Sample Date/Time: Wednesday, May 22, 2002 09:37:55
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\Standard 7.007
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	321795.404	22615.970				ug/g
	P	31	83169.169	26765.744				ug/g
	S	34	137245.889	-5414.995				ug/g
	Cl	35	55536.632	4572.022				ug/g
⌈	Cu	63	196402.886	0.434	0.097499	0.002	1.826	ug/g
|	Cu	65	98180.765	0.217	0.100246	0.004	4.284	ug/g
⌊>	Ge	74	452161.868	452161.868				ug/g
⌈	Pb	206	763796.822	1.310	0.100929	0.003	2.555	ug/g
|	Pb	207	615935.648	1.056	0.098607	0.001	1.388	ug/g
|	Pb	208	2920107.842	5.009	0.098303	0.002	2.251	ug/g
⌊>	Bi	209	583063.208	583063.208				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	313393.342	14213.908		ug/g
	P	31	114251.522	57848.097		ug/g
	S	34	139113.461	-3545.423		ug/g
	Cl	35	55367.640	4403.030		ug/g
⌈	Cu	63	195444.811	0.425	0.097336	ug/g
|	Cu	65	95056.147	0.207	0.098294	ug/g
⌊>	Ge	74	459487.243	459487.243		ug/g
⌈	Pb	206	779341.172	1.291	0.098799	ug/g
|	Pb	207	631063.401	1.048	0.098680	ug/g
|	Pb	208	2963076.938	4.994	0.097309	ug/g
⌊>	Bi	209	603306.738	603306.738		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	296993.356	-2186.078		ug/g
	P	31	69499.339	13095.914		ug/g
	S	34	135783.801	-6677.283		ug/g
	Cl	35	55297.368	4332.758		ug/g
⌈	Cu	63	195495.498	0.437	0.100196	ug/g
|	Cu	65	98187.042	0.220	0.101271	ug/g
⌊>	Ge	74	446479.854	446479.854		ug/g
⌈	Pb	206	738078.858	1.290	0.098671	ug/g
|	Pb	207	600913.866	1.050	0.098090	ug/g
|	Pb	208	2869468.520	5.014	0.098712	ug/g
⌊>	Bi	209	572106.428	572106.428		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	354999.513	55820.080		ug/g
	P	31	65756.648	9353.222		ug/g
	S	34	136536.606	-5822.276		ug/g
	Cl	35	55944.886	4960.276		ug/g
⌈	Cu	63	196266.349	0.440	0.100702	ug/g
|	Cu	65	101329.105	0.226	0.103405	ug/g
⌊>	Ge	74	450536.507	450536.507		ug/g
⌈	Pb	206	773870.835	1.349	0.103159	ug/g
|	Pb	207	615629.577	1.073	0.101255	ug/g
|	Pb	208	2937778.070	5.119	0.101759	ug/g
⌊>	Bi	209	573778.460	573778.460		ug/g

ICP-MS Summary Report

Sample ID: QC Std 1

Autosampler Position: 8

Sample Date/Time: Wednesday, May 22, 2002 09:40:23
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 1.008
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	302947.051	3767.617				ug/g
	P	31	72773.387	16369.963				ug/g
	S	34	141226.070	-1434.814				ug/g
	Cl	35	57124.597	6159.987				ug/g
⌈	Cu	63	200913.650	0.443	0.101391	0.002	2.162	ug/g
⌊	Cu	65	95564.583	0.211	0.097073	0.001	1.430	ug/g
⌊>	Ge	74	453500.327	453500.327				ug/g
⌈	Pb	206	756307.457	1.314	0.100531	0.001	1.417	ug/g
⌊	Pb	207	629389.728	1.094	0.103235	0.003	3.049	ug/g
⌊	Pb	208	2945963.696	5.120	0.101816	0.002	1.753	ug/g
⌊>	Bi	209	575323.606	575323.606				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	320463.124	21303.890		ug/g
	P	31	65992.734	9569.309		ug/g
	S	34	141872.403	-788.481		ug/g
	Cl	35	57139.615	6175.005		ug/g
⌈	Cu	63	199703.142	0.448	0.102648	ug/g
⌊	Cu	65	94527.853	0.212	0.097601	ug/g
⌊>	Ge	74	445213.853	445213.853		ug/g
⌈	Pb	206	760755.353	1.334	0.102075	ug/g
⌊	Pb	207	624661.846	1.086	0.100736	ug/g
⌊	Pb	208	2942735.607	5.029	0.100002	ug/g
⌊>	Bi	209	565008.624	565008.624		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	286116.398	-1063.036		ug/g
	P	31	72514.299	16110.874		ug/g
	S	34	138908.154	-2752.730		ug/g
	Cl	35	55784.182	4790.572		ug/g
⌈	Cu	63	197649.861	0.432	0.098860	ug/g
⌊	Cu	65	94624.814	0.207	0.095472	ug/g
⌊>	Ge	74	457495.503	457495.503		ug/g
⌈	Pb	206	744241.425	1.298	0.099287	ug/g
⌊	Pb	207	621173.701	1.083	0.102198	ug/g
⌊	Pb	208	2936406.584	5.123	0.101874	ug/g
⌊>	Bi	209	573417.465	573417.465		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	290241.630	-8937.803		ug/g
	P	31	70613.130	23409.708		ug/g
	S	34	141897.662	-765.232		ug/g
	Cl	35	58469.965	7505.365		ug/g
⌈	Cu	63	205367.949	0.445	0.102687	ug/g
⌊	Cu	65	97341.462	0.212	0.097945	ug/g
⌊>	Ge	74	457791.825	457791.825		ug/g
⌈	Pb	206	743925.593	1.310	0.100252	ug/g
⌊	Pb	207	642313.636	1.131	0.105770	ug/g
⌊	Pb	208	2956746.887	5.208	0.103571	ug/g
⌊>	Bi	209	567544.730	567544.730		ug/g

001591

ICP-MS Summary Report

Sample ID: QC Std 2

Autosampler Position: 2

Sample Date/Time: Wednesday, May 22, 2002 09:42:48
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 2.009
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	296963.149	-2216.284				ug/g
	P	31	59216.650	2813.226				ug/g
	S	34	138395.321	-4265.563				ug/g
	Cl	35	54502.702	3538.092				ug/g
⌈	Cu	63	81524.461	0.181	0.041501	0.001	2.156	ug/g
|	Cu	65	39598.535	0.088	0.040572	0.001	2.379	ug/g
⌊>	Ge	74	449096.579	449096.579				ug/g
⌈	Pb	206	325318.046	0.565	0.043189	0.001	3.172	ug/g
|	Pb	207	259002.872	0.449	0.042410	0.001	2.575	ug/g
|	Pb	208	1225054.881	2.126	0.042270	0.001	2.262	ug/g
⌊>	Bi	209	576263.662	576263.662				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	307846.746	6787.313		ug/g
	P	31	62205.761	5802.336		ug/g
	S	34	137393.903	-5286.861		ug/g
	Cl	35	56231.011	5266.401		ug/g
⌈	Cu	63	81034.991	0.177	0.040520	ug/g
|	Cu	65	39765.666	0.087	0.040017	ug/g
⌊>	Ge	74	457052.765	457052.765		ug/g
⌈	Pb	206	327013.708	0.545	0.041765	ug/g
|	Pb	207	261766.944	0.437	0.041235	ug/g
|	Pb	208	1240113.804	2.070	0.041168	ug/g
⌊>	Bi	209	596641.456	596641.456		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	292670.459	-6506.975		ug/g
	P	31	58719.906	-684.419		ug/g
	S	34	136546.822	-6115.062		ug/g
	Cl	35	53091.909	2927.366		ug/g
⌈	Cu	63	82719.822	0.182	0.041711	ug/g
|	Cu	65	39429.733	0.087	0.040011	ug/g
⌊>	Ge	74	453262.966	453262.966		ug/g
⌈	Pb	206	330042.201	0.562	0.044497	ug/g
|	Pb	207	256174.007	0.451	0.042601	ug/g
|	Pb	208	1220087.053	2.150	0.042757	ug/g
⌊>	Bi	209	567102.550	567102.550		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	290272.243	-8907.191		ug/g
	P	31	59725.184	3321.759		ug/g
	S	34	141246.238	-1414.646		ug/g
	Cl	35	53365.096	2420.466		ug/g
⌈	Cu	63	80618.770	0.185	0.042273	ug/g
|	Cu	65	39600.206	0.090	0.041666	ug/g
⌊>	Ge	74	436974.003	436974.003		ug/g
⌈	Pb	206	318896.227	0.566	0.043304	ug/g
|	Pb	207	259075.864	0.460	0.043394	ug/g
|	Pb	208	1214963.966	2.157	0.042884	ug/g
⌊>	Bi	209	563046.849	563046.849		ug/g

001592

ICP-MS Summary Report

Sample ID: QC Std 3

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 09:45:10
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 3.010
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	302847.065	3667.631				ug/g
	P	31	66123.563	9720.138				ug/g
	S	34	137094.379	-5566.505				ug/g
	Cl	35	55202.062	4237.452				ug/g
⌈	Cu	63	288.339	0.000	0.000063	0.000	15.222	ug/g
|	Cu	65	150.002	0.000	0.000056	0.000	20.973	ug/g
⌊>	Ge	74	441057.461	441057.461				ug/g
⌈	Pb	206	240.004	0.000	0.000007	0.000	36.382	ug/g
|	Pb	207	153.336	-0.000	-0.000000	0.000	2911.719	ug/g
|	Pb	208	846.681	0.000	0.000005	0.000	44.720	ug/g
⌊>	Bi	209	563902.263	563902.263				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	318760.198	19560.783		ug/g
	P	31	64770.338	-1633.086		ug/g
	S	34	136958.760	-5701.124		ug/g
	Cl	35	54077.700	3113.090		ug/g
⌈	Cu	63	285.005	0.000	0.000053	ug/g
|	Cu	65	160.002	0.000	0.000058	ug/g
⌊>	Ge	74	438627.817	438627.817		ug/g
⌈	Pb	206	230.004	0.000	0.000006	ug/g
|	Pb	207	140.002	-0.000	-0.000002	ug/g
|	Pb	208	800.013	0.000	0.000004	ug/g
⌊>	Bi	209	562963.864	562963.864		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	295212.363	-2967.051		ug/g
	P	31	57840.404	31238.979		ug/g
	S	34	137449.434	-5211.450		ug/g
	Cl	35	57079.374	6114.764		ug/g
⌈	Cu	63	305.006	0.000	0.000072	ug/g
|	Cu	65	160.002	0.000	0.000056	ug/g
⌊>	Ge	74	442676.160	442676.160		ug/g
⌈	Pb	206	225.004	0.000	0.000005	ug/g
|	Pb	207	170.003	0.000	0.000003	ug/g
|	Pb	208	808.346	0.000	0.000004	ug/g
⌊>	Bi	209	557775.855	557775.855		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	293568.617	-5810.617		ug/g
	P	31	66859.947	-443.477		ug/g
	S	34	136873.843	-5788.841		ug/g
	Cl	35	54449.111	3484.501		ug/g
⌈	Cu	63	295.006	0.000	0.000056	ug/g
|	Cu	65	140.002	0.000	0.000045	ug/g
⌊>	Ge	74	443866.306	443866.306		ug/g
⌈	Pb	206	285.005	0.000	0.000010	ug/g
|	Pb	207	150.002	-0.000	-0.000001	ug/g
|	Pb	208	931.583	0.000	0.000008	ug/g
⌊>	Bi	209	570967.170	570967.170		ug/g

001593

ICP-MS Summary Report

Sample ID: crdl 0.2

Autosampler Position: 3

Sample Date/Time: Wednesday, May 22, 2002 09:47:32
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\crdl 0.2.011
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	294075.016	-5104.418				ug/g
	P	31	53706.734	-2696.690				ug/g
	S	34	132499.989	-10160.895				ug/g
	Cl	35	54449.167	3484.557				ug/g
⌈	Cu	63	633.354	0.001	0.000241	0.000	14.654	ug/g
|	Cu	65	416.677	0.001	0.000333	0.000	11.244	ug/g
⌊>	Ge	74	443159.507	443159.507				ug/g
⌈	Pb	206	1810.133	0.003	0.000216	0.000	8.247	ug/g
|	Pb	207	1565.101	0.002	0.000232	0.000	5.423	ug/g
|	Pb	208	7323.558	0.012	0.000229	0.000	1.125	ug/g
⌊>	Bi	209	572836.394	572836.394				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	309494.879	10315.245		ug/g
	P	31	52812.228	-3791.186		ug/g
	S	34	130782.309	-11668.578		ug/g
	Cl	35	56160.736	5196.125		ug/g
⌈	Cu	63	710.025	0.001	0.000282	ug/g
|	Cu	65	455.012	0.001	0.000374	ug/g
⌊>	Ge	74	441649.406	441649.406		ug/g
⌈	Pb	206	1950.153	0.003	0.000233	ug/g
|	Pb	207	1490.093	0.002	0.000218	ug/g
|	Pb	208	7430.802	0.012	0.000231	ug/g
⌊>	Bi	209	577595.862	577595.862		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	290756.957	-5422.477		ug/g
	P	31	55469.995	2066.570		ug/g
	S	34	137091.011	-5569.873		ug/g
	Cl	35	54057.624	3093.014		ug/g
⌈	Cu	63	585.018	0.001	0.000222	ug/g
|	Cu	65	400.010	0.001	0.000324	ug/g
⌊>	Ge	74	434891.972	434891.972		ug/g
⌈	Pb	206	1640.111	0.003	0.000197	ug/g
|	Pb	207	1590.104	0.003	0.000241	ug/g
|	Pb	208	7114.078	0.011	0.000226	ug/g
⌊>	Bi	209	563098.839	563098.839		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	281973.412	-17206.022		ug/g
	P	51	50037.879	-6585.445		ug/g
	S	34	129616.651	-13044.233		ug/g
	Cl	35	53129.142	2184.831		ug/g
⌈	Cu	63	605.019	0.001	0.000220	ug/g
|	Cu	65	393.009	0.001	0.000301	ug/g
⌊>	Ge	74	453137.144	453137.144		ug/g
⌈	Pb	206	1640.137	0.003	0.000218	ug/g
|	Pb	207	1615.107	0.003	0.000236	ug/g
|	Pb	208	7425.796	0.012	0.000231	ug/g
⌊>	Bi	209	577614.462	577614.462		ug/g

001594

ICP-MS Summary Report

Sample ID: crdl 1.0

Autosampler Position: 4

Sample Date/Time: Wednesday, May 22, 2002 09:49:56
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\crdl 1.0.012
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	295225.098	-3954.336				ug/g
	P	31	53644.442	-2758.982				ug/g
	S	34	131867.509	-10793.375				ug/g
	Cl	35	56035.318	5070.708				ug/g
⌈	Cu	63	2361.886	0.005	0.001122	0.000	2.158	ug/g
|	Cu	65	1210.063	0.002	0.001146	0.000	2.548	ug/g
⌊>	Ge	74	447671.320	447671.320				ug/g
⌈	Pb	206	8089.038	0.014	0.001060	0.000	2.863	ug/g
|	Pb	207	7228.568	0.012	0.001170	0.000	1.853	ug/g
|	Pb	208	33011.334	0.057	0.001126	0.000	0.738	ug/g
⌊>	Bi	209	570262.485	570262.485				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	307881.111	6501.878		ug/g
	P	31	55041.360	-1362.045		ug/g
	S	34	133113.822	-9547.262		ug/g
	Cl	35	54268.423	3303.813		ug/g
⌈	Cu	63	2365.219	0.005	0.001095	ug/g
|	Cu	65	1250.067	0.003	0.001157	ug/g
⌊>	Ge	74	456432.873	456432.873		ug/g
⌈	Pb	206	8132.395	0.014	0.001077	ug/g
|	Pb	207	7201.887	0.012	0.001179	ug/g
|	Pb	208	32878.382	0.057	0.001134	ug/g
⌊>	Bi	209	564138.692	564138.692		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	292093.830	-7085.804		ug/g
	P	31	52386.288	-4047.136		ug/g
	S	34	127340.347	-15314.537		ug/g
	Cl	35	57582.604	6917.994		ug/g
⌈	Cu	63	2385.223	0.006	0.001142	ug/g
|	Cu	65	1170.060	0.002	0.001113	ug/g
⌊>	Ge	74	444690.496	444690.496		ug/g
⌈	Pb	206	7927.278	0.013	0.001025	ug/g
|	Pb	207	7416.999	0.013	0.001185	ug/g
|	Pb	208	33170.392	0.056	0.001118	ug/g
⌊>	Bi	209	577367.713	577367.713		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	285600.352	-13279.081		ug/g
	P	31	53535.659	-2867.786		ug/g
	S	34	135142.558	-7518.325		ug/g
	Cl	35	55054.928	4990.317		ug/g
⌈	Cu	63	2335.214	0.005	0.001130	ug/g
|	Cu	65	1210.063	0.003	0.001168	ug/g
⌊>	Ge	74	439880.792	439880.792		ug/g
⌈	Pb	206	8207.439	0.014	0.001078	ug/g
|	Pb	207	7066.816	0.012	0.001146	ug/g
|	Pb	208	32966.229	0.057	0.001127	ug/g
⌊>	Bi	209	569261.051	569261.051		ug/g

001595

ICP-MS Summary Report

Sample ID: icsa

Autosampler Position: 10

Sample Date/Time: Wednesday, May 22, 2002 09:52:20
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\icsa.013
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	828879.935	529700.501				ug/g
	P	31	2569763.818	2513360.393				ug/g
	S	34	451815.393	309154.509				ug/g
	Cl	35	1014776.012	963811.402				ug/g
⌈	Cu	63	3928.914	0.009	0.001964	0.000	5.679	ug/g
|	Cu	65	4350.709	0.010	0.004471	0.000	9.253	ug/g
⌊>	Ge	74	438880.025	438880.025				ug/g
⌈	Pb	206	370.008	0.000	0.000023	0.000	7.617	ug/g
|	Pb	207	308.340	0.000	0.000024	0.000	3.435	ug/g
|	Pb	208	1383.921	0.001	0.000022	0.000	4.740	ug/g
⌊>	Bi	209	585579.826	585579.826				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	828802.265	529622.832		ug/g
	P	31	2611079.808	2554878.184		ug/g
	S	34	458310.131	315649.247		ug/g
	Cl	35	1012647.152	961682.542		ug/g
⌈	Cu	63	3700.516	0.008	0.001644	ug/g
|	Cu	65	4245.673	0.009	0.004358	ug/g
⌊>	Ge	74	439086.803	439086.803		ug/g
⌈	Pb	206	380.009	0.000	0.000025	ug/g
|	Pb	207	305.006	0.000	0.000024	ug/g
|	Pb	208	1406.700	0.001	0.000023	ug/g
⌊>	Bi	209	580317.961	580317.961		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	827997.548	528518.114		ug/g
	P	31	2584048.756	2527645.331		ug/g
	S	34	448604.132	305943.248		ug/g
	Cl	35	1011585.760	960621.150		ug/g
⌈	Cu	63	3970.591	0.009	0.001884	ug/g
|	Cu	65	4026.807	0.009	0.004125	ug/g
⌊>	Ge	74	439282.455	439282.455		ug/g
⌈	Pb	206	380.006	0.000	0.000023	ug/g
|	Pb	207	305.006	0.000	0.000025	ug/g
|	Pb	208	1323.363	0.001	0.000021	ug/g
⌊>	Bi	209	569073.806	569073.806		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	829839.993	530660.559		ug/g
	P	31	2514183.089	2457756.665		ug/g
	S	34	446531.916	305871.032		ug/g
	Cl	35	1020095.124	969130.514		ug/g
⌈	Cu	63	4115.634	0.009	0.002064	ug/g
|	Cu	65	4780.848	0.011	0.004929	ug/g
⌊>	Ge	74	438291.018	438291.018		ug/g
⌈	Pb	206	370.008	0.000	0.000021	ug/g
|	Pb	207	315.007	0.000	0.000023	ug/g
|	Pb	208	1421.701	0.001	0.000022	ug/g
⌊>	Bi	209	607347.712	607347.712		ug/g

ICP-MS Summary Report

Sample ID: icsab

Autosampler Position: 11

Sample Date/Time: Wednesday, May 22, 2002 09:54:42
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\icsab.014
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	813175.057	513995.623				ug/g
	P	31	2411384.289	2354980.865				ug/g
	S	34	430201.267	287540.383				ug/g
	Cl	35	944970.798	894006.188				ug/g
⌈	Cu	63	41992.063	0.102	0.023270	0.001	3.107	ug/g
|	Cu	65	23225.770	0.056	0.025908	0.001	3.299	ug/g
⌊>	Ge	74	411867.034	411867.034				ug/g
⌈	Pb	206	321.674	0.000	0.000018	0.000	29.510	ug/g
|	Pb	207	251.671	0.000	0.000016	0.000	30.821	ug/g
|	Pb	208	1183.914	0.001	0.000017	0.000	11.006	ug/g
⌊>	Bi	209	562204.746	562204.746				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	831094.894	531915.460		ug/g
	P	31	2446668.905	2390296.460		ug/g
	S	34	441482.274	298821.390		ug/g
	Cl	35	946446.922	897462.312		ug/g
⌈	Cu	63	42899.745	0.104	0.023857	ug/g
|	Cu	65	22956.663	0.056	0.025697	ug/g
⌊>	Ge	74	410353.581	410353.581		ug/g
⌈	Pb	206	280.006	0.000	0.000013	ug/g
|	Pb	207	230.004	0.000	0.000013	ug/g
|	Pb	208	1155.024	0.001	0.000016	ug/g
⌊>	Bi	209	562703.715	562703.715		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	822159.369	522979.935		ug/g
	P	31	2429544.769	2373141.344		ug/g
	S	34	422816.312	279855.428		ug/g
	Cl	35	960885.589	909720.879		ug/g
⌈	Cu	63	41139.582	0.098	0.022462	ug/g
|	Cu	65	22906.862	0.055	0.025179	ug/g
⌊>	Ge	74	417858.906	417858.906		ug/g
⌈	Pb	206	360.008	0.000	0.000023	ug/g
|	Pb	207	240.004	0.000	0.000014	ug/g
|	Pb	208	1156.690	0.001	0.000016	ug/g
⌊>	Bi	209	584211.465	584211.465		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	786270.906	487091.474		ug/g
	P	31	2357938.194	2301534.769		ug/g
	S	34	428605.215	283844.331		ug/g
	Cl	35	925770.803	874815.272		ug/g
|	Cu	63	41936.883	0.103	0.023490	ug/g
|	Cu	65	23610.064	0.058	0.026849	ug/g
⌊>	Ge	74	407387.616	407387.616		ug/g
⌈	Pb	206	325.007	0.000	0.000019	ug/g
|	Pb	207	285.006	0.000	0.000022	ug/g
|	Pb	208	1240.027	0.001	0.000019	ug/g
⌊>	Bi	209	559699.038	559699.038		ug/g

001597

ICP-MS Summary Report

Sample ID: QC Std 2

Autosampler Position: 2

Sample Date/Time: Wednesday, May 22, 2002 09:57:04
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 2.015
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	305066.056	5886.622				ug/g
	P	31	47776.989	-8626.436				ug/g
	S	34	112869.366	-29791.518				ug/g
	Cl	35	55944.954	4980.344				ug/g
⌈	Cu	63	73846.131	0.180	0.041337	0.001	2.188	ug/g
|	Cu	65	36313.136	0.089	0.040920	0.002	3.773	ug/g
⌊>	Ge	74	408499.046	408499.046				ug/g
⌈	Pb	206	302413.090	0.543	0.041571	0.000	1.128	ug/g
|	Pb	207	261385.986	0.470	0.044324	0.001	3.287	ug/g
|	Pb	208	1189740.072	2.138	0.042516	0.000	0.099	ug/g
⌊>	Bi	209	556132.949	556132.949				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	318621.543	19642.110		ug/g
P	31	46370.589	-10032.826		ug/g
S	34	107691.968	-34766.916		ug/g
Cl	35	55212.038	4247.428		ug/g
Cu	63	72798.727	0.184	0.042205	ug/g
Cu	65	35800.159	0.091	0.041773	ug/g
Ge	74	394223.380	394223.380		ug/g
Pb	206	298402.277	0.539	0.041288	ug/g
Pb	207	260266.898	0.452	0.042692	ug/g
Pb	208	1181796.685	2.136	0.042483	ug/g
Bi	209	552839.472	552839.472		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	301771.995	2592.562		ug/g
P	31	49977.768	-6425.656		ug/g
S	34	119266.980	-23393.904		ug/g
Cl	35	64786.281	3790.671		ug/g
Cu	63	73866.731	0.181	0.041406	ug/g
Cu	65	37143.598	0.091	0.041849	ug/g
Ge	74	408277.256	408277.256		ug/g
Pb	206	299463.326	0.540	0.041335	ug/g
Pb	207	266291.613	0.482	0.045494	ug/g
Pb	208	1182297.181	2.140	0.042563	ug/g
Bi	209	552034.204	552034.204		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	294804.629	-4574.804		ug/g
P	31	48982.800	-9420.825		ug/g
S	34	111449.153	-31211.731		ug/g
Cl	35	57667.543	6902.933		ug/g
Cu	63	74775.935	0.178	0.040401	ug/g
Cu	65	35995.651	0.085	0.039138	ug/g
Ge	74	422996.523	422996.523		ug/g
Pb	206	310383.665	0.550	0.042111	ug/g
Pb	207	267600.750	0.476	0.044785	ug/g
Pb	208	1205126.151	2.137	0.042501	ug/g
Bi	209	563525.170	563525.170		ug/g

001598

ICP-MS Summary Report

Sample ID: QC Std 3

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 09:59:26
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 3.016
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	300492.645	1313.211				ug/g
	P	31	46385.688	-10017.736				ug/g
	S	34	114521.684	-28139.200				ug/g
	Cl	35	52264.311	1299.701				ug/g
⌈	Cu	63	258.338	0.000	0.000053	0.000	27.537	ug/g
|	Cu	65	126.668	0.000	0.000037	0.000	24.066	ug/g
⌊>	Ge	74	424442.361	424442.361				ug/g
⌈	Pb	206	208.337	0.000	0.000003	0.000	173.849	ug/g
|	Pb	207	170.003	0.000	0.000003	0.000	55.289	ug/g
|	Pb	208	1795.143	0.002	0.000039	0.000	149.248	ug/g
⌊>	Bi	209	559484.290	559484.290				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	315289.403	16109.969		ug/g
	P	31	46711.711	-9691.714		ug/g
	S	34	114351.866	-28306.896		ug/g
	Cl	35	51222.177	257.567		ug/g
⌈	Cu	63	260.006	0.000	0.000070	ug/g
|	Cu	65	120.002	0.000	0.000029	ug/g
⌊>	Ge	74	425343.887	425343.887		ug/g
⌈	Pb	206	230.004	0.000	0.000007	ug/g
|	Pb	207	170.003	0.000	0.000004	ug/g
|	Pb	208	805.013	0.000	0.000005	ug/g
⌊>	Bi	209	545728.862	545728.862		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	295783.831	-3395.803		ug/g
	P	31	44936.011	-11487.413		ug/g
	S	34	115244.123	-27416.761		ug/g
	Cl	35	53334.906	2370.296		ug/g
⌈	Cu	63	245.005	0.000	0.000047	ug/g
|	Cu	65	135.002	0.000	0.000047	ug/g
⌊>	Ge	74	422172.296	422172.296		ug/g
⌈	Pb	206	165.003	-0.000	-0.000003	ug/g
|	Pb	207	160.002	0.000	0.000001	ug/g
|	Pb	208	3693.738	0.005	0.000106	ug/g
⌊>	Bi	209	562672.521	562672.521		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	290404.900	-8774.534		ug/g
	P	31	47509.343	-8894.082		ug/g
	S	34	113968.941	-28691.843		ug/g
	Cl	35	52235.848	1271.237		ug/g
⌈	Cu	63	240.004	0.000	0.000043	ug/g
|	Cu	65	125.002	0.000	0.000038	ug/g
⌊>	Ge	74	425610.897	425610.897		ug/g
⌈	Pb	206	230.004	0.000	0.000005	ug/g
|	Pb	207	160.003	0.000	0.000004	ug/g
|	Pb	208	666.682	0.000	0.000006	ug/g
⌊>	Bi	209	570051.668	570051.668		ug/g

001599

ICP-MS Summary Report

Sample ID: 185803-116mpb

Autosampler Position: 17

Sample Date/Time: Wednesday, May 22, 2002 10:01:50
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\185803-116mpb.017
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	346874.417	47694.983				ug/g
	P	31	49516.483	-6886.942				ug/g
	S	34	121537.765	-21123.119				ug/g
	Cl	35	57790.569	6825.959				ug/g
⌈	Cu	63	333.341	0.000	0.043314	0.003	6.923	ug/g
|	Cu	65	186.670	0.000	0.047011	0.017	37.212	ug/g
⌊>	Ge	74	441380.303	441380.303				ug/g
⌈	Pb	206	330.007	0.000	0.009363	0.003	36.812	ug/g
|	Pb	207	270.005	0.000	0.009403	0.003	28.008	ug/g
|	Pb	208	1227.804	0.001	0.008956	0.002	18.878	ug/g
⌊>	Bi	209	573440.140	573440.140				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	367090.229	67910.795		ug/g
P	31	53505.546	-2697.878		ug/g
S	34	113923.561	-28737.303		ug/g
Cl	35	57335.399	6370.789		ug/g
Cu	63	310.006	0.000	0.039998	ug/g
Cu	65	200.003	0.000	0.057607	ug/g
Ge	74	427223.771	427223.771		ug/g
Pb	206	375.009	0.000	0.012947	ug/g
Pb	207	285.006	0.000	0.011187	ug/g
Pb	208	1248.360	0.001	0.009840	ug/g
Bi	209	556843.910	556843.910		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	337437.049	36257.616		ug/g
P	31	48904.051	-7499.373		ug/g
S	34	119565.294	-22985.580		ug/g
Cl	35	58038.238	7073.625		ug/g
Cu	63	330.007	0.000	0.044108	ug/g
Cu	65	145.002	0.000	0.026819	ug/g
Ge	74	433352.066	433352.066		ug/g
Pb	206	320.007	0.000	0.009068	ug/g
Pb	207	280.006	0.000	0.010643	ug/g
Pb	208	1268.026	0.001	0.010021	ug/g
Bi	209	561539.199	561539.199		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	336095.972	36916.539		ug/g
P	31	46139.852	-10263.573		ug/g
S	34	131024.420	-11636.464		ug/g
Cl	35	57998.072	7033.462		ug/g
Cu	63	360.006	0.000	0.046836	ug/g
Cu	65	215.004	0.000	0.056606	ug/g
Ge	74	463565.072	463565.072		ug/g
Pb	206	295.006	0.000	0.006073	ug/g
Pb	207	245.005	0.000	0.004376	ug/g
Pb	208	1170.024	0.001	0.007006	ug/g
Bi	209	500137.311	500137.311		ug/g

ICP-MS Summary Report

Sample ID: 185803-116lfb

Autosampler Position: 18

Sample Date/Time: Wednesday, May 22, 2002 10:04:15
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\185803-116lfb.018
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	351397.957	52218.523				ug/g
	P	31	52043.775	-4359.650				ug/g
	S	34	126684.565	-15976.319				ug/g
	Cl	35	59865.869	8901.258				ug/g
⌈	Cu	63	89560.851	0.205	23.492692	0.574	2.442	ug/g
|	Cu	65	43787.450	0.100	23.129656	1.019	4.405	ug/g
⌊>	Ge	74	435904.339	435904.339				ug/g
⌈	Pb	206	355929.016	0.613	23.444716	0.703	2.997	ug/g
|	Pb	207	298195.285	0.513	24.227290	0.951	3.926	ug/g
|	Pb	208	1395719.277	2.403	23.896260	0.600	2.510	ug/g
⌊>	Bi	209	580527.227	580527.227				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	365797.686	66618.255		ug/g
	P	31	51784.203	-4619.221		ug/g
	S	34	120320.771	-22340.113		ug/g
	Cl	35	62195.717	11231.107		ug/g
⌈	Cu	63	91477.864	0.203	23.205548	ug/g
|	Cu	65	43125.426	0.095	22.015726	ug/g
⌊>	Ge	74	450585.560	450585.560		ug/g
⌈	Pb	206	350086.392	0.595	22.754298	ug/g
|	Pb	207	291864.206	0.496	23.398611	ug/g
|	Pb	208	1379021.451	2.343	23.297714	ug/g
⌊>	Bi	209	588200.604	588200.604		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	344907.354	45727.950		ug/g
	P	31	48613.056	-7790.367		ug/g
	S	34	131120.295	-11540.589		ug/g
	Cl	35	58972.057	8007.447		ug/g
⌈	Cu	63	87427.581	0.202	23.119347	ug/g
|	Cu	65	43687.760	0.101	23.359997	ug/g
⌊>	Ge	74	432236.030	432236.030		ug/g
⌈	Pb	206	354164.892	0.612	23.421054	ug/g
|	Pb	207	309734.802	0.536	25.266136	ug/g
|	Pb	208	1390021.161	2.403	23.893834	ug/g
⌊>	Bi	209	578105.907	578105.907		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	343468.796	44309.365		ug/g
	P	31	50734.065	-669.360		ug/g
	S	34	128612.628	-14046.256		ug/g
	Cl	35	58429.831	7465.221		ug/g
⌈	Cu	63	89777.109	0.211	24.153182	ug/g
|	Cu	65	44349.175	0.104	24.014246	ug/g
⌊>	Ge	74	424889.428	424889.428		ug/g
⌈	Pb	206	363525.764	0.632	24.158794	ug/g
|	Pb	207	292998.849	0.509	24.016923	ug/g
|	Pb	208	1418115.189	2.464	24.497131	ug/g
⌊>	Bi	209	575274.969	575274.969		ug/g

ICP-MS Summary Report

Sample ID: 305052

Autosampler Position: 19

Sample Date/Time: Wednesday, May 22, 2002 10:06:40
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305052.019
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	349989.788	50810.354				ug/g
	P	31	66821.765	10418.341				ug/g
	S	34	128096.374	-14564.510				ug/g
	Cl	35	57193.208	6228.597				ug/g
⌈	Cu	63	17288.963	0.042	4.770111	0.046	0.957	ug/g
|	Cu	65	9404.857	0.023	5.222298	0.185	3.541	ug/g
⌊>	Ge	74	411458.355	411458.355				ug/g
⌈	Pb	206	111017.482	0.206	7.867172	0.221	2.812	ug/g
|	Pb	207	87944.170	0.163	7.684373	0.145	1.887	ug/g
|	Pb	208	426790.176	0.791	7.861948	0.238	3.021	ug/g
⌊>	Bi	209	539335.763	539335.763				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	361731.042	62551.606		ug/g
	P	31	69182.605	12779.380		ug/g
	S	34	127290.856	-16370.026		ug/g
	Cl	35	58771.230	7806.620		ug/g
⌈	Cu	63	17160.472	0.042	4.822461	ug/g
|	Cu	65	9608.326	0.024	5.434487	ug/g
⌊>	Ge	74	403961.285	403961.285		ug/g
⌈	Pb	206	110365.760	0.212	8.099379	ug/g
|	Pb	207	86557.297	0.166	7.834707	ug/g
|	Pb	208	426399.810	0.818	8.134114	ug/g
⌊>	Bi	209	520813.135	520813.135		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	340447.247	41267.014		ug/g
	P	31	67570.097	11166.672		ug/g
	S	34	129273.560	-13367.324		ug/g
	Cl	35	56138.836	5171.028		ug/g
⌈	Cu	63	17535.831	0.041	4.738935	ug/g
|	Cu	65	9446.218	0.022	5.136895	ug/g
⌊>	Ge	74	420011.668	420011.668		ug/g
⌈	Pb	206	111126.652	0.200	7.856875	ug/g
|	Pb	207	90260.143	0.163	7.873083	ug/g
|	Pb	208	429813.745	0.774	7.896865	ug/g
⌊>	Bi	209	554195.539	554195.539		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	347791.074	46611.840		ug/g
	P	31	68712.394	7306.868		ug/g
	S	34	127724.706	-14936.176		ug/g
	Cl	35	56872.756	5708.148		ug/g
⌈	Cu	63	17170.484	0.041	4.746918	ug/g
|	Cu	65	9156.026	0.022	5.095403	ug/g
⌊>	Ge	74	410402.112	410402.112		ug/g
⌈	Pb	206	111560.014	0.205	7.843282	ug/g
|	Pb	207	87015.070	0.160	7.545348	ug/g
|	Pb	208	424356.973	0.780	7.755065	ug/g
⌊>	Bi	209	543298.616	543298.616		ug/g

ICP-MS Summary Report

Sample ID: 305052dup

Autosampler Position: 20

Sample Date/Time: Wednesday, May 22, 2002 10:09:07
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305052dup.020
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	345786.157	46606.723				ug/g
	P	31	108385.155	51981.731				ug/g
	S	34	136614.215	-6046.669				ug/g
	Cl	35	59110.970	8146.359				ug/g
⌈	Cu	63	87446.035	0.207	23.678458	0.381	1.609	ug/g
|	Cu	65	44103.423	0.104	24.033786	0.104	0.434	ug/g
⌊>	Ge	74	422518.452	422518.452				ug/g
⌈	Pb	206	106138.954	0.190	7.257887	0.145	1.992	ug/g
|	Pb	207	82612.379	0.148	6.967767	0.166	2.380	ug/g
|	Pb	208	409202.244	0.731	7.273809	0.190	2.609	ug/g
⌊>	Bi	209	558895.818	558895.818				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	352889.032	53509.598		ug/g
	P	31	121580.809	66277.385		ug/g
	S	34	144473.301	1812.417		ug/g
	Cl	35	59433.970	8469.360		ug/g
⌈	Cu	63	87050.284	0.204	23.351465	ug/g
|	Cu	65	44665.161	0.105	24.116897	ug/g
⌊>	Ge	74	426443.120	426443.120		ug/g
⌈	Pb	206	104496.834	0.185	7.091054	ug/g
|	Pb	207	81050.077	0.144	6.783428	ug/g
|	Pb	208	399947.122	0.709	7.054758	ug/g
⌊>	Bi	209	563124.838	563124.838		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	348700.019	47520.565		ug/g
	P	31	104839.333	48435.906		ug/g
	S	34	133386.149	-9274.735		ug/g
	Cl	35	59323.612	8356.901		ug/g
⌈	Cu	63	88152.020	0.210	24.096679	ug/g
|	Cu	65	43471.475	0.104	23.916739	ug/g
⌊>	Ge	74	418509.073	418509.073		ug/g
⌈	Pb	206	106068.517	0.192	7.335644	ug/g
|	Pb	207	83308.032	0.150	7.104871	ug/g
|	Pb	208	410435.120	0.741	7.377235	ug/g
⌊>	Bi	209	552673.220	552673.220		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	337969.420	36769.964		ug/g
	P	31	99635.324	42231.889		ug/g
	S	34	131983.195	-10677.689		ug/g
	Cl	35	58575.427	7510.818		ug/g
⌈	Cu	63	87136.803	0.206	23.587230	ug/g
|	Cu	65	44173.631	0.104	24.087920	ug/g
⌊>	Ge	74	422603.163	422603.163		ug/g
⌈	Pb	206	107831.511	0.192	7.346964	ug/g
|	Pb	207	83479.028	0.149	7.015002	ug/g
|	Pb	208	417224.492	0.743	7.389436	ug/g
⌊>	Bi	209	560869.398	560869.398		ug/g

001603

ICP-MS Summary Report

Sample ID: 305052s

Autosampler Position: 21

Sample Date/Time: Wednesday, May 22, 2002 10:11:33
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305052s.021
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	365085.784	65906.350				ug/g
	P	31	69072.643	12669.219				ug/g
	S	34	131584.861	-11076.023				ug/g
	Cl	35	57328.729	6364.119				ug/g
⌈	Cu	63	101712.415	0.241	27.580009	0.857	3.109	ug/g
|	Cu	65	49047.878	0.116	26.788396	0.733	2.736	ug/g
⌊>	Ge	74	421625.721	421625.721				ug/g
⌈	Pb	206	433148.212	0.790	30.228131	0.394	1.305	ug/g
|	Pb	207	365810.317	0.667	31.496923	0.757	2.403	ug/g
|	Pb	208	1694567.519	3.092	30.747317	0.812	2.641	ug/g
⌊>	Bi	209	547968.337	547968.337				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	370804.561	71624.927		ug/g
P	31	84505.951	8102.526		ug/g
S	34	130080.038	-12669.948		ug/g
Cl	35	57711.914	6747.304		ug/g
Cu	63	96223.938	0.235	26.920082	ug/g
Cu	65	49014.430	0.120	27.801323	ug/g
Ge	74	408750.360	408750.360		ug/g
Pb	206	443663.326	0.801	30.662936	ug/g
Pb	207	368895.876	0.686	31.448483	ug/g
Pb	208	1704606.976	3.079	30.822736	ug/g
Bi	209	553336.241	553336.241		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	371681.316	72681.585		ug/g
P	31	70745.445	14342.020		ug/g
S	34	135623.983	-6036.902		ug/g
Cl	35	58093.460	7128.650		ug/g
Cu	63	106254.747	0.249	28.549021	ug/g
Cu	65	49164.947	0.115	26.585315	ug/g
Ge	74	425645.110	425645.110		ug/g
Pb	206	424761.461	0.767	30.127980	ug/g
Pb	207	388811.286	0.684	32.276766	ug/g
Pb	208	1714723.681	3.179	31.614536	ug/g
Bi	209	539166.359	539166.359		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	352581.671	53412.238		ug/g
P	31	71986.534	15563.109		ug/g
S	34	128839.863	-13821.222		ug/g
Cl	35	56180.814	5216.204		ug/g
Cu	63	102656.560	0.236	27.270953	ug/g
Cu	65	46964.258	0.114	26.176551	ug/g
Ge	74	430481.694	430481.694		ug/g
Pb	206	431019.647	0.781	29.883477	ug/g
Pb	207	359623.810	0.652	30.765501	ug/g
Pb	208	1664369.731	3.017	30.004680	ug/g
Bi	209	551400.412	551400.412		ug/g

001604

ICP-MS Summary Report

Sample ID: 305052sd
Autosampler Position: 22
Sample Date/Time: Wednesday, May 22, 2002 10:14:00
Initial Sample Quantity (mg): 5e+001
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305052sd.022
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	371282.702	72103.268				ug/g
	P	31	63144.969	6741.544				ug/g
	S	34	130723.372	-11937.512				ug/g
	Cl	35	59793.896	8829.286				ug/g
⌈	Cu	63	105628.551	0.245	279.840603	4.223	1.509	ug/g
|	Cu	65	51297.450	0.119	273.540148	0.982	0.359	ug/g
⌊>	Ge	74	429845.177	429845.177				ug/g
⌈	Pb	206	473281.835	0.860	327.587304	9.366	2.859	ug/g
|	Pb	207	387408.225	0.704	330.833707	12.739	3.850	ug/g
|	Pb	208	1829683.574	3.324	329.218781	4.082	1.240	ug/g
⌊>	Bi	209	550256.984	550256.984				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	386079.173	86896.739		ug/g
P	31	63662.360	7276.835		ug/g
S	34	131362.507	-11296.377		ug/g
Cl	35	61030.897	10068.087		ug/g
Cu	63	103386.877	0.241	275.193568	ug/g
Cu	65	51006.405	0.119	273.235652	ug/g
Ge	74	427683.794	427683.794		ug/g
Pb	206	457092.010	0.833	317.266421	ug/g
Pb	207	401838.923	0.732	343.766542	ug/g
Pb	208	1823368.360	3.322	328.978339	ug/g
Bi	209	546678.837	546678.837		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	369855.217	70875.783		ug/g
P	31	60945.333	4541.908		ug/g
S	34	131342.323	-11318.561		ug/g
Cl	35	60649.927	9886.317		ug/g
Cu	63	107367.960	0.249	283.443426	ug/g
Cu	65	51663.840	0.120	274.836744	ug/g
Ge	74	431355.996	431355.996		ug/g
Pb	206	475710.460	0.861	338.642943	ug/g
Pb	207	378744.758	0.703	330.389258	ug/g
Pb	208	1818649.189	3.367	333.417365	ug/g
Bi	209	539934.579	539934.579		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	357916.716	56737.282		ug/g
P	31	64507.314	8403.889		ug/g
S	34	129465.287	-13195.597		ug/g
Cl	35	57501.064	6536.454		ug/g
Cu	63	106128.515	0.246	280.884617	ug/g
Cu	65	51202.106	0.119	272.745849	ug/g
Ge	74	430285.740	430285.740		ug/g
Pb	206	467043.016	0.866	329.953549	ug/g
Pb	207	380940.993	0.677	316.323222	ug/g
Pb	208	1847113.174	3.285	325.263840	ug/g
Bi	209	562157.636	562157.636		ug/g

ICP-MS Summary Report

Sample ID: 305052L

Autosampler Position: 23

Sample Date/Time: Wednesday, May 22, 2002 10:16:28
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 3e+001
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305052L.023
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	332250.662	33071.228				ug/g
	P	31	48357.363	-8046.062				ug/g
	S	34	134920.962	-7739.922				ug/g
	Cl	35	55141.775	4177.165				ug/g
⌈	Cu	63	3870.563	0.008	4.836291	0.324	6.690	ug/g
|	Cu	65	1963.488	0.004	4.906622	0.294	5.989	ug/g
⌊>	Ge	74	439457.375	439457.375				ug/g
⌈	Pb	206	24237.460	0.041	7.874953	0.149	1.888	ug/g
|	Pb	207	18939.419	0.032	7.587914	0.352	4.635	ug/g
|	Pb	208	91991.809	0.156	7.770554	0.156	2.007	ug/g
⌊>	Bi	209	584023.879	584023.879				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	338266.804	39107.370		ug/g
	P	31	51277.375	-5126.060		ug/g
	S	34	131198.866	-11464.898		ug/g
	Cl	35	55744.104	4779.484		ug/g
⌈	Cu	63	3740.527	0.008	4.463324	ug/g
|	Cu	65	1925.149	0.004	4.596524	ug/g
⌊>	Ge	74	457835.171	457835.171		ug/g
⌈	Pb	206	23569.863	0.040	7.720139	ug/g
|	Pb	207	18096.836	0.031	7.307300	ug/g
|	Pb	208	90138.383	0.154	7.675631	ug/g
⌊>	Bi	209	579245.724	579245.724		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	326336.472	36159.039		ug/g
	P	31	47930.751	-8472.673		ug/g
	S	34	133512.321	-9146.563		ug/g
	Cl	35	54834.436	3569.828		ug/g
⌈	Cu	63	3835.581	0.009	5.004182	ug/g
|	Cu	65	1945.152	0.004	4.942318	ug/g
⌊>	Ge	74	431794.814	431794.814		ug/g
⌈	Pb	206	24541.307	0.042	8.016561	ug/g
|	Pb	207	19013.929	0.034	7.982477	ug/g
|	Pb	208	93623.360	0.160	7.980820	ug/g
⌊>	Bi	209	560999.861	560999.861		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	323126.709	23947.275		ug/g
	P	31	43683.963	-10539.462		ug/g
	S	34	140054.580	-2606.304		ug/g
	Cl	35	55146.768	4182.178		ug/g
⌈	Cu	63	3935.581	0.009	5.041356	ug/g
|	Cu	65	2020.163	0.004	5.161023	ug/g
⌊>	Ge	74	428742.140	428742.140		ug/g
⌈	Pb	206	24601.411	0.041	7.888166	ug/g
|	Pb	207	18907.693	0.032	7.473984	ug/g
|	Pb	208	92213.654	0.155	7.885510	ug/g
⌊>	Bi	209	581826.051	581826.051		ug/g

001606

ICP-MS Summary Report

Sample ID: 305052pds

Autosampler Position: 24

Sample Date/Time: Wednesday, May 22, 2002 10:18:52
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: c:\elandata\Sample\y22so-d1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305052pds.024
Tuning File: c:\elandata\Tuning\22may2002.tun
Optimization File: c:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	371846.735	72667.301				ug/g
	P	31	63258.797	6855.372				ug/g
	S	34	137774.892	-4885.992				ug/g
	Cl	35	59599.662	8635.051				ug/g
⌈	Cu	63	84523.525	0.193	22.071070	0.767	3.477	ug/g
|	Cu	65	42796.102	0.098	22.487870	0.452	2.009	ug/g
⌊>	Ge	74	437978.385	437978.385				ug/g
⌈	Pb	206	391624.512	0.698	26.699561	0.631	2.363	ug/g
|	Pb	207	311126.576	0.554	26.164159	0.561	2.145	ug/g
|	Pb	208	1480041.001	2.639	26.238850	0.727	2.770	ug/g
⌊>	Bi	209	561022.409	561022.409				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	378384.352	79204.819		ug/g
	P	31	61407.310	5003.865		ug/g
	S	34	136066.274	-6594.810		ug/g
	Cl	35	59850.709	8886.099		ug/g
⌈	Cu	63	83061.861	0.185	21.183305	ug/g
|	Cu	65	42779.384	0.095	21.970051	ug/g
⌊>	Ge	74	447986.531	447986.531		ug/g
⌈	Pb	206	399156.566	0.716	27.412217	ug/g
|	Pb	207	302951.562	0.544	25.661905	ug/g
|	Pb	208	1482315.722	2.661	26.460143	ug/g
⌊>	Bi	209	556840.493	556840.493		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	370337.477	71158.043		ug/g
	P	31	65194.071	8790.846		ug/g
	S	34	143841.972	1181.088		ug/g
	Cl	35	59609.702	8846.092		ug/g
⌈	Cu	63	85048.269	0.196	22.404564	ug/g
|	Cu	65	43005.062	0.099	22.802233	ug/g
⌊>	Ge	74	433950.236	433950.236		ug/g
⌈	Pb	206	378941.949	0.682	26.474102	ug/g
|	Pb	207	309004.227	0.567	26.709750	ug/g
|	Pb	208	1469604.940	2.696	26.629346	ug/g
⌊>	Bi	209	544472.059	544472.059		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	366518.375	67638.942		ug/g
	P	31	63175.010	6771.585		ug/g
	S	34	135416.430	-9244.454		ug/g
	Cl	35	59338.874	8373.964		ug/g
⌈	Cu	63	85460.713	0.197	22.515342	ug/g
|	Cu	65	42603.859	0.098	22.691325	ug/g
⌊>	Ge	74	431998.390	431998.390		ug/g
⌈	Pb	206	388775.018	0.685	26.212363	ug/g
|	Pb	207	321423.919	0.582	26.060623	ug/g
|	Pb	208	1488202.342	2.597	26.427060	ug/g
⌊>	Bi	208	561754.874	561754.874		ug/g

001607

ICP-MS Summary Report

Sample ID: 305053

Autosampler Position: 25

Sample Date/Time: Wednesday, May 22, 2002 10:23:27
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305053.025
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	369872.604	70693.170				ug/g
	P	31	63416.113	7012.688				ug/g
	S	34	139564.943	-3095.941				ug/g
	Cl	35	59166.295	8201.685				ug/g
⌈	Cu	63	13521.534	0.030	3.441092	0.085	2.479	ug/g
|	Cu	65	7073.488	0.016	3.620257	0.108	2.995	ug/g
⌊>	Ge	74	444217.806	444217.806				ug/g
⌈	Pb	206	29864.843	0.052	1.984689	0.102	5.150	ug/g
|	Pb	207	21715.046	0.038	1.778911	0.084	4.734	ug/g
|	Pb	208	108691.050	0.189	1.877028	0.069	3.700	ug/g
⌊>	Bi	209	572000.414	572000.414				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	360571.330	61391.896		ug/g
	P	31	63154.921	6751.497		ug/g
	S	34	139786.975	-2873.909		ug/g
	Cl	35	60009.756	9845.148		ug/g
⌈	Cu	63	13166.215	0.030	3.443064	ug/g
|	Cu	65	7051.811	0.016	3.703208	ug/g
⌊>	Ge	74	432884.328	432884.328		ug/g
⌈	Pb	206	29139.861	0.052	1.980947	ug/g
|	Pb	207	21901.995	0.039	1.835460	ug/g
|	Pb	208	107541.817	0.191	1.900104	ug/g
⌊>	Bi	209	558753.058	558753.058		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	365423.263	66243.850		ug/g
	P	31	62331.306	5827.683		ug/g
	S	34	137131.397	-5529.487		ug/g
	Cl	35	59880.835	9016.225		ug/g
⌈	Cu	63	13461.493	0.029	3.354796	ug/g
|	Cu	65	6991.780	0.015	3.497560	ug/g
⌊>	Ge	74	454077.444	454077.444		ug/g
⌈	Pb	206	28345.403	0.049	1.864390	ug/g
|	Pb	207	21256.014	0.036	1.682118	ug/g
|	Pb	208	107794.006	0.181	1.798978	ug/g
⌊>	Bi	209	591331.173	591331.173		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	363823.196	64443.764		ug/g
	P	31	64762.109	6358.684		ug/g
	S	34	141776.457	-884.427		ug/g
	Cl	35	58808.284	5843.664		ug/g
⌈	Cu	63	13698.895	0.031	3.525396	ug/g
|	Cu	65	7176.874	0.016	3.660003	ug/g
⌊>	Ge	74	445691.646	445691.646		ug/g
⌈	Pb	206	31109.148	0.058	2.088726	ug/g
|	Pb	207	21887.127	0.039	1.819155	ug/g
|	Pb	208	110737.326	0.194	1.932002	ug/g
⌊>	Bi	209	565817.013	565817.013		ug/g

001608

ICP-MS Summary Report

Sample ID: 305054

Autosampler Position: 26

Sample Date/Time: Wednesday, May 22, 2002 10:25:48
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305054.026
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	370780.794	71601.360				ug/g
	P	31	67287.102	10883.677				ug/g
	S	34	139585.270	-3075.614				ug/g
	Cl	35	58627.471	7662.860				ug/g
⌈	Cu	63	15643.719	0.035	4.026731	0.051	1.275	ug/g
|	Cu	65	7792.204	0.017	4.032151	0.164	4.072	ug/g
⌊>	Ge	74	440238.089	440238.089				ug/g
⌈	Pb	206	36410.051	0.065	2.477253	0.066	2.684	ug/g
|	Pb	207	25042.189	0.044	2.099128	0.035	1.683	ug/g
|	Pb	208	128754.307	0.229	2.276171	0.033	1.464	ug/g
⌊>	Bi	209	559502.058	559502.058				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	366933.926	67754.492		ug/g
	P	31	66751.253	10347.626		ug/g
	S	34	142958.157	297.273		ug/g
	Cl	35	60523.541	9558.931		ug/g
⌈	Cu	63	15323.367	0.035	3.982073	ug/g
|	Cu	65	8077.564	0.016	4.221458	ug/g
⌊>	Ge	74	436028.406	436028.406		ug/g
⌈	Pb	206	35729.983	0.064	2.438677	ug/g
|	Pb	207	24671.552	0.044	2.073324	ug/g
|	Pb	208	126760.280	0.226	2.246358	ug/g
⌊>	Bi	209	558087.790	558087.790		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	368280.881	70111.457		ug/g
	P	31	67610.287	11206.862		ug/g
	S	34	139469.062	-3171.803		ug/g
	Cl	35	59770.373	8805.763		ug/g
⌈	Cu	63	15924.028	0.036	4.062806	ug/g
|	Cu	65	7862.131	0.017	3.946593	ug/g
⌊>	Ge	74	442057.305	442057.305		ug/g
⌈	Pb	206	34231.248	0.064	2.441098	ug/g
|	Pb	207	25763.468	0.045	2.139394	ug/g
|	Pb	208	129651.213	0.228	2.270022	ug/g
⌊>	Bi	209	564897.832	564897.832		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	356117.364	56938.131		ug/g
	P	31	67489.765	11096.340		ug/g
	S	34	136308.570	-6352.314		ug/g
	Cl	35	55558.498	4623.887		ug/g
⌈	Cu	63	15663.781	0.035	4.015310	ug/g
|	Cu	65	7837.117	0.017	3.928403	ug/g
⌊>	Ge	74	442628.556	442628.556		ug/g
⌈	Pb	206	37268.923	0.067	2.553984	ug/g
|	Pb	207	24691.567	0.044	2.084667	ug/g
|	Pb	208	129851.420	0.233	2.312133	ug/g
⌊>	Bi	209	555520.554	555520.554		ug/g

001609

ICP-MS Summary Report

Sample ID: QC Std 2

Autosampler Position: 2

Sample Date/Time: Wednesday, May 22, 2002 10:28:10
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 2.027
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	321345.432	22165.998				ug/g
	P	31	50406.260	-5997.165				ug/g
	S	34	146544.264	3883.380				ug/g
	Cl	35	55021.365	4056.755				ug/g
⌈	Cu	63	80926.184	0.176	0.040268	0.001	3.439	ug/g
|	Cu	65	39687.130	0.086	0.039742	0.001	2.555	ug/g
⌊>	Ge	74	459335.340	459335.340				ug/g
⌈	Pb	206	323177.547	0.539	0.041211	0.002	4.686	ug/g
|	Pb	207	261441.994	0.436	0.041109	0.001	1.397	ug/g
|	Pb	208	1218163.190	2.030	0.040371	0.001	2.849	ug/g
⌊>	Bi	209	599793.737	599793.737				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	329167.351	29987.918		ug/g
	P	31	49325.501	-7077.924		ug/g
	S	34	147245.427	4585.543		ug/g
	Cl	35	53661.130	2696.520		ug/g
⌈	Cu	63	79159.501	0.172	0.039369	ug/g
|	Cu	65	39775.694	0.086	0.039813	ug/g
⌊>	Ge	74	459508.126	459508.126		ug/g
⌈	Pb	206	309913.619	0.513	0.039205	ug/g
|	Pb	207	259202.843	0.429	0.040446	ug/g
|	Pb	208	1190790.244	1.969	0.039156	ug/g
⌊>	Bi	209	604359.890	604359.890		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	312504.170	13324.738		ug/g
	P	31	47358.843	-9044.582		ug/g
	S	34	146286.632	3625.748		ug/g
	Cl	35	54554.513	3569.903		ug/g
⌈	Cu	63	79673.466	0.173	0.039572	ug/g
|	Cu	65	38808.026	0.084	0.038693	ug/g
⌊>	Ge	74	461272.469	461272.469		ug/g
⌈	Pb	206	331474.817	0.563	0.043057	ug/g
|	Pb	207	258581.837	0.439	0.041430	ug/g
|	Pb	208	1227438.557	2.084	0.041443	ug/g
⌊>	Bi	209	588601.829	588601.829		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	322364.775	23188.341		ug/g
	P	31	54534.436	-1860.908		ug/g
	S	34	146098.732	3438.848		ug/g
	Cl	35	56848.454	5883.844		ug/g
⌈	Cu	63	83745.584	0.183	0.041863	ug/g
|	Cu	65	40477.969	0.086	0.040720	ug/g
⌊>	Ge	74	457225.425	457225.425		ug/g
⌈	Pb	206	328144.203	0.541	0.041371	ug/g
|	Pb	207	266541.206	0.439	0.041450	ug/g
|	Pb	208	1236290.669	2.037	0.040514	ug/g
⌊>	Bi	209	606419.493	606419.493		ug/g

001610

ICP-MS Summary Report

Sample ID: QC Std 3

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 10:30:31
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 3.028
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	317330.985	18151.551				ug/g
	P	31	51144.722	-5258.702				ug/g
	S	34	150736.162	8075.278				ug/g
	Cl	35	55642.096	4677.486				ug/g
⌈	Cu	63	210.004	0.000	0.000018	0.000	87.058	ug/g
|	Cu	65	106.668	0.000	0.000006	0.000	235.856	ug/g
⌊>	Ge	74	462539.535	462539.535				ug/g
⌈	Pb	206	221.671	0.000	0.000004	0.000	47.684	ug/g
|	Pb	207	168.336	0.000	0.000002	0.000	173.010	ug/g
|	Pb	208	786.123	0.000	0.000002	0.000	89.642	ug/g
⌊>	Bi	209	577635.152	577635.152				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	331919.980	32740.547		ug/g
	P	31	49235.189	-7166.236		ug/g
	S	34	151182.043	8501.159		ug/g
	Cl	35	54296.538	3333.926		ug/g
⌈	Cu	63	230.004	0.000	0.000028	ug/g
|	Cu	65	100.001	-0.000	-0.000001	ug/g
⌊>	Ge	74	461601.280	461601.280		ug/g
⌈	Pb	206	215.004	0.000	0.000002	ug/g
|	Pb	207	155.002	-0.000	-0.000001	ug/g
|	Pb	208	736.678	0.000	0.000000	ug/g
⌊>	Bi	209	580414.390	580414.390		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	312713.843	13534.249		ug/g
	P	31	58862.016	2556.591		ug/g
	S	34	153830.327	11160.443		ug/g
	Cl	35	57350.459	6385.849		ug/g
⌈	Cu	63	170.003	-0.000	-0.000000	ug/g
|	Cu	65	120.002	0.000	0.000022	ug/g
⌊>	Ge	74	451741.208	451741.208		ug/g
⌈	Pb	206	230.004	0.000	0.000006	ug/g
|	Pb	207	160.002	0.000	0.000001	ug/g
|	Pb	208	773.345	0.000	0.000003	ug/g
⌊>	Bi	209	558862.206	558862.206		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	307389.291	8179.857		ug/g
	P	31	45236.962	-11166.463		ug/g
	S	34	147216.117	4555.233		ug/g
	Cl	35	55277.290	4312.880		ug/g
⌈	Cu	63	230.004	0.000	0.000025	ug/g
|	Cu	65	100.001	-0.000	-0.000003	ug/g
⌊>	Ge	74	474276.116	474276.116		ug/g
⌈	Pb	206	220.004	0.000	0.000003	ug/g
|	Pb	207	190.003	0.000	0.000005	ug/g
|	Pb	208	846.347	0.000	0.000004	ug/g
⌊>	Bi	209	583628.860	583628.860		ug/g

001611

ICP-MS Summary Report

Sample ID: 305055

Autosampler Position: 27

Sample Date/Time: Wednesday, May 22, 2002 10:32:53
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305055.029
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	380556.309	81376.875				ug/g
	P	31	70112.797	13709.372				ug/g
	S	34	141007.687	-1653.197				ug/g
	Cl	35	55961.652	4997.042				ug/g
⌈	Cu	63	15635.380	0.035	4.019554	0.065	1.627	ug/g
|	Cu	65	7947.291	0.018	4.109497	0.191	4.641	ug/g
⌊>	Ge	74	440998.608	440998.608				ug/g
⌈	Pb	206	45171.777	0.078	2.985452	0.061	2.041	ug/g
|	Pb	207	32156.476	0.055	2.619738	0.028	1.051	ug/g
|	Pb	208	162942.379	0.281	2.798824	0.042	1.514	ug/g
⌊>	Bi	209	576864.484	576864.484				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	380868.567	81469.133		ug/g
	P	31	69872.178	9468.753		ug/g
	S	34	140865.846	-1995.338		ug/g
	Cl	35	56828.374	5863.764		ug/g
⌈	Cu	63	15328.372	0.035	3.983854	ug/g
|	Cu	65	8042.344	0.018	4.203216	ug/g
⌊>	Ge	74	436258.580	436258.580		ug/g
⌈	Pb	206	44715.318	0.079	3.034787	ug/g
|	Pb	207	31690.428	0.056	2.651219	ug/g
|	Pb	208	161296.905	0.286	2.845051	ug/g
⌊>	Bi	209	561695.156	561695.156		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	379287.318	80087.884		ug/g
	P	31	74801.057	18397.642		ug/g
	S	34	138727.849	-5833.335		ug/g
	Cl	35	56421.765	5457.153		ug/g
⌈	Cu	63	16179.318	0.038	4.095042	ug/g
|	Cu	65	7652.125	0.017	3.890033	ug/g
⌊>	Ge	74	446082.479	446082.479		ug/g
⌈	Pb	206	44524.722	0.076	2.917320	ug/g
|	Pb	207	32286.767	0.055	2.607802	ug/g
|	Pb	208	162183.463	0.278	2.781785	ug/g
⌊>	Bi	209	581723.439	581723.439		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	371733.043	72553.609		ug/g
	P	31	69665.145	13261.720		ug/g
	S	34	145629.986	2969.084		ug/g
	Cl	35	54634.820	3670.209		ug/g
⌈	Cu	63	15388.448	0.035	3.979966	ug/g
|	Cu	65	8147.404	0.018	4.235243	ug/g
⌊>	Ge	74	438654.763	438654.763		ug/g
⌈	Pb	206	46275.290	0.078	3.004248	ug/g
|	Pb	207	32492.234	0.055	2.600093	ug/g
|	Pb	208	165345.750	0.280	2.769638	ug/g
⌊>	Bi	209	567174.856	567174.856		ug/g

001612

ICP-MS Summary Report

Sample ID: 305056

Autosampler Position: 28

Sample Date/Time: Wednesday, May 22, 2002 10:35:15
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305056.030
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	373680.103	74500.669				ug/g
	P	31	62676.650	6273.226				ug/g
	S	34	141615.165	-1045.719				ug/g
	Cl	35	58331.108	7366.498				ug/g
⌈	Cu	63	15071.435	0.034	3.853542	0.220	5.717	ug/g
|	Cu	65	7740.508	0.017	3.975890	0.072	1.799	ug/g
⌊>	Ge	74	443409.050	443409.050				ug/g
⌈	Pb	206	458419.759	0.806	30.814832	1.500	4.867	ug/g
|	Pb	207	379192.419	0.666	31.432604	0.860	2.736	ug/g
|	Pb	208	1748163.854	3.071	30.537237	0.855	2.799	ug/g
⌊>	Bi	209	569135.039	569135.039				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	398562.256	99362.622		ug/g
	P	31	67350.459	947.035		ug/g
	S	34	141746.158	-914.726		ug/g
	Cl	35	58480.038	7515.426		ug/g
⌈	Cu	63	15473.530	0.036	4.103709	ug/g
|	Cu	65	7597.095	0.016	4.048709	ug/g
⌊>	Ge	74	427301.615	427301.615		ug/g
⌈	Pb	206	473250.750	0.846	32.356179	ug/g
|	Pb	207	381403.085	0.682	32.164762	ug/g
|	Pb	208	1788952.312	3.164	31.454421	ug/g
⌊>	Bi	209	559252.029	559252.029		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	398762.548	99583.114		ug/g
	P	31	65672.176	9468.753		ug/g
	S	34	137849.222	-4711.862		ug/g
	Cl	35	59017.244	8052.834		ug/g
⌈	Cu	63	14587.580	0.032	3.688595	ug/g
|	Cu	65	7612.214	0.017	3.973183	ug/g
⌊>	Ge	74	447648.038	447648.038		ug/g
⌈	Pb	206	444802.566	0.766	29.360562	ug/g
|	Pb	207	374418.807	0.646	30.485304	ug/g
|	Pb	208	1734690.442	2.994	29.783298	ug/g
⌊>	Bi	209	579240.519	579240.519		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	383715.505	84536.071		ug/g
	P	31	64667.514	8403.869		ug/g
	S	34	145150.116	2489.232		ug/g
	Cl	35	57496.044	8531.434		ug/g
⌈	Cu	63	15153.184	0.033	3.768321	ug/g
|	Cu	65	7612.214	0.017	3.905787	ug/g
⌊>	Ge	74	455277.498	455277.498		ug/g
⌈	Pb	206	457205.560	0.803	30.727725	ug/g
|	Pb	207	381757.365	0.671	31.647745	ug/g
|	Pb	208	1739848.809	3.057	30.393991	ug/g
⌊>	Bi	209	568912.569	568912.569		ug/g

SMC

001613

ICP-MS Summary Report

Sample ID: 305057

Autosampler Position: 29

Sample Date/Time: Wednesday, May 22, 2002 10:37:38
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305057.031
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	383003.137	83823.703				ug/g
	P	31	74700.593	18297.168				ug/g
	S	34	140777.165	-1883.719				ug/g
	Cl	35	59345.298	8380.687				ug/g
⌈	Cu	63	19503.501	0.044	5.090203	0.039	0.764	ug/g
|	Cu	65	9848.495	0.022	5.167626	0.153	2.966	ug/g
⌊>	Ge	74	434847.086	434847.086				ug/g
⌈	Pb	206	54419.031	0.099	3.777354	0.115	3.038	ug/g
|	Pb	207	36672.390	0.067	3.137763	0.104	3.309	ug/g
|	Pb	208	190294.118	0.345	3.432376	0.062	1.805	ug/g
⌊>	Bi	209	549001.793	549001.793				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	388069.114	88889.880		ug/g
P	31	73868.212	17462.787		ug/g
S	34	135541.314	-7119.570		ug/g
Cl	35	58058.317	7093.707		ug/g
Cu	63	19196.083	0.044	5.092211	ug/g
Cu	65	9763.433	0.023	5.207681	ug/g
Ge	74	427850.420	427850.420		ug/g
Pb	206	53385.021	0.096	3.651473	ug/g
Pb	207	36251.298	0.065	3.057410	ug/g
Pb	208	189064.801	0.338	3.361951	ug/g
Bi	209	556752.147	556752.147		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	387062.336	87882.902		ug/g
P	31	73826.004	17422.580		ug/g
S	34	144948.079	2287.195		ug/g
Cl	35	59928.024	8961.414		ug/g
Cu	63	19638.886	0.045	5.128057	ug/g
Cu	65	9523.266	0.022	4.996277	ug/g
Ge	74	434638.772	434835.772		ug/g
Pb	206	54137.926	0.100	3.804398	ug/g
Pb	207	37374.725	0.069	3.234984	ug/g
Pb	208	190461.244	0.350	3.478557	ug/g
Bi	209	542187.567	542187.567		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	373877.962	74698.528		ug/g
P	31	76409.562	20006.137		ug/g
S	34	141842.104	-818.780		ug/g
Cl	35	60051.551	9086.941		ug/g
Cu	63	19873.734	0.044	5.050341	ug/g
Cu	65	10258.765	0.023	5.298919	ug/g
Ge	74	442056.085	442055.085		ug/g
Pb	206	55754.143	0.101	3.876192	ug/g
Pb	207	38191.148	0.068	3.100896	ug/g
Pb	208	191336.509	0.348	3.456622	ug/g
Bi	209	548065.666	548065.666		ug/g

SMC

ICP-MS Summary Report

Sample ID: 305058

Autosampler Position: 30

Sample Date/Time: Wednesday, May 22, 2002 10:40:01
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305058.032
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	380044.155	80864.721				ug/g
	P	31	72494.516	16091.091				ug/g
	S	34	144126.973	1466.089				ug/g
	Cl	35	57030.890	6066.279				ug/g
⌈	Cu	63	22127.349	0.050	5.725930	0.219	3.830	ug/g
|	Cu	65	11261.217	0.025	5.859485	0.145	2.468	ug/g
⌊>	Ge	74	439515.252	439515.252				ug/g
⌈	Pb	206	56477.031	0.099	3.800905	0.134	3.536	ug/g
|	Pb	207	40252.032	0.071	3.339228	0.039	1.165	ug/g
|	Pb	208	201642.485	0.355	3.526313	0.052	1.483	ug/g
⌊>	Bi	209	566717.114	566717.114				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	387668.095	82509.562		ug/g
	P	31	74484.415	16060.991		ug/g
	S	34	149100.528	5439.644		ug/g
	Cl	35	59503.166	4538.558		ug/g
⌈	Cu	63	21841.803	0.049	5.590584	ug/g
|	Cu	65	11409.668	0.025	5.874631	ug/g
⌊>	Ge	74	444080.876	444080.876		ug/g
⌈	Pb	206	57731.995	0.103	3.937666	ug/g
|	Pb	207	40146.733	0.072	3.375807	ug/g
|	Pb	208	201709.693	0.360	3.575433	ug/g
⌊>	Bi	209	559090.901	559090.901		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	371024.862	71845.548		ug/g
	P	31	74775.935	16372.811		ug/g
	S	34	140094.973	-2565.011		ug/g
	Cl	35	58063.337	7098.727		ug/g
⌈	Cu	63	22618.117	0.052	5.978931	ug/g
|	Cu	65	11279.564	0.026	5.895853	ug/g
⌊>	Ge	74	430188.544	430188.544		ug/g
⌈	Pb	206	54880.762	0.096	3.869257	ug/g
|	Pb	207	40557.896	0.071	3.343494	ug/g
|	Pb	208	203255.653	0.356	3.532155	ug/g
⌊>	Bi	209	570254.529	570254.529		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	381418.488	82238.054		ug/g
	P	31	69223.197	11819.772		ug/g
	S	34	143185.419	524.535		ug/g
	Cl	35	57526.165	6861.865		ug/g
⌈	Cu	63	21922.026	0.049	5.608264	ug/g
|	Cu	65	11084.417	0.025	5.707870	ug/g
⌊>	Ge	74	444296.338	444296.338		ug/g
⌈	Pb	206	56818.334	0.099	3.793568	ug/g
|	Pb	207	40051.466	0.070	3.296383	ug/g
|	Pb	208	199982.110	0.349	3.471251	ug/g
⌊>	Bi	209	570605.912	570605.912		ug/g

001615

ICP-MS Summary Report

Sample ID: 305059

Autosampler Position: 31

Sample Date/Time: Wednesday, May 22, 2002 10:42:24
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305059.033
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	411009.021	111829.587				ug/g
	P	31	65996.187	9592.762				ug/g
	S	34	145305.461	2644.577				ug/g
	Cl	35	58766.226	7801.616				ug/g
⌈	Cu	63	10050.301	0.022	2.535395	0.053	2.098	ug/g
|	Cu	65	5162.651	0.011	2.615922	0.054	2.080	ug/g
⌊>	Ge	74	446555.011	446555.011				ug/g
⌈	Pb	206	29779.652	0.052	2.005081	0.076	3.791	ug/g
|	Pb	207	20913.843	0.037	1.734710	0.037	2.123	ug/g
|	Pb	208	105335.034	0.185	1.842591	0.042	2.287	ug/g
⌊>	Bi	209	564816.186	564816.186				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	432745.885	133568.482		ug/g
	P	31	68383.868	11960.443		ug/g
	S	34	147660.674	4999.790		ug/g
	Cl	35	59336.574	8373.964		ug/g
⌈	Cu	63	9985.591	0.022	2.508315	ug/g
|	Cu	65	5045.949	0.011	2.554908	ug/g
⌊>	Ge	74	448402.286	448402.286		ug/g
⌈	Pb	206	30656.168	0.054	2.062412	ug/g
|	Pb	207	20524.939	0.036	1.717260	ug/g
|	Pb	208	108742.604	0.188	1.883714	ug/g
⌊>	Bi	209	559839.382	559839.382		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	401896.836	102719.404		ug/g
	P	31	65359.626	8856.403		ug/g
	S	34	140241.401	-2419.483		ug/g
	Cl	35	59182.846	8198.236		ug/g
⌈	Cu	63	10063.644	0.023	2.596885	ug/g
|	Cu	65	5130.973	0.012	2.659379	ug/g
⌊>	Ge	74	438646.045	438646.045		ug/g
⌈	Pb	206	29170.042	0.050	1.930461	ug/g
|	Pb	207	20965.583	0.036	1.709852	ug/g
|	Pb	208	104539.400	0.181	1.799496	ug/g
⌊>	Bi	209	574317.670	574317.670		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	388382.339	99202.805		ug/g
	P	31	64264.866	7861.441		ug/g
	S	34	146014.309	5353.425		ug/g
	Cl	35	57797.259	6832.649		ug/g
⌈	Cu	63	10098.869	0.022	2.501183	ug/g
|	Cu	65	5291.033	0.011	2.633478	ug/g
⌊>	Ge	74	454814.703	454814.703		ug/g
⌈	Pb	206	29510.744	0.052	2.002370	ug/g
|	Pb	207	21251.007	0.036	1.777018	ug/g
|	Pb	208	104823.097	0.185	1.844564	ug/g
⌊>	Bi	209	560291.607	560291.607		ug/g

001616

ICP-MS Summary Report

Sample ID: 305060

Autosampler Position: 32

Sample Date/Time: Wednesday, May 22, 2002 10:44:48
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305060.034
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	388811.377	89631.944				ug/g
	P	31	61509.597	5106.172				ug/g
	S	34	145573.849	2912.965				ug/g
	Cl	35	59228.175	8263.565				ug/g
⌈	Cu	63	9603.323	0.021	2.362175	0.074	3.146	ug/g
|	Cu	65	5069.284	0.011	2.505025	0.038	1.523	ug/g
⌊>	Ge	74	456989.251	456989.251				ug/g
⌈	Pb	206	26887.219	0.046	1.747628	0.020	1.140	ug/g
|	Pb	207	18952.757	0.032	1.518487	0.065	4.289	ug/g
|	Pb	208	96358.591	0.164	1.627929	0.045	2.771	ug/g
⌊>	Bi	209	583859.252	583859.252				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	400952.795	101773.362		ug/g
	P	31	60362.862	3939.437		ug/g
	S	34	141215.040	-1444.844		ug/g
	Cl	35	58640.667	8876.057		ug/g
⌈	Cu	63	9498.251	0.020	2.334802	ug/g
|	Cu	65	4985.920	0.011	2.462749	ug/g
⌊>	Ge	74	457054.827	457054.827		ug/g
⌈	Pb	206	26444.755	0.046	1.743770	ug/g
|	Pb	207	18812.567	0.032	1.527263	ug/g
|	Pb	208	95706.173	0.165	1.638727	ug/g
⌊>	Bi	209	575862.968	575862.968		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	382869.711	83610.278		ug/g
	P	31	59474.137	3070.713		ug/g
	S	34	153413.005	10952.121		ug/g
	Cl	35	60423.117	9458.506		ug/g
⌈	Cu	63	9523.268	0.020	2.305419	ug/g
|	Cu	65	5211.002	0.011	2.538927	ug/g
⌊>	Ge	74	463991.909	463991.909		ug/g
⌈	Pb	206	26818.412	0.046	1.769201	ug/g
|	Pb	207	19418.383	0.033	1.578787	ug/g
|	Pb	208	97207.906	0.166	1.666668	ug/g
⌊>	Bi	209	575165.698	575165.698		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	382491.625	83312.192		ug/g
	P	31	64691.791	8268.346		ug/g
	S	34	141892.603	-768.282		ug/g
	Cl	35	57420.742	6456.131		ug/g
⌈	Cu	63	9788.450	0.021	2.446305	ug/g
|	Cu	65	5010.929	0.011	2.515398	ug/g
⌊>	Ge	74	449921.216	449921.216		ug/g
⌈	Pb	206	27381.480	0.045	1.729812	ug/g
|	Pb	207	18827.322	0.031	1.449412	ug/g
|	Pb	208	96161.684	0.158	1.578393	ug/g
⌊>	Bi	209	600549.089	600549.089		ug/g

001617

ICP-MS Summary Report

Sample ID: 305061
Autosampler Position: 33
Sample Date/Time: Wednesday, May 22, 2002 10:47:13
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305061.035
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	393454.397	94274.963				ug/g
	P	31	62671.287	6267.863				ug/g
	S	34	136776.900	-5883.984				ug/g
	Cl	35	58798.040	7833.430				ug/g
⌈	Cu	63	13599.940	0.030	3.475169	0.041	1.185	ug/g
|	Cu	65	6756.668	0.015	3.467921	0.176	5.089	ug/g
⌊>	Ge	74	442628.890	442628.890				ug/g
⌈	Pb	206	35208.689	0.062	2.379937	0.021	0.870	ug/g
|	Pb	207	24629.797	0.043	2.051702	0.035	1.715	ug/g
|	Pb	208	127059.625	0.225	2.232183	0.037	1.660	ug/g
⌊>	Bi	209	562779.079	562779.079				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	410271.984	111052.520		ug/g
	P	31	59650.911	3256.487		ug/g
	S	34	131887.315	-10773.569		ug/g
	Cl	35	57466.732	6702.122		ug/g
⌈	Cu	63	13511.522	0.031	3.522684	ug/g
|	Cu	65	6568.575	0.015	3.438660	ug/g
⌊>	Ge	74	433833.041	433833.041		ug/g
⌈	Pb	206	34998.168	0.063	2.394971	ug/g
|	Pb	207	24586.385	0.044	2.073457	ug/g
|	Pb	208	127906.889	0.229	2.274811	ug/g
⌊>	Bi	209	555905.081	555905.081		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	399179.131	99999.598		ug/g
	P	31	63627.909	7424.484		ug/g
	S	34	141850.212	-1010.573		ug/g
	Cl	35	58665.680	7721.269		ug/g
⌈	Cu	63	13636.642	0.030	3.452773	ug/g
|	Cu	65	6506.548	0.014	3.307888	ug/g
⌊>	Ge	74	446606.751	446606.751		ug/g
⌈	Pb	206	35629.732	0.062	2.388524	ug/g
|	Pb	207	25062.215	0.044	2.070543	ug/g
|	Pb	208	127097.596	0.223	2.214094	ug/g
⌊>	Bi	209	567456.319	567456.319		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	370912.105	71732.672		ug/g
	P	31	64526.042	6122.617		ug/g
	S	34	136793.174	-5857.710		ug/g
	Cl	35	60041.509	9076.899		ug/g
⌈	Cu	63	13651.658	0.030	3.450051	ug/g
|	Cu	65	7196.884	0.015	3.657215	ug/g
⌊>	Ge	74	447446.879	447446.879		ug/g
⌈	Pb	206	34986.168	0.062	2.356315	ug/g
|	Pb	207	24240.791	0.043	2.011186	ug/g
|	Pb	208	126175.410	0.222	2.207643	ug/g
⌊>	Bi	209	564976.828	564976.828		ug/g

001618

ICP-MS Summary Report

Sample ID: 185914-120mpb

Autosampler Position: 34

Sample Date/Time: Wednesday, May 22, 2002 10:49:38
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\185914-120mpb.036
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	389271.509	90092.075				ug/g
	P	31	47579.680	-8823.745				ug/g
	S	34	140522.488	-2138.396				ug/g
	Cl	35	56858.512	5893.902				ug/g
⌈	Cu	63	303.340	0.000	0.032592	0.011	33.027	ug/g
|	Cu	65	143.335	0.000	0.021740	0.012	55.727	ug/g
⌊>	Ge	74	459938.624	459938.624				ug/g
⌈	Pb	206	305.006	0.000	0.007449	0.002	33.280	ug/g
|	Pb	207	295.006	0.000	0.011235	0.005	42.684	ug/g
|	Pb	208	1262.806	0.001	0.009357	0.001	12.940	ug/g
⌊>	Bi	209	577856.846	577856.846				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	402731.818	103552.385		ug/g
	P	31	49736.928	-8686.497		ug/g
	S	34	140029.334	-2631.550		ug/g
	Cl	35	56909.054	6034.443		ug/g
⌈	Cu	63	345.008	0.000	0.044986	ug/g
|	Cu	65	150.002	0.000	0.026780	ug/g
⌊>	Ge	74	448522.092	448522.092		ug/g
⌈	Pb	206	290.006	0.000	0.006569	ug/g
|	Pb	207	355.008	0.000	0.016407	ug/g
|	Pb	208	1330.030	0.001	0.010747	ug/g
⌊>	Bi	209	571848.316	571848.316		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	387761.456	88902.022		ug/g
	P	31	47489.208	-8834.215		ug/g
	S	34	141231.089	-1429.795		ug/g
	Cl	35	57861.712	8897.101		ug/g
⌈	Cu	63	280.006	0.000	0.027177	ug/g
|	Cu	65	160.002	0.000	0.030522	ug/g
⌊>	Ge	74	456279.286	456279.286		ug/g
⌈	Pb	206	275.005	0.000	0.005454	ug/g
|	Pb	207	285.006	0.000	0.010382	ug/g
|	Pb	208	1218.693	0.001	0.008534	ug/g
⌊>	Bi	209	578480.832	578480.832		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	377301.253	78121.820		ug/g
	P	31	48502.903	-10870.522		ug/g
	S	34	140307.041	-2353.843		ug/g
	Cl	35	65914.770	4950.160		ug/g
⌈	Cu	63	285.006	0.000	0.025611	ug/g
|	Cu	65	120.002	0.000	0.007818	ug/g
⌊>	Ge	74	475014.493	475014.493		ug/g
⌈	Pb	206	350.008	0.000	0.010225	ug/g
|	Pb	207	245.005	0.000	0.006836	ug/g
|	Pb	208	1241.684	0.001	0.008790	ug/g
⌊>	Bi	209	583243.561	583243.561		ug/g

001619

ICP-MS Summary Report

Sample ID: 185914-120lfb

Autosampler Position: 35

Sample Date/Time: Wednesday, May 22, 2002 10:52:03
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\185914-120lfb.037
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	394961.097	95781.664				ug/g
	P	31	49238.583	-7164.842				ug/g
	S	34	141064.714	-1596.170				ug/g
	Cl	35	54415.672	3451.062				ug/g
⌈	Cu	63	90963.246	0.204	23.331235	0.796	3.414	ug/g
|	Cu	65	44962.837	0.101	23.213216	0.836	3.601	ug/g
⌊>	Ge	74	445572.834	445572.834				ug/g
⌈	Pb	206	350020.145	0.596	22.807909	0.384	1.683	ug/g
|	Pb	207	292672.905	0.499	23.520992	0.162	0.688	ug/g
|	Pb	208	1353196.986	2.305	22.917692	0.074	0.321	ug/g
⌊>	Bi	209	586753.278	586753.278				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	414887.484	115708.031		ug/g
	P	31	49370.857	-7032.788		ug/g
	S	34	132926.594	-9733.986		ug/g
	Cl	35	53435.263	2470.673		ug/g
⌈	Cu	63	88788.875	0.196	22.480697	ug/g
|	Cu	65	44604.973	0.101	23.261288	ug/g
⌊>	Ge	74	441143.423	441143.423		ug/g
⌈	Pb	206	344523.276	0.584	22.737430	ug/g
|	Pb	207	288689.790	0.500	23.599885	ug/g
|	Pb	208	1332705.189	2.299	22.862260	ug/g
⌊>	Bi	209	579266.543	579266.543		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	400202.175	101022.741		ug/g
	P	31	50615.012	-6788.412		ug/g
	S	34	134809.430	-7851.454		ug/g
	Cl	35	55382.737	4428.127		ug/g
⌈	Cu	63	92152.248	0.205	23.453836	ug/g
|	Cu	65	46902.336	0.104	24.024146	ug/g
⌊>	Ge	74	449165.441	449165.441		ug/g
⌈	Pb	206	354641.504	0.607	23.222036	ug/g
|	Pb	207	288910.030	0.495	23.334847	ug/g
|	Pb	208	1351398.786	2.313	23.001275	ug/g
⌊>	Bi	209	583842.325	583842.325		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	389783.853	70814.219		ug/g
	P	31	47730.079	-8573.346		ug/g
	S	34	155457.818	12796.934		ug/g
	Cl	35	54418.986	3454.386		ug/g
⌈	Cu	63	83956.813	0.210	24.058471	ug/g
|	Cu	65	43581.201	0.097	22.364239	ug/g
⌊>	Ge	74	446409.537	446409.537		ug/g
⌈	Pb	206	350085.454	0.587	22.464261	ug/g
|	Pb	207	295208.896	0.501	23.626234	ug/g
|	Pb	208	1375480.003	2.302	22.888541	ug/g
⌊>	Bi	209	597150.966	597150.966		ug/g

001620

ICP-MS Summary Report

Sample ID: 305316

Autosampler Position: 36

Sample Date/Time: Wednesday, May 22, 2002 10:54:29
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305316.038
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	429291.616	130112.183				ug/g
	P	31	95235.746	38832.321				ug/g
	S	34	126320.777	-16340.107				ug/g
	Cl	35	53545.823	2581.212				ug/g
⌈	Cu	63	54256.784	0.127	14.586903	0.710	4.867	ug/g
|	Cu	65	26616.708	0.062	14.393685	0.245	1.702	ug/g
⌊>	Ge	74	424987.649	424987.649				ug/g
⌈	Pb	206	143833.904	0.257	9.826640	0.509	5.180	ug/g
|	Pb	207	113315.550	0.202	9.541757	0.136	1.425	ug/g
|	Pb	208	549394.106	0.981	9.753451	0.332	3.407	ug/g
⌊>	Bi	209	559691.265	559691.265				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	452868.148	153706.715		ug/g
	P	31	97281.072	40877.647		ug/g
	S	34	126630.015	-16030.869		ug/g
	Cl	35	52398.438	1431.625		ug/g
⌈	Cu	63	56025.203	0.134	15.401403	ug/g
|	Cu	65	26270.412	0.063	14.534985	ug/g
⌊>	Ge	74	415401.900	415401.900		ug/g
⌈	Pb	206	139398.200	0.242	9.260149	ug/g
|	Pb	207	114533.434	0.159	9.384848	ug/g
|	Pb	208	543792.762	0.844	9.390161	ug/g
⌊>	Bi	209	575025.207	575025.207		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	416390.267	117210.833		ug/g
	P	31	94059.574	37858.149		ug/g
	S	34	123813.739	-19047.145		ug/g
	Cl	35	52020.060	1055.450		ug/g
⌈	Cu	63	52516.878	0.125	14.260078	ug/g
|	Cu	65	26600.007	0.063	14.535292	ug/g
⌊>	Ge	74	420460.730	420460.730		ug/g
⌈	Pb	206	145503.869	0.268	10.245528	ug/g
|	Pb	207	110728.575	0.204	9.618370	ug/g
|	Pb	208	548681.830	1.010	10.042075	ug/g
⌊>	Bi	209	542556.177	542556.177		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	416598.433	119419.000		ug/g
	P	31	94268.891	37963.187		ug/g
	S	34	128718.577	-13942.307		ug/g
	Cl	35	56220.972	5256.362		ug/g
⌈	Cu	63	54226.271	0.123	14.089231	ug/g
|	Cu	65	26970.706	0.061	14.110777	ug/g
⌊>	Ge	74	439100.316	439100.316		ug/g
⌈	Pb	206	146589.821	0.261	9.974243	ug/g
|	Pb	207	114684.642	0.204	9.624053	ug/g
|	Pb	208	555727.904	0.988	9.828116	ug/g
⌊>	Bi	209	561492.413	561492.413		ug/g

DMC

001621

ICP-MS Summary Report

Sample ID: QC Std 2

Autosampler Position: 2

Sample Date/Time: Wednesday, May 22, 2002 10:56:53
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 2.039
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	326834.494	27655.061				ug/g
	P	31	47235.444	-9167.981				ug/g
	S	34	127082.416	-15578.468				ug/g
	Cl	35	55317.564	4352.954				ug/g
⌈	Cu	63	80862.350	0.182	0.041585	0.001	2.502	ug/g
|	Cu	65	39551.742	0.089	0.040939	0.001	3.225	ug/g
⌊>	Ge	74	444612.955	444612.955				ug/g
⌈	Pb	206	311190.578	0.539	0.041249	0.002	4.041	ug/g
|	Pb	207	249733.668	0.433	0.040830	0.002	3.804	ug/g
|	Pb	208	1197356.814	2.075	0.041252	0.001	3.158	ug/g
⌊>	Bi	209	577181.582	577181.582				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	343586.098	44406.664		ug/g
	P	31	45462.743	-10920.882		ug/g
	S	34	128501.635	-14159.248		ug/g
	Cl	35	57892.645	6926.035		ug/g
⌈	Cu	63	80858.997	0.187	0.042766	ug/g
|	Cu	65	39681.016	0.092	0.042482	ug/g
⌊>	Ge	74	432156.367	432156.367		ug/g
⌈	Pb	206	304432.586	0.514	0.039358	ug/g
|	Pb	207	253019.263	0.429	0.040481	ug/g
|	Pb	208	1187641.668	2.007	0.038909	ug/g
⌊>	Bi	209	591383.265	591383.265		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	316633.661	17454.228		ug/g
	P	31	44879.895	-11833.530		ug/g
	S	34	125091.534	-17369.380		ug/g
	Cl	35	54343.710	3378.098		ug/g
⌈	Cu	63	80662.691	0.180	0.041183	ug/g
|	Cu	65	39048.683	0.087	0.040122	ug/g
⌊>	Ge	74	447643.306	447643.306		ug/g
⌈	Pb	206	309748.020	0.556	0.042500	ug/g
|	Pb	207	251267.973	0.451	0.042525	ug/g
|	Pb	208	1191958.514	2.138	0.042511	ug/g
⌊>	Bi	209	557230.262	557230.262		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	320283.724	21104.290		ug/g
	P	31	51643.695	-4750.730		ug/g
	S	34	127654.078	-15008.805		ug/g
	Cl	35	55716.337	2751.727		ug/g
⌈	Cu	63	81066.182	0.178	0.040805	ug/g
|	Cu	65	39715.526	0.087	0.040233	ug/g
⌊>	Ge	74	454038.191	454039.191		ug/g
⌈	Pb	206	319394.128	0.548	0.041691	ug/g
|	Pb	207	244013.767	0.418	0.039478	ug/g
|	Pb	208	1212470.241	2.079	0.041335	ug/g
⌊>	Bi	209	582931.218	582931.218		ug/g

001622

ICP-MS Summary Report

Sample ID: QC Std 3

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 10:59:15
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 3.040
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	320129.671	20950.237				ug/g
	P	31	46621.480	-9781.944				ug/g
	S	34	133475.598	-9185.286				ug/g
	Cl	35	55225.511	4260.901				ug/g
⌈	Cu	63	171.669	0.000	0.000002	0.000	417.056	ug/g
|	Cu	65	91.668	-0.000	-0.000005	0.000	476.927	ug/g
⌊>	Ge	74	444289.689	444289.689				ug/g
⌈	Pb	206	205.004	0.000	0.000002	0.000	439.953	ug/g
|	Pb	207	176.670	0.000	0.000004	0.000	98.300	ug/g
|	Pb	208	779.457	0.000	0.000003	0.000	121.187	ug/g
⌊>	Bi	209	563137.657	563137.657				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	332595.427	33415.893		ug/g
	P	31	48465.909	-9537.516		ug/g
	S	34	137515.082	-5145.822		ug/g
	Cl	35	57365.600	6420.990		ug/g
⌈	Cu	63	150.002	-0.000	-0.000009	ug/g
|	Cu	65	120.002	0.000	0.000024	ug/g
⌊>	Ge	74	442245.254	442245.254		ug/g
⌈	Pb	206	296.006	0.000	0.000014	ug/g
|	Pb	207	195.003	0.000	0.000005	ug/g
|	Pb	208	896.015	0.000	0.000006	ug/g
⌊>	Bi	209	574551.711	574551.711		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	315350.735	15171.301		ug/g
	P	31	45041.343	-11382.081		ug/g
	S	34	131831.605	-10829.079		ug/g
	Cl	35	54659.918	3696.305		ug/g
⌈	Cu	63	185.003	0.000	0.000009	ug/g
|	Cu	65	75.001	-0.000	-0.000023	ug/g
⌊>	Ge	74	442968.284	442968.284		ug/g
⌈	Pb	206	180.002	-0.000	-0.000003	ug/g
|	Pb	207	186.003	0.000	0.000006	ug/g
|	Pb	208	758.874	0.000	0.000002	ug/g
⌊>	Bi	209	554559.257	554559.257		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	312442.850	13283.416		ug/g
	P	31	48357.189	-8045.236		ug/g
	S	34	131079.927	-11560.957		ug/g
	Cl	35	53631.017	2866.406		ug/g
⌈	Cu	63	180.003	0.000	0.000006	ug/g
|	Cu	65	80.001	-0.000	-0.000018	ug/g
⌊>	Ge	74	447855.528	447855.528		ug/g
⌈	Pb	206	160.002	-0.000	-0.000004	ug/g
|	Pb	207	150.002	-0.000	-0.000001	ug/g
|	Pb	208	686.676	-0.000	-0.000000	ug/g
⌊>	Bi	209	560302.004	560302.004		ug/g

SMC

ICP-MS Summary Report

Sample ID: 305317

Autosampler Position: 37

Sample Date/Time: Wednesday, May 22, 2002 11:01:40
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305317.041
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	490365.151	191185.718				ug/g
	P	31	111311.561	54908.136				ug/g
	S	34	112853.778	-29807.106				ug/g
	Cl	35	51200.452	235.841				ug/g
⌈	Cu	63	35068.345	0.082	9.388425	0.124	1.317	ug/g
|	Cu	65	17807.949	0.042	9.590494	0.313	3.264	ug/g
⌊>	Ge	74	425894.375	425894.375				ug/g
⌈	Pb	206	186348.449	0.325	12.415668	0.121	0.978	ug/g
|	Pb	207	150185.173	0.262	12.347355	0.261	2.110	ug/g
|	Pb	208	717166.103	1.249	12.423101	0.107	0.858	ug/g
⌊>	Bi	209	573586.222	573586.222				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	500630.959	201451.525		ug/g
P	31	108776.661	52375.236		ug/g
S	34	112804.744	-29856.140		ug/g
Cl	35	50263.772	-700.836		ug/g
Cu	63	36479.357	0.083	9.524543	ug/g
Cu	65	17115.418	0.040	9.242037	ug/g
Ge	74	424733.280	424733.280		ug/g
Pb	206	181163.522	0.323	12.373656	ug/g
Pb	207	149241.995	0.266	12.672236	ug/g
Pb	208	705444.107	1.259	12.523359	ug/g
Bi	209	559626.269	559626.269		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	492650.513	193471.079		ug/g
P	31	111403.801	55000.376		ug/g
S	34	116574.868	-26086.016		ug/g
Cl	35	52080.280	1115.949		ug/g
Cu	63	34562.104	0.082	9.357781	ug/g
Cu	65	17771.224	0.042	9.601519	ug/g
Ge	74	421092.134	421092.134		ug/g
Pb	206	185427.500	0.322	12.320725	ug/g
Pb	207	151394.488	0.263	12.408043	ug/g
Pb	208	719061.887	1.250	12.434900	ug/g
Bi	209	575202.121	575202.121		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	477613.982	178634.548		ug/g
P	31	113752.222	57348.797		ug/g
S	34	109181.722	-33479.182		ug/g
Cl	35	51257.303	292.693		ug/g
Cu	63	35163.575	0.081	9.282852	ug/g
Cu	65	18537.204	0.043	9.647926	ug/g
Ge	74	431857.712	431857.712		ug/g
Pb	206	192434.324	0.336	12.552421	ug/g
Pb	207	149910.035	0.256	12.061786	ug/g
Pb	208	726092.335	1.238	12.311043	ug/g
Bi	209	585930.275	585930.275		ug/g

001624

ICP-MS Summary Report

Sample ID: 305318

Autosampler Position: 38

Sample Date/Time: Wednesday, May 22, 2002 11:04:06
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305318.042
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	410614.176	111434.742				ug/g
	P	31	84108.252	27704.828				ug/g
	S	34	105233.936	-37426.948				ug/g
	Cl	35	51534.995	570.385				ug/g
⌈	Cu	63	25831.942	0.060	6.844267	0.374	5.467	ug/g
⌊	Cu	65	12695.767	0.029	6.761753	0.222	3.281	ug/g
▷	Ge	74	430265.702	430265.702				ug/g
⌈	Pb	206	90102.552	0.158	6.034215	0.132	2.183	ug/g
⌊	Pb	207	70006.836	0.122	5.782270	0.094	1.630	ug/g
⌊	Pb	208	344634.355	0.603	5.999277	0.109	1.824	ug/g
▷	Bi	209	570726.075	570726.075				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	417662.340	118682.907		ug/g
	P	31	81321.616	24910.191		ug/g
	S	34	103731.277	-38928.607		ug/g
	Cl	35	52742.710	1778.100		ug/g
⌈	Cu	63	26730.251	0.063	7.256917	ug/g
⌊	Cu	65	12805.065	0.030	6.990744	ug/g
▷	Ge	74	419730.172	419730.172		ug/g
⌈	Pb	206	88504.190	0.156	5.956962	ug/g
⌊	Pb	207	69634.096	0.122	5.782662	ug/g
⌊	Pb	208	339851.714	0.597	5.944540	ug/g
▷	Bi	209	567471.921	567471.921		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	405534.480	106355.046		ug/g
	P	31	80706.668	33303.243		ug/g
	S	34	105408.504	-37282.380		ug/g
	Cl	35	51177.015	212.406		ug/g
⌈	Cu	63	25676.314	0.058	6.746799	ug/g
⌊	Cu	65	12390.495	0.028	6.547826	ug/g
▷	Ge	74	433377.247	433377.247		ug/g
⌈	Pb	206	91905.901	0.156	5.857348	ug/g
⌊	Pb	207	71147.436	0.120	5.867847	ug/g
⌊	Pb	208	351622.033	0.595	5.928017	ug/g
▷	Bi	209	589440.371	589440.371		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	408445.708	109286.274		ug/g
	P	31	81296.473	24693.049		ug/g
	S	34	106582.026	-36098.858		ug/g
	Cl	35	50985.262	-279.349		ug/g
⌈	Cu	63	25067.256	0.057	6.527086	ug/g
⌊	Cu	65	12890.942	0.029	6.746669	ug/g
▷	Ge	74	437689.688	437689.688		ug/g
⌈	Pb	206	89097.886	0.152	5.186337	ug/g
⌊	Pb	207	69238.072	0.124	5.878300	ug/g
⌊	Pb	208	342429.319	0.615	6.125272	ug/g
▷	Bi	208	555265.934	555265.934		ug/g

ICP-MS Summary Report

Sample ID: 305319

Autosampler Position: 39

Sample Date/Time: Wednesday, May 22, 2002 11:06:34
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305319.043
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	428759.640	129580.206				ug/g
	P	31	82431.721	26028.297				ug/g
	S	34	104377.652	-38283.232				ug/g
	Cl	35	51926.407	961.797				ug/g
⌈	Cu	63	28371.788	0.065	7.484539	0.252	3.372	ug/g
|	Cu	65	14048.713	0.032	7.455025	0.148	1.986	ug/g
⌊>	Ge	74	431316.274	431316.274				ug/g
⌈	Pb	206	136277.112	0.243	9.272995	0.237	2.558	ug/g
|	Pb	207	105077.874	0.187	8.821336	0.259	2.940	ug/g
|	Pb	208	518935.269	0.924	9.180768	0.174	1.894	ug/g
⌊>	Bi	209	561015.603	561015.603				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	439909.851	140730.417		ug/g
	P	31	86562.327	30158.902		ug/g
	S	34	103816.897	-38643.987		ug/g
	Cl	35	50926.118	-38.492		ug/g
⌈	Cu	63	27481.883	0.064	7.281717	ug/g
|	Cu	65	14297.284	0.033	7.621621	ug/g
⌊>	Ge	74	429384.795	429384.795		ug/g
⌈	Pb	206	139201.292	0.242	9.251649	ug/g
|	Pb	207	104804.075	0.182	8.580803	ug/g
|	Pb	208	521367.013	0.906	9.004691	ug/g
⌊>	Bi	209	574395.617	574395.617		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	429572.194	130392.780		ug/g
	P	31	82734.709	28331.265		ug/g
	S	34	105428.652	-37232.232		ug/g
	Cl	35	52025.078	1060.468		ug/g
⌈	Cu	63	28107.906	0.065	7.404758	ug/g
|	Cu	65	13951.851	0.032	7.339266	ug/g
⌊>	Ge	74	431913.901	431913.901		ug/g
⌈	Pb	206	138787.094	0.249	9.520140	ug/g
|	Pb	207	107568.545	0.193	9.102183	ug/g
|	Pb	208	524573.390	0.941	9.354561	ug/g
⌊>	Bi	209	556476.719	556476.719		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	416798.873	117617.440		ug/g
	P	31	77998.126	21584.703		ug/g
	S	34	103887.407	-38775.477		ug/g
	Cl	35	52028.025	1863.415		ug/g
⌈	Cu	63	29525.775	0.068	7.767142	ug/g
|	Cu	65	13998.994	0.032	7.403989	ug/g
⌊>	Ge	74	432650.125	432650.125		ug/g
⌈	Pb	206	130662.949	0.237	9.047184	ug/g
|	Pb	207	102680.003	0.186	8.771023	ug/g
|	Pb	208	510865.404	0.924	9.180662	ug/g
⌊>	Bi	209	552174.474	552174.474		ug/g

001626

ICP-MS Summary Report

Sample ID: 305320

Autosampler Position: 40

Sample Date/Time: Wednesday, May 22, 2002 11:08:58
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305320.044
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	417740.356	118560.922				ug/g
	P	31	108290.055	51886.630				ug/g
	S	34	106113.992	-36546.892				ug/g
	Cl	35	51393.026	428.416				ug/g
⌈	Cu	63	52501.861	0.122	13.972981	0.622	4.450	ug/g
|	Cu	65	25895.385	0.060	13.864886	0.514	3.707	ug/g
⌊>	Ge	74	429197.916	429197.916				ug/g
⌈	Pb	206	185357.293	0.320	12.257322	0.433	3.536	ug/g
|	Pb	207	144348.739	0.250	11.772215	0.092	0.781	ug/g
|	Pb	208	707407.998	1.223	12.158470	0.114	0.934	ug/g
⌊>	Bi	209	577918.955	577918.955				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	431030.151	131850.717		ug/g
	P	31	109065.841	52862.416		ug/g
	S	34	103801.786	-38839.097		ug/g
	Cl	35	54403.939	3439.329		ug/g
⌈	Cu	63	53982.340	0.126	14.690231	ug/g
|	Cu	65	26209.282	0.062	14.351378	ug/g
⌊>	Ge	74	419575.148	419575.148		ug/g
⌈	Pb	206	182064.627	0.315	12.062948	ug/g
|	Pb	207	145261.238	0.252	11.871290	ug/g
|	Pb	208	706228.279	1.223	12.163080	ug/g
⌊>	Bi	209	576711.185	576711.185		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	401919.405	102739.971		ug/g
	P	31	106046.219	49644.784		ug/g
	S	34	104370.917	-38288.987		ug/g
	Cl	35	48061.190	-2903.420		ug/g
⌈	Cu	63	51754.094	0.119	13.642585	ug/g
|	Cu	65	25127.330	0.058	13.327239	ug/g
⌊>	Ge	74	433049.119	433049.119		ug/g
⌈	Pb	206	182262.378	0.313	11.985120	ug/g
|	Pb	207	144503.605	0.248	11.689745	ug/g
|	Pb	208	706388.571	1.211	12.042647	ug/g
⌊>	Bi	209	582603.234	582603.234		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	420271.511	121092.077		ug/g
	P	31	108756.104	53352.678		ug/g
	S	34	110168.370	-32491.614		ug/g
	Cl	35	51713.949	749.339		ug/g
⌈	Cu	63	51789.149	0.118	13.568127	ug/g
|	Cu	65	26348.541	0.060	13.916020	ug/g
⌊>	Ge	74	434969.481	434969.481		ug/g
⌈	Pb	206	191724.574	0.333	12.753900	ug/g
|	Pb	207	143281.375	0.249	11.755609	ug/g
|	Pb	208	709409.144	1.234	12.209083	ug/g
⌊>	Bi	209	574442.445	574442.445		ug/g

001627

ICP-MS Summary Report

Sample ID: 305321

Autosampler Position: 41

Sample Date/Time: Wednesday, May 22, 2002 11:11:18
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305321.045
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	447013.513	147834.080				ug/g
	P	31	116854.405	60450.980				ug/g
	S	34	112225.208	-30435.676				ug/g
	Cl	35	52160.674	1196.064				ug/g
[	Cu	63	58135.366	0.140	16.001315	0.361	2.255	ug/g
|	Cu	65	29432.256	0.071	16.304952	0.269	1.649	ug/g
\>	Ge	74	414580.587	414580.587				ug/g
[	Pb	206	421526.462	0.771	29.463782	0.911	3.091	ug/g
|	Pb	207	348603.466	0.638	30.058861	1.038	3.452	ug/g
|	Pb	208	1654897.732	3.026	30.066982	0.592	1.969	ug/g
\>	Bi	209	546694.608	546694.608				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	460049.744	160870.311		ug/g
P	31	112683.873	56290.448		ug/g
S	34	111580.171	-31080.713		ug/g
Cl	35	54494.283	3529.673		ug/g
Cu	63	56330.426	0.138	15.770576	ug/g
Cu	65	28884.460	0.071	16.273331	ug/g
Ge	74	407632.764	407632.764		ug/g
Pb	206	415460.010	0.760	29.404316	ug/g
Pb	207	357286.218	0.662	31.181087	ug/g
Pb	208	1657308.268	3.089	30.466656	ug/g
Bi	209	539804.810	539804.810		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	437007.761	137628.327		ug/g
P	31	122534.491	66131.068		ug/g
S	34	112683.784	-29977.090		ug/g
Cl	35	50459.462	-505.148		ug/g
Cu	63	58284.236	0.136	15.816222	ug/g
Cu	65	29398.506	0.070	16.053317	ug/g
Ge	74	420512.695	420512.695		ug/g
Pb	206	416400.560	0.746	28.564300	ug/g
Pb	207	344303.060	0.618	29.153563	ug/g
Pb	208	1647107.725	2.958	29.390231	ug/g
Bi	209	556528.686	556528.686		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	443983.035	144803.601		ug/g
P	31	115334.851	58931.427		ug/g
S	34	112411.660	-30249.224		ug/g
Cl	35	51528.278	563.066		ug/g
Cu	63	59785.436	0.143	16.417146	ug/g
Cu	65	30016.802	0.072	16.588207	ug/g
Ge	74	415896.302	415896.302		ug/g
Pb	206	432709.817	0.785	30.402730	ug/g
Pb	207	344221.118	0.633	29.831902	ug/g
Pb	208	1660279.202	3.052	30.321855	ug/g
Bi	209	543750.326	543750.326		ug/g

DMC

001628

ICP-MS Summary Report

Sample ID: 305322
Autosampler Position: 42
Sample Date/Time: Wednesday, May 22, 2002 11:13:39
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305322.046
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	422170.077	122990.643				ug/g
	P	31	111450.885	55047.460				ug/g
	S	34	122295.887	-20364.997				ug/g
	Cl	35	55347.645	4383.035				ug/g
⌈	Cu	63	56058.704	0.132	15.127357	0.521	3.442	ug/g
|	Cu	65	27610.266	0.065	14.991504	0.339	2.261	ug/g
⌊>	Ge	74	423468.314	423468.314				ug/g
⌈	Pb	206	180118.580	0.327	12.515025	0.296	2.365	ug/g
|	Pb	207	138861.502	0.252	11.897742	0.151	1.268	ug/g
|	Pb	208	672720.269	1.221	12.148484	0.165	1.360	ug/g
⌊>	Bi	209	550298.825	550298.825				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	433405.441	134228.007		ug/g
P	31	112740.308	56345.884		ug/g
S	34	120774.581	-21888.303		ug/g
Cl	35	57470.843	6506.333		ug/g
Cu	63	56702.676	0.136	15.615535	ug/g
Cu	65	27727.159	0.067	15.365368	ug/g
Ge	74	414642.692	414642.692		ug/g
Pb	206	179072.128	0.320	12.262286	ug/g
Pb	207	141867.353	0.264	11.982381	ug/g
Pb	208	672922.844	1.204	11.977469	ug/g
Bi	209	556243.709	556243.709		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	416328.504	117149.071		ug/g
P	31	109806.489	53403.065		ug/g
S	34	121480.536	-21180.348		ug/g
Cl	35	53671.923	2907.313		ug/g
Cu	63	54819.762	0.127	14.579260	ug/g
Cu	65	27747.198	0.065	14.905013	ug/g
Ge	74	427921.950	427921.950		ug/g
Pb	206	182216.547	0.336	12.640704	ug/g
Pb	207	137918.931	0.254	11.987318	ug/g
Pb	208	671907.152	1.237	12.307174	ug/g
Bi	209	542483.493	542483.493		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	418776.285	117996.852		ug/g
P	31	111706.857	55393.433		ug/g
S	34	124632.544	-18028.340		ug/g
Cl	35	54700.069	3735.459		ug/g
Cu	63	56653.474	0.133	15.187276	ug/g
Cu	65	27356.441	0.064	14.704112	ug/g
Ge	74	427640.302	427640.302		ug/g
Pb	206	179067.068	0.328	12.442065	ug/g
Pb	207	136798.222	0.246	11.723527	ug/g
Pb	208	673330.710	1.223	12.160808	ug/g
Bi	209	550169.272	550169.272		ug/g

DMC

ICP-MS Summary Report

Sample ID: 305323

Autosampler Position: 43

Sample Date/Time: Wednesday, May 22, 2002 11:16:00
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305323.047
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	474880.877	175701.443				ug/g
	P	31	117062.890	60659.465				ug/g
	S	34	114483.591	-28177.293				ug/g
	Cl	35	51426.322	461.711				ug/g
⌈	Cu	63	78207.629	0.192	22.020704	0.167	0.760	ug/g
|	Cu	65	38731.175	0.095	21.946984	0.385	1.756	ug/g
⌊>	Ge	74	406226.420	406226.420				ug/g
⌈	Pb	206	345186.086	0.624	23.884858	0.058	0.244	ug/g
|	Pb	207	282156.694	0.510	24.078466	0.324	1.345	ug/g
|	Pb	208	1339735.550	2.422	24.098639	0.290	1.201	ug/g
⌊>	Bi	209	552967.366	552967.366				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	484033.241	184853.807		ug/g
	P	31	117215.061	60811.656		ug/g
	S	34	118695.546	-22965.336		ug/g
	Cl	35	52692.525	1727.914		ug/g
⌈	Cu	63	78797.505	0.192	21.992259	ug/g
|	Cu	65	39660.932	0.097	22.381830	ug/g
⌊>	Ge	74	409824.746	409824.746		ug/g
⌈	Pb	206	349038.766	0.626	23.951536	ug/g
|	Pb	207	273643.676	0.502	23.712130	ug/g
|	Pb	208	1337075.023	2.454	24.418177	ug/g
⌊>	Bi	209	544633.025	544633.025		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	481132.657	181953.223		ug/g
	P	31	122564.749	66181.324		ug/g
	S	34	109987.724	-32693.160		ug/g
	Cl	35	49325.501	-1639.109		ug/g
⌈	Cu	63	77007.767	0.191	21.869341	ug/g
|	Cu	65	38030.935	0.094	21.736837	ug/g
⌊>	Ge	74	402763.039	402763.039		ug/g
⌈	Pb	206	345030.300	0.623	23.844375	ug/g
|	Pb	207	283844.850	0.512	24.196012	ug/g
|	Pb	208	1337736.425	2.415	24.030437	ug/g
⌊>	Bi	209	553844.784	553844.784		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	459476.733	160297.299		ug/g
	P	31	111408.840	55005.415		ug/g
	S	34	113787.502	-28873.382		ug/g
	Cl	35	52260.939	1296.329		ug/g
⌈	Cu	63	76817.615	0.194	22.200510	ug/g
|	Cu	65	38301.650	0.094	21.712185	ug/g
⌊>	Ge	74	406091.472	406091.472		ug/g
⌈	Pb	206	349569.190	0.623	23.858865	ug/g
|	Pb	207	288981.454	0.515	24.327287	ug/g
|	Pb	208	1344395.202	2.397	23.849302	ug/g
⌊>	Bi	209	560624.288	560624.288		ug/g

001630

ICP-MS Summary Report

Sample ID: 305324

Autosampler Position: 44

Sample Date/Time: Wednesday, May 22, 2002 11:18:22
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305324.048
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	392250.889	93071.456				ug/g
	P	31	91624.192	35220.767				ug/g
	S	34	135846.202	-6814.682				ug/g
	Cl	35	56040.341	5075.730				ug/g
⌈	Cu	63	31550.124	0.075	8.600804	0.085	0.988	ug/g
|	Cu	65	16009.131	0.038	8.779525	0.195	2.224	ug/g
⌊>	Ge	74	417870.258	417870.258				ug/g
⌈	Pb	206	55909.833	0.106	4.064257	0.083	2.048	ug/g
|	Pb	207	38813.046	0.074	3.480192	0.117	3.350	ug/g
|	Pb	208	197258.541	0.375	3.727357	0.073	1.960	ug/g
⌊>	Bi	209	524515.287	524515.287				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	400752.283	101572.849		ug/g
	P	31	93083.200	36679.775		ug/g
	S	34	140115.170	-2545.714		ug/g
	Cl	35	58153.705	7168.095		ug/g
⌈	Cu	63	31026.971	0.074	8.506880	ug/g
|	Cu	65	15583.618	0.037	8.580260	ug/g
⌊>	Ge	74	415406.566	415406.566		ug/g
⌈	Pb	206	58053.287	0.107	4.110555	ug/g
|	Pb	207	38502.199	0.071	3.380264	ug/g
|	Pb	208	201858.049	0.373	3.710563	ug/g
⌊>	Bi	209	538444.882	538444.882		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	381511.177	92331.743		ug/g
	P	31	94819.561	38416.156		ug/g
	S	34	134834.667	-7626.217		ug/g
	Cl	35	54835.589	3870.978		ug/g
⌈	Cu	63	31424.839	0.075	8.617152	ug/g
|	Cu	65	15929.035	0.038	8.787724	ug/g
⌊>	Ge	74	415446.571	415446.571		ug/g
⌈	Pb	206	54569.570	0.100	4.114048	ug/g
|	Pb	207	38657.620	0.076	3.583142	ug/g
|	Pb	208	194320.289	0.363	3.807354	ug/g
⌊>	Bi	209	505705.116	505705.116		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	384488.206	85309.774		ug/g
	P	31	88969.795	30564.370		ug/g
	S	34	132508.770	-10072.114		ug/g
	Cl	35	55131.720	4167.116		ug/g
⌈	Cu	63	32186.562	0.076	8.676582	ug/g
|	Cu	65	16544.740	0.039	8.970591	ug/g
⌊>	Ge	74	422757.635	422757.635		ug/g
⌈	Pb	206	55106.631	0.104	3.968166	ug/g
|	Pb	207	39279.316	0.074	3.487186	ug/g
|	Pb	208	195798.285	0.369	3.664134	ug/g
⌊>	Bi	209	529385.852	529385.852		ug/g

001631

ICP-MS Summary Report

Sample ID: 305325

Autosampler Position: 45

Sample Date/Time: Wednesday, May 22, 2002 11:20:44
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305325.049
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	397796.830	98617.396				ug/g
	P	31	78594.864	22191.439				ug/g
	S	34	140006.059	-2654.825				ug/g
	Cl	35	57710.358	6745.748				ug/g
⌈	Cu	63	31292.933	0.071	8.133267	0.595	7.317	ug/g
|	Cu	65	15246.619	0.034	7.961984	0.179	2.247	ug/g
⌊>	Ge	74	439298.297	439298.297				ug/g
⌈	Pb	206	69976.668	0.127	4.855783	0.054	1.109	ug/g
|	Pb	207	48516.063	0.088	4.150713	0.056	1.338	ug/g
|	Pb	208	249136.955	0.451	4.493060	0.063	1.413	ug/g
⌊>	Bi	209	550401.031	550401.031				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	400541.492	101362.058		ug/g
	P	31	78278.665	19675.440		ug/g
	S	34	138040.094	-4620.790		ug/g
	Cl	35	56584.597	6619.987		ug/g
⌈	Cu	63	32782.898	0.075	8.543541	ug/g
|	Cu	65	15378.427	0.035	8.153870	ug/g
⌊>	Ge	74	432600.349	432600.349		ug/g
⌈	Pb	206	70222.871	0.127	4.877562	ug/g
|	Pb	207	48216.714	0.087	4.126895	ug/g
|	Pb	208	251635.882	0.456	4.542567	ug/g
⌊>	Bi	209	549821.247	549821.247		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	392461.742	93282.308		ug/g
	P	31	78339.994	21936.570		ug/g
	S	34	144074.298	1413.413		ug/g
	Cl	35	55222.077	4257.487		ug/g
⌈	Cu	63	31279.519	0.072	8.279670	ug/g
|	Cu	65	14907.924	0.034	7.932681	ug/g
⌊>	Ge	74	430963.078	430963.078		ug/g
⌈	Pb	206	69564.686	0.126	4.895325	ug/g
|	Pb	207	48567.904	0.089	4.213834	ug/g
|	Pb	208	246878.434	0.454	4.518119	ug/g
⌊>	Bi	209	542696.356	542696.355		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	400387.256	101207.822		ug/g
	P	31	81165.732	24762.307		ug/g
	S	34	137903.766	-4757.096		ug/g
	Cl	35	56324.400	7399.790		ug/g
⌈	Cu	63	29816.381	0.065	7.479501	ug/g
|	Cu	65	15453.508	0.034	7.769401	ug/g
⌊>	Ge	74	454331.465	454331.465		ug/g
⌈	Pb	206	70142.477	0.125	4.794461	ug/g
|	Pb	207	48763.571	0.087	4.109410	ug/g
|	Pb	208	248986.449	0.444	4.421495	ug/g
⌊>	Bi	209	558685.490	558685.490		ug/g

001632

ICP-MS Summary Report

Sample ID: 305325dup

Autosampler Position: 46

Sample Date/Time: Wednesday, May 22, 2002 11:23:07
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305325dup.050
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	396991.759	97812.326				ug/g
	P	31	76411.677	20008.252				ug/g
	S	34	137851.996	-4808.888				ug/g
	Cl	35	56055.343	5090.733				ug/g
⌈	Cu	63	26531.558	0.061	6.938767	0.154	2.214	ug/g
|	Cu	65	13017.725	0.030	6.847609	0.114	1.661	ug/g
⌊>	Ge	74	435361.418	435361.418				ug/g
⌈	Pb	206	65510.616	0.118	4.513041	0.126	2.794	ug/g
|	Pb	207	44320.800	0.080	3.765594	0.174	4.618	ug/g
|	Pb	208	230226.656	0.414	4.122769	0.098	2.372	ug/g
⌊>	Bi	209	553927.630	553927.630				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	408517.725	109336.291		ug/g
	P	31	72700.242	16296.817		ug/g
	S	34	142357.185	-303.889		ug/g
	Cl	35	56208.913	5241.302		ug/g
⌈	Cu	63	27326.384	0.062	7.079257	ug/g
|	Cu	65	13061.099	0.029	6.803460	ug/g
⌊>	Ge	74	439531.662	439531.662		ug/g
⌈	Pb	206	63832.932	0.117	4.466382	ug/g
|	Pb	207	45091.502	0.083	3.907332	ug/g
|	Pb	208	230704.628	0.424	4.214236	ug/g
⌊>	Bi	209	542919.804	542919.804		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	393561.392	94381.958		ug/g
	P	31	81190.874	24787.450		ug/g
	S	34	136406.397	-6054.487		ug/g
	Cl	35	55021.303	4056.692		ug/g
⌈	Cu	63	26244.347	0.059	6.774727	ug/g
|	Cu	65	13026.068	0.029	6.762566	ug/g
⌊>	Ge	74	440982.663	440982.663		ug/g
⌈	Pb	206	67816.262	0.122	4.650341	ug/g
|	Pb	207	45186.739	0.081	3.817922	ug/g
|	Pb	208	232013.500	0.416	4.134551	ug/g
⌊>	Bi	209	556518.292	556518.292		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	388896.162	89716.726		ug/g
	P	31	75343.814	18940.469		ug/g
	S	34	134592.398	-8068.488		ug/g
	Cl	35	56836.814	5974.203		ug/g
⌈	Cu	63	26023.942	0.061	6.962315	ug/g
|	Cu	65	12966.011	0.030	6.976780	ug/g
⌊>	Ge	74	425569.907	425569.907		ug/g
⌈	Pb	206	64662.655	0.115	4.402399	ug/g
|	Pb	207	42704.159	0.076	3.571530	ug/g
|	Pb	208	227861.841	0.404	4.019721	ug/g
⌊>	Bi	209	562344.992	562344.992		ug/g

001633

ICP-MS Summary Report

Sample ID: QC Std 2

Autosampler Position: 2

Sample Date/Time: Wednesday, May 22, 2002 11:25:30
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 2.051
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	345057.345	45877.912				ug/g
	P	31	45723.886	-10679.539				ug/g
	S	34	137794.455	-4866.429				ug/g
	Cl	35	58401.399	7436.789				ug/g
⌈	Cu	63	81693.749	0.181	0.041531	0.002	4.662	ug/g
|	Cu	65	40016.380	0.089	0.040944	0.002	5.151	ug/g
⌊>	Ge	74	450209.400	450209.400				ug/g
⌈	Pb	206	319584.498	0.554	0.042366	0.002	3.981	ug/g
|	Pb	207	260442.188	0.451	0.042590	0.002	5.155	ug/g
|	Pb	208	1219013.748	2.112	0.042000	0.001	3.062	ug/g
⌊>	Bi	209	577004.818	577004.818				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	356863.291	57763.858		ug/g
	P	31	41129.533	-15273.892		ug/g
	S	34	136812.533	-3848.351		ug/g
	Cl	35	57576.368	6611.757		ug/g
⌈	Cu	63	82629.100	0.182	0.041661	ug/g
|	Cu	65	39156.968	0.086	0.039732	ug/g
⌊>	Ge	74	453306.672	453306.672		ug/g
⌈	Pb	206	317937.149	0.547	0.041811	ug/g
|	Pb	207	251425.713	0.432	0.040783	ug/g
|	Pb	208	1202349.084	2.067	0.041190	ug/g
⌊>	Bi	209	561378.865	561378.865		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	344588.854	45410.421		ug/g
	P	31	47889.810	-8843.915		ug/g
	S	34	138469.416	-4171.468		ug/g
	Cl	35	59308.449	8343.839		ug/g
⌈	Cu	63	81291.445	0.189	0.043398	ug/g
|	Cu	65	40372.370	0.094	0.043379	ug/g
⌊>	Ge	74	428150.788	428150.788		ug/g
⌈	Pb	206	327499.657	0.579	0.044260	ug/g
|	Pb	207	270148.050	0.477	0.045034	ug/g
|	Pb	208	1237541.668	2.188	0.043473	ug/g
⌊>	Bi	209	565750.611	565750.611		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	333618.890	34430.457		ug/g
	P	31	48482.614	-7920.810		ug/g
	S	34	136081.417	-6579.467		ug/g
	Cl	35	56319.350	7384.770		ug/g
⌈	Cu	63	81160.703	0.173	0.039533	ug/g
|	Cu	65	40517.782	0.086	0.039720	ug/g
⌊>	Ge	74	469170.740	469170.740		ug/g
⌈	Pb	206	313316.587	0.536	0.041026	ug/g
|	Pb	207	256762.901	0.445	0.041984	ug/g
|	Pb	208	1217150.473	2.083	0.041427	ug/g
⌊>	Bi	209	583883.977	583883.977		ug/g

001634

ICP-MS Summary Report

Sample ID: QC Std 3

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 11:27:52
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 3.052
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	334873.745	35694.311				ug/g
	P	31	44339.353	-12064.072				ug/g
	S	34	137229.471	-5431.413				ug/g
	Cl	35	58463.307	7498.697				ug/g
⌈	Cu	63	158.336	-0.000	-0.000006	0.000	257.983	ug/g
|	Cu	65	96.668	-0.000	-0.000002	0.000	134.137	ug/g
⌊>	Ge	74	453356.220	453356.220				ug/g
⌈	Pb	206	233.338	0.000	0.000006	0.000	64.669	ug/g
|	Pb	207	206.670	0.000	0.000008	0.000	19.763	ug/g
|	Pb	208	861.125	0.000	0.000005	0.000	19.646	ug/g
⌊>	Bi	209	571557.365	571557.365				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	352907.522	52828.068		ug/g
	P	31	41485.584	-14917.861		ug/g
	S	34	133310.447	-9350.437		ug/g
	Cl	35	59007.202	8042.582		ug/g
⌈	Cu	63	120.002	-0.000	-0.000025	ug/g
|	Cu	65	85.001	-0.000	-0.000003	ug/g
⌊>	Ge	74	449249.428	449249.428		ug/g
⌈	Pb	206	220.004	0.000	0.000004	ug/g
|	Pb	207	210.004	0.000	0.000009	ug/g
|	Pb	208	835.013	0.000	0.000005	ug/g
⌊>	Bi	209	566489.033	566489.033		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	333066.211	33886.777		ug/g
	P	31	44088.368	-12315.057		ug/g
	S	34	142180.546	-470.338		ug/g
	Cl	35	58404.728	7440.118		ug/g
⌈	Cu	63	180.003	0.000	0.000004	ug/g
|	Cu	65	95.001	-0.000	-0.000005	ug/g
⌊>	Ge	74	457734.273	457734.273		ug/g
⌈	Pb	206	215.004	0.000	0.000003	ug/g
|	Pb	207	215.004	0.000	0.000009	ug/g
|	Pb	208	803.549	0.000	0.000006	ug/g
⌊>	Bi	209	577013.017	577013.017		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	319547.503	20366.068		ug/g
	P	31	47444.126	-8959.299		ug/g
	S	34	136187.421	-8473.463		ug/g
	Cl	35	57877.961	7013.361		ug/g
⌈	Cu	63	175.003	0.000	0.000002	ug/g
|	Cu	65	100.001	0.000	0.000001	ug/g
⌊>	Ge	74	453084.961	453084.961		ug/g
⌈	Pb	206	265.005	0.000	0.000010	ug/g
|	Pb	207	185.003	0.000	0.000006	ug/g
|	Pb	208	845.014	0.000	0.000005	ug/g
⌊>	Bi	209	571170.045	571170.045		ug/g

001635

ICP-MS Summary Report

Sample ID: 305325s

Autosampler Position: 47

Sample Date/Time: Wednesday, May 22, 2002 11:30:14
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305325s.053
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	399849.820	100670.386				ug/g
	P	31	87483.121	31079.697				ug/g
	S	34	127136.684	-15524.200				ug/g
	Cl	35	56020.267	5055.657				ug/g
⌈	Cu	63	123107.916	0.280	32.038024	0.963	3.006	ug/g
|	Cu	65	58926.892	0.134	30.868698	0.923	2.991	ug/g
⌊>	Ge	74	439604.618	439604.618				ug/g
⌈	Pb	206	442983.045	0.813	31.097312	0.380	1.223	ug/g
|	Pb	207	338608.693	0.621	29.319521	0.320	1.092	ug/g
|	Pb	208	1644756.943	3.018	30.013503	0.059	0.198	ug/g
⌊>	Bi	209	544735.777	544735.777				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	404932.762	105753.326		ug/g
	P	31	84872.215	28468.790		ug/g
	S	34	123184.883	-15498.001		ug/g
	Cl	35	55417.835	4453.225		ug/g
⌈	Cu	63	124582.842	0.280	32.064706	ug/g
|	Cu	65	58324.400	0.131	30.186385	ug/g
⌊>	Ge	74	444776.918	444776.918		ug/g
⌈	Pb	206	433910.433	0.805	30.780147	ug/g
|	Pb	207	330681.287	0.613	28.950927	ug/g
|	Pb	208	1624154.645	3.011	29.946932	ug/g
⌊>	Bi	209	539114.454	539114.454		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	394234.563	95098.150		ug/g
	P	31	86689.306	30465.882		ug/g
	S	34	125797.702	-15863.182		ug/g
	Cl	35	56143.664	7179.084		ug/g
⌈	Cu	63	124629.252	0.288	32.907593	ug/g
|	Cu	65	60011.362	0.138	31.919811	ug/g
⌊>	Ge	74	432656.934	432656.934		ug/g
⌈	Pb	206	462906.766	0.824	31.519036	ug/g
|	Pb	207	343985.543	0.626	29.527284	ug/g
|	Pb	208	1661849.675	3.023	30.061228	ug/g
⌊>	Bi	209	549530.367	549530.367		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	400382.114	101202.661		ug/g
	P	31	90887.843	34284.418		ug/g
	S	34	132447.467	-10213.417		ug/g
	Cl	35	54499.302	3534.602		ug/g
⌈	Cu	63	119811.513	0.271	31.061772	ug/g
|	Cu	65	58444.892	0.132	30.497589	ug/g
⌊>	Ge	74	441180.002	441180.002		ug/g
⌈	Pb	206	442131.915	0.810	30.992753	ug/g
|	Pb	207	340958.248	0.625	29.480352	ug/g
|	Pb	208	1649266.308	3.020	30.032350	ug/g
⌊>	Bi	209	545562.510	545562.510		ug/g

001636

ICP-MS Summary Report

Sample ID: 305325sd

Autosampler Position: 48

Sample Date/Time: Wednesday, May 22, 2002 11:32:38
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305325sd.054
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	391422.526	92243.092				ug/g
	P	31	77636.205	21232.781				ug/g
	S	34	121198.160	-21462.724				ug/g
	Cl	35	54425.719	3461.109				ug/g
⌈	Cu	63	115499.516	0.274	31.420448	0.677	2.154	ug/g
|	Cu	65	56329.745	0.134	30.841908	0.637	2.067	ug/g
⌊>	Ge	74	420925.029	420925.029				ug/g
⌈	Pb	206	409284.594	0.755	28.921953	0.678	2.343	ug/g
|	Pb	207	321292.762	0.593	28.006475	0.734	2.620	ug/g
|	Pb	208	1552490.428	2.865	28.514893	0.549	1.924	ug/g
⌊>	Bi	209	541775.485	541775.485				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	405271.739	104092.305		ug/g
P	31	78737.173	22333.748		ug/g
S	34	120618.267	-22042.817		ug/g
Cl	35	53868.904	2902.294		ug/g
Cu	63	115395.337	0.281	32.199639	ug/g
Cu	65	56146.758	0.137	31.545137	ug/g
Ge	74	410250.582	410250.582		ug/g
Pb	206	404583.057	0.747	28.587770	ug/g
Pb	207	322876.135	0.596	28.140796	ug/g
Pb	208	1543520.396	2.848	28.349342	ug/g
Bi	209	541842.456	541842.456		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	385319.873	94140.439		ug/g
P	31	78093.649	21680.224		ug/g
S	34	121899.063	-20761.801		ug/g
Cl	35	53858.111	2691.501		ug/g
Cu	63	115002.182	0.271	31.081644	ug/g
Cu	65	55703.947	0.131	30.302221	ug/g
Ge	74	423538.737	423538.737		ug/g
Pb	206	411264.910	0.778	29.701505	ug/g
Pb	207	321771.619	0.607	28.063760	ug/g
Pb	208	1551612.318	2.927	28.127301	ug/g
Bi	209	528945.690	528945.690		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	377875.966	78496.832		ug/g
P	31	76077.795	19674.370		ug/g
S	34	121077.129	-21563.755		ug/g
Cl	35	55754.143	4789.535		ug/g
Cu	63	116101.028	0.270	30.980060	ug/g
Cu	65	57119.535	0.133	30.678347	ug/g
Ge	74	428985.767	428985.767		ug/g
Pb	206	412005.814	0.744	28.476284	ug/g
Pb	207	319230.530	0.578	27.214469	ug/g
Pb	208	1562336.570	2.820	28.066034	ug/g
Bi	209	553738.307	553738.307		ug/g

001637

ICP-MS Summary Report

Sample ID: 305325L

Autosampler Position: 49

Sample Date/Time: Wednesday, May 22, 2002 11:35:02
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 3e+001
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305325L.055
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	345884.234	46704.800				ug/g
	P	31	46937.478	-9465.947				ug/g
	S	34	118783.305	-23877.579				ug/g
	Cl	35	52528.678	1564.068				ug/g
⌈	Cu	63	6313.125	0.014	8.067663	0.293	3.631	ug/g
|	Cu	65	3175.386	0.007	8.138340	0.744	9.143	ug/g
⌊>	Ge	74	437103.569	437103.569				ug/g
⌈	Pb	206	14535.871	0.026	4.945053	0.093	1.885	ug/g
|	Pb	207	10340.512	0.018	4.333261	0.216	4.996	ug/g
|	Pb	208	52628.315	0.093	4.652640	0.134	2.870	ug/g
⌊>	Bi	209	555799.124	555799.124				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	350397.984	51218.531		ug/g
	P	31	47804.880	-8798.764		ug/g
	S	34	120819.963	-21840.921		ug/g
	Cl	35	53997.397	3032.788		ug/g
⌈	Cu	63	6381.489	0.015	8.367284	ug/g
|	Cu	65	3400.439	0.008	8.956007	ug/g
⌊>	Ge	74	426135.847	426135.847		ug/g
⌈	Pb	206	14762.771	0.026	4.983261	ug/g
|	Pb	207	10206.746	0.016	4.158118	ug/g
|	Pb	208	53035.725	0.091	4.536870	ug/g
⌊>	Bi	209	573035.962	573035.962		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	340821.326	41441.892		ug/g
	P	31	47504.326	-8899.096		ug/g
	S	34	114382.229	-28278.668		ug/g
	Cl	35	50293.878	-670.732		ug/g
⌈	Cu	63	6271.439	0.014	8.053835	ug/g
|	Cu	65	2920.328	0.007	7.500661	ug/g
⌊>	Ge	74	434859.788	434859.788		ug/g
⌈	Pb	206	14407.405	0.026	5.046507	ug/g
|	Pb	207	10564.025	0.018	4.568124	ug/g
|	Pb	208	52731.671	0.096	4.799834	ug/g
⌊>	Bi	209	539752.902	539752.902		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	336633.412	37453.978		ug/g
	P	31	45703.448	-10899.977		ug/g
	S	34	121147.724	-21513.160		ug/g
	Cl	35	53294.758	2330.148		ug/g
⌈	Cu	63	6208.446	0.014	7.781691	ug/g
|	Cu	65	3205.392	0.007	7.958153	ug/g
⌊>	Ge	74	450515.070	450515.070		ug/g
⌈	Pb	206	14437.436	0.026	4.925390	ug/g
|	Pb	207	10228.783	0.018	4.295540	ug/g
|	Pb	208	52117.549	0.093	4.618385	ug/g
⌊>	Bi	209	554008.488	554008.488		ug/g

DMC

001638

ICP-MS Summary Report

Sample ID: 305325pds
Autosampler Position: 50
Sample Date/Time: Wednesday, May 22, 2002 11:37:27
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305325pds.056
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	384001.715	84822.281				ug/g
	P	31	73442.495	17039.071				ug/g
	S	34	125416.074	-17244.810				ug/g
	Cl	35	55432.958	4468.348				ug/g
⌈	Cu	63	91766.428	0.216	24.792497	0.612	2.470	ug/g
|	Cu	65	45076.541	0.106	24.507877	1.030	4.201	ug/g
⌊>	Ge	74	423655.652	423655.652				ug/g
⌈	Pb	206	317569.573	0.575	22.032998	0.455	2.063	ug/g
|	Pb	207	252444.069	0.457	21.605667	0.663	3.067	ug/g
|	Pb	208	1211178.058	2.195	21.842349	0.373	1.707	ug/g
⌊>	Bi	209	551622.935	551622.935				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	403307.734	104128.300		ug/g
	P	31	72966.700	16583.275		ug/g
	S	34	124582.107	-16076.777		ug/g
	Cl	35	53848.828	2882.218		ug/g
⌈	Cu	63	91477.664	0.221	26.307758	ug/g
|	Cu	65	44409.383	0.107	24.727352	ug/g
⌊>	Ge	74	413833.661	413833.661		ug/g
⌈	Pb	206	313096.946	0.568	21.795170	ug/g
|	Pb	207	250565.793	0.456	21.514443	ug/g
|	Pb	208	1200384.597	2.182	21.720123	ug/g
⌊>	Bi	209	549722.555	549722.555		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	380181.409	81011.975		ug/g
	P	31	71328.339	14824.014		ug/g
	S	34	124672.894	-17987.990		ug/g
	Cl	35	57179.776	6215.165		ug/g
⌈	Cu	63	90426.190	0.210	24.115579	ug/g
|	Cu	65	43571.781	0.101	23.386223	ug/g
⌊>	Ge	74	429055.783	429055.783		ug/g
⌈	Pb	206	317400.405	0.588	21.748723	ug/g
|	Pb	207	248413.673	0.444	20.993403	ug/g
|	Pb	208	1209620.129	2.185	21.545874	ug/g
⌊>	Bi	209	558519.171	558519.171		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	388508.001	89326.567		ug/g
	P	31	76012.446	19606.023		ug/g
	S	34	126993.221	-15867.863		ug/g
	Cl	35	55272.271	4307.661		ug/g
⌈	Cu	63	93395.230	0.218	24.954155	ug/g
|	Cu	65	47246.477	0.110	25.410055	ug/g
⌊>	Ge	74	428277.331	428277.331		ug/g
⌈	Pb	206	322211.370	0.589	22.557101	ug/g
|	Pb	207	256352.741	0.472	22.309153	ug/g
|	Pb	208	1223329.449	2.237	22.280951	ug/g
⌊>	Bi	209	548627.078	548627.078		ug/g

rerun
13:31:43
Seq. 102

001639

ICP-MS Summary Report

Sample ID: 305326

Autosampler Position: 51

Sample Date/Time: Wednesday, May 22, 2002 11:39:52
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305326.057
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	386599.481	87420.047				ug/g
	P	31	79077.568	22674.144				ug/g
	S	34	122670.730	-19990.154				ug/g
	Cl	35	57730.379	6765.768				ug/g
⌈	Cu	63	31515.043	0.074	8.480720	0.267	3.150	ug/g
|	Cu	65	15560.293	0.037	8.420895	0.128	1.517	ug/g
⌊>	Ge	74	423126.802	423126.802				ug/g
⌈	Pb	206	96811.229	0.176	6.736454	0.056	0.826	ug/g
|	Pb	207	76235.523	0.139	6.543179	0.283	4.326	ug/g
|	Pb	208	371248.396	0.676	6.714973	0.087	1.295	ug/g
⌊>	Bi	209	548163.449	548163.449				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	401738.446	102560.012		ug/g
	P	31	77118.362	20714.938		ug/g
	S	34	117873.834	-24987.050		ug/g
	Cl	35	58308.449	8343.839		ug/g
⌈	Cu	63	31886.068	0.076	8.737245	ug/g
|	Cu	65	15583.662	0.037	8.567715	ug/g
⌊>	Ge	74	416750.930	416750.930		ug/g
⌈	Pb	206	97301.208	0.176	6.718425	ug/g
|	Pb	207	73137.470	0.132	6.227979	ug/g
|	Pb	208	368542.603	0.668	6.614568	ug/g
⌊>	Bi	209	552382.282	552382.282		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	369040.001	89860.587		ug/g
	P	31	77781.952	21378.527		ug/g
	S	34	117823.420	-25037.464		ug/g
	Cl	35	57898.853	6732.243		ug/g
⌈	Cu	63	31454.906	0.074	8.500790	ug/g
|	Cu	65	15378.427	0.036	8.359540	ug/g
⌊>	Ge	74	421172.378	421172.378		ug/g
⌈	Pb	206	96480.963	0.176	6.798898	ug/g
|	Pb	207	76233.524	0.141	6.625031	ug/g
|	Pb	208	369226.653	0.681	6.783381	ug/g
⌊>	Bi	209	541253.106	541253.106		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	369018.996	89838.582		ug/g
	P	31	82332.391	25820.066		ug/g
	S	34	132714.835	-9945.949		ug/g
	Cl	35	58185.634	6221.223		ug/g
⌈	Cu	63	31104.135	0.072	8.204123	ug/g
|	Cu	65	15706.789	0.038	8.335429	ug/g
⌊>	Ge	74	431457.097	431457.097		ug/g
⌈	Pb	206	96681.616	0.175	6.692039	ug/g
|	Pb	207	79335.475	0.144	6.775627	ug/g
|	Pb	208	378975.733	0.691	6.756869	ug/g
⌊>	Bi	209	550854.958	550854.958		ug/g

001640

ICP-MS Summary Report

Sample ID: 305327
Autosampler Position: 52
Sample Date/Time: Wednesday, May 22, 2002 11:42:18
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305327.058
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	376487.958	77308.524				ug/g
P	31	59469.137	3065.712				ug/g
S	34	126162.888	-16497.996				ug/g
Cl	35	56945.581	5980.971				ug/g
Cu	63	23875.173	0.055	6.319553	0.065	1.034	ug/g
Cu	65	12060.212	0.028	6.420703	0.196	3.047	ug/g
Ge	74	429882.603	429882.603				ug/g
Pb	206	35270.526	0.061	2.351512	0.065	2.761	ug/g
Pb	207	23027.108	0.040	1.891207	0.037	1.981	ug/g
Pb	208	121398.374	0.211	2.102894	0.046	2.178	ug/g
Bi	209	570911.106	570911.106				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	349880.126	90600.695		ug/g
P	31	56475.018	2071.591		ug/g
S	34	123180.013	-19480.871		ug/g
Cl	35	55121.688	4157.079		ug/g
Cu	63	23689.829	0.055	6.254199	ug/g
Cu	65	12265.366	0.028	6.519437	ug/g
Ge	74	430568.455	430568.455		ug/g
Pb	206	34381.867	0.060	2.277224	ug/g
Pb	207	22783.397	0.039	1.859703	ug/g
Pb	208	119221.179	0.206	2.051611	ug/g
Bi	209	574536.102	574536.102		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	381346.606	82167.172		ug/g
P	31	60322.693	3919.268		ug/g
S	34	130312.950	-12347.934		ug/g
Cl	35	58660.858	7718.249		ug/g
Cu	63	24000.384	0.056	6.384943	ug/g
Cu	65	12236.360	0.028	6.547284	ug/g
Ge	74	427731.366	427731.366		ug/g
Pb	206	35163.624	0.062	2.379847	ug/g
Pb	207	23184.045	0.041	1.932633	ug/g
Pb	208	121754.807	0.215	2.139735	ug/g
Bi	209	562719.312	562719.312		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	358137.140	58957.708		ug/g
P	31	59608.702	3206.277		ug/g
S	34	124995.700	-17685.184		ug/g
Cl	35	57034.184	6069.564		ug/g
Cu	63	23955.308	0.055	6.319515	ug/g
Cu	65	11879.869	0.027	6.195388	ug/g
Ge	74	431317.969	431317.969		ug/g
Pb	206	36246.287	0.063	2.387464	ug/g
Pb	207	23093.882	0.040	1.881284	ug/g
Pb	208	123219.336	0.213	2.117338	ug/g
Bi	209	575477.904	575477.904		ug/g

ICP-MS Summary Report

Sample ID: 305328

Autosampler Position: 53

Sample Date/Time: Wednesday, May 22, 2002 11:44:44
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305328.059
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	366463.430	67283.997				ug/g
	P	31	96492.442	40089.018				ug/g
	S	34	131722.883	-10938.001				ug/g
	Cl	35	57934.552	6969.942				ug/g
⌈	Cu	63	30643.156	0.074	8.445139	0.410	4.858	ug/g
|	Cu	65	15303.350	0.037	8.478016	0.090	1.063	ug/g
⌊>	Ge	74	413651.153	413651.153				ug/g
⌈	Pb	206	55533.383	0.105	4.014413	0.152	3.775	ug/g
|	Pb	207	37350.853	0.071	3.328244	0.135	4.060	ug/g
|	Pb	208	195177.009	0.369	3.666641	0.079	2.154	ug/g
⌊>	Bi	209	527478.515	527478.515				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	383107.817	83928.383		ug/g
	P	31	95438.680	39035.264		ug/g
	S	34	130458.278	-12201.806		ug/g
	Cl	35	59735.226	8770.618		ug/g
⌈	Cu	63	31018.048	0.075	8.582503	ug/g
|	Cu	65	15215.248	0.037	8.447155	ug/g
⌊>	Ge	74	412762.568	412762.568		ug/g
⌈	Pb	206	56847.857	0.107	4.102920	ug/g
|	Pb	207	39013.869	0.074	3.483399	ug/g
|	Pb	208	199364.617	0.378	3.756920	ug/g
⌊>	Bi	209	526486.203	526486.203		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	364802.716	65623.282		ug/g
	P	31	97794.565	41391.140		ug/g
	S	34	136429.719	-6231.185		ug/g
	Cl	35	58246.071	5281.480		ug/g
⌈	Cu	63	29585.900	0.070	7.968868	ug/g
|	Cu	65	15788.870	0.037	8.679549	ug/g
⌊>	Ge	74	421808.480	421808.480		ug/g
⌈	Pb	206	56813.314	0.107	4.100862	ug/g
|	Pb	207	38361.631	0.069	3.234382	ug/g
|	Pb	208	193682.125	0.365	3.652766	ug/g
⌊>	Bi	209	528291.050	528291.050		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	351479.758	52300.325		ug/g
	P	31	96244.075	39840.648		ug/g
	S	34	126279.651	-14361.233		ug/g
	Cl	35	57822.381	6857.750		ug/g
⌈	Cu	63	31324.816	0.077	8.783835	ug/g
|	Cu	65	14907.924	0.036	8.407345	ug/g
⌊>	Ge	74	406382.410	406382.410		ug/g
⌈	Pb	206	53139.179	0.100	3.839448	ug/g
|	Pb	207	36457.537	0.069	3.264841	ug/g
|	Pb	208	192254.286	0.363	3.610234	ug/g
⌊>	Bi	209	527658.291	527658.291		ug/g

001642

ICP-MS Summary Report

Sample ID: 305329

Autosampler Position: 54

Sample Date/Time: Wednesday, May 22, 2002 11:47:11
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305329.060
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	373343.888	74164.454				ug/g
P	31	79704.403	23300.979				ug/g
S	34	125548.986	-17111.898				ug/g
Cl	35	57655.050	6690.440				ug/g
Cu	63	23072.185	0.053	6.115512	0.087	1.419	ug/g
Cu	65	11399.668	0.026	6.072151	0.118	1.949	ug/g
Ge	74	429141.189	429141.189				ug/g
Pb	206	54378.899	0.101	3.877230	0.176	4.543	ug/g
Pb	207	38276.639	0.071	3.362312	0.088	2.629	ug/g
Pb	208	193157.312	0.360	3.577806	0.045	1.254	ug/g
Bi	209	535008.165	535008.165				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	386156.439	88977.006		ug/g
P	31	80024.308	23620.883		ug/g
S	34	124183.743	-18467.141		ug/g
Cl	35	57726.975	6762.365		ug/g
Cu	63	23550.646	0.053	6.015857	ug/g
Cu	65	11970.132	0.027	6.147473	ug/g
Ge	74	445276.738	445276.738		ug/g
Pb	206	53003.676	0.097	3.697466	ug/g
Pb	207	39364.553	0.072	3.385987	ug/g
Pb	208	194473.466	0.355	3.826032	ug/g
Bi	209	546450.510	546450.510		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	376705.840	77528.406		ug/g
P	31	82583.723	26180.298		ug/g
S	34	128264.516	-14308.368		ug/g
Cl	35	58796.334	7831.723		ug/g
Cu	63	22998.863	0.054	6.156110	ug/g
Cu	65	11374.640	0.027	6.133210	ug/g
Ge	74	424101.033	424101.033		ug/g
Pb	206	56060.341	0.105	4.049533	ug/g
Pb	207	36667.363	0.069	3.264485	ug/g
Pb	208	192073.618	0.363	3.805337	ug/g
Bi	209	527876.123	527876.123		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	358189.384	55989.950		ug/g
P	31	78528.179	20121.755		ug/g
S	34	124168.700	-18472.184		ug/g
Cl	35	56441.842	5477.232		ug/g
Cu	63	22698.245	0.054	6.174568	ug/g
Cu	65	10854.230	0.026	5.935771	ug/g
Ge	74	418046.796	418046.796		ug/g
Pb	206	54072.681	0.102	3.854869	ug/g
Pb	207	38798.001	0.073	3.436485	ug/g
Pb	208	192924.839	0.362	3.802048	ug/g
Bi	209	530697.861	530697.861		ug/g

ICP-MS Summary Report

Sample ID: 305330

Autosampler Position: 55

Sample Date/Time: Wednesday, May 22, 2002 11:49:34
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305330.061
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	390870.038	91690.605				ug/g
P	31	92612.096	36208.671				ug/g
S	34	124854.911	-17805.973				ug/g
Cl	35	56031.898	5067.288				ug/g
Cu	63	32988.382	0.078	8.908216	0.420	4.710	ug/g
Cu	65	16890.154	0.040	9.172784	0.356	3.884	ug/g
Ge	74	422391.015	422391.015				ug/g
Pb	206	90092.443	0.166	6.350706	0.068	1.071	ug/g
Pb	207	65048.455	0.120	5.656872	0.241	4.253	ug/g
Pb	208	334423.145	0.617	6.129095	0.192	3.130	ug/g
Bi	209	541522.510	541522.510				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	409803.161	110423.727		ug/g
P	31	91472.632	35069.407		ug/g
S	34	120295.560	-22368.324		ug/g
Cl	35	56348.466	5381.656		ug/g
Cu	63	32356.926	0.074	8.457329	ug/g
Cu	65	16664.881	0.038	8.763924	ug/g
Ge	74	435811.881	435811.851		ug/g
Pb	206	90401.031	0.167	6.371643	ug/g
Pb	207	64566.314	0.119	5.613362	ug/g
Pb	208	337973.491	0.623	6.191765	ug/g
Bi	209	541517.864	541517.864		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	376702.624	79523.191		ug/g
P	31	89837.467	33434.083		ug/g
S	34	120960.749	-13700.135		ug/g
Cl	35	55754.143	4789.533		ug/g
Cu	63	33564.720	0.078	8.980018	ug/g
Cu	65	17490.876	0.041	9.416290	ug/g
Ge	74	425891.452	425891.452		ug/g
Pb	206	90884.086	0.164	6.274668	ug/g
Pb	207	63913.290	0.118	5.441022	ug/g
Pb	208	329558.845	0.605	5.913758	ug/g
Bi	209	552808.299	552808.299		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	384304.330	85124.896		ug/g
P	31	90525.988	40122.543		ug/g
S	34	125306.425	-17352.458		ug/g
Cl	35	55995.065	5030.475		ug/g
Cu	63	33043.501	0.081	9.287299	ug/g
Cu	65	16514.705	0.041	9.338136	ug/g
Ge	74	405469.742	405469.742		ug/g
Pb	206	84992.213	0.158	6.405807	ug/g
Pb	207	66645.761	0.125	5.916232	ug/g
Pb	208	333736.100	0.622	6.281781	ug/g
Bi	209	530241.366	530241.366		ug/g

ICP-MS Summary Report

Sample ID: 305331
Autosampler Position: 56
Sample Date/Time: Wednesday, May 22, 2002 11:51:54
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305331.062
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	387679.824	88500.390				ug/g
P	31	106581.841	50178.417				ug/g
S	34	126663.963	-15996.921				ug/g
Cl	35	55879.658	4915.048				ug/g
Cu	63	36075.890	0.090	10.300396	0.419	4.067	ug/g
Cu	65	17482.533	0.044	10.040151	0.129	1.285	ug/g
Ge	74	399704.458	399704.458				ug/g
Pb	206	93185.597	0.178	6.807474	0.091	1.334	ug/g
Pb	207	66094.873	0.126	5.954429	0.047	0.784	ug/g
Pb	208	337025.519	0.643	6.399509	0.019	0.296	ug/g
Bi	209	522927.616	522927.616				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	403755.113	104578.679		ug/g
P	31	112164.728	55781.303		ug/g
S	34	121283.874	-21377.010		ug/g
Cl	35	56296.268	5331.658		ug/g
Cu	63	35484.370	0.088	10.096899	ug/g
Cu	65	17570.978	0.044	10.058621	ug/g
Ge	74	400975.478	400975.478		ug/g
Pb	206	91246.388	0.175	6.706582	ug/g
Pb	207	64243.695	0.127	6.006030	ug/g
Pb	208	335563.508	0.645	6.412929	ug/g
Bi	209	519595.615	519595.615		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	377953.156	76773.723		ug/g
P	31	87920.424	41516.999		ug/g
S	34	121329.257	-21331.827		ug/g
Cl	35	54700.069	3735.459		ug/g
Cu	63	35243.773	0.087	10.022120	ug/g
Cu	65	17310.855	0.043	9.902896	ug/g
Ge	74	401215.463	401215.463		ug/g
Pb	206	84160.234	0.178	6.826726	ug/g
Pb	207	56183.523	0.125	5.915084	ug/g
Pb	208	338450.170	0.641	6.377824	ug/g
Bi	209	526927.022	526927.022		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	381331.203	82151.769		ug/g
P	31	109680.372	53258.947		ug/g
S	34	137378.750	-5282.125		ug/g
Cl	35	56642.837	5676.027		ug/g
Cu	63	37489.528	0.094	10.782172	ug/g
Cu	65	17565.989	0.044	10.156837	ug/g
Ge	74	396922.413	396922.413		ug/g
Pb	206	94150.168	0.180	6.887104	ug/g
Pb	207	65877.201	0.126	5.942173	ug/g
Pb	208	337033.850	0.644	6.407775	ug/g
Bi	209	522260.211	522260.211		ug/g

001645

ICP-MS Summary Report

Sample ID: QC Std 2

Autosampler Position: 2

Sample Date/Time: Wednesday, May 22, 2002 11:54:15
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 2.063
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	331885.339	32705.905				ug/g
P	31	38732.885	-17670.540				ug/g
S	34	127131.116	-15529.768				ug/g
Cl	35	56960.594	5995.984				ug/g
Cu	63	79012.302	0.185	0.042379	0.003	8.257	ug/g
Cu	65	38340.118	0.090	0.041318	0.001	2.807	ug/g
Ge	74	427076.844	427076.844				ug/g
Pb	206	304496.004	0.539	0.041241	0.001	2.161	ug/g
Pb	207	253820.161	0.449	0.042409	0.002	4.867	ug/g
Pb	208	1185388.816	2.099	0.041731	0.001	1.292	ug/g
Bi	209	564551.619	564551.619				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	349589.437	50420.003		ug/g
P	31	40146.733	-16256.891		ug/g
S	34	127714.617	-14946.267		ug/g
Cl	35	56013.134	7048.523		ug/g
Cu	63	81850.199	0.198	0.045251	ug/g
Cu	65	38376.662	0.092	0.042644	ug/g
Ge	74	413985.878	413985.878		ug/g
Pb	206	303896.343	0.536	0.040984	ug/g
Pb	207	242236.925	0.427	0.040295	ug/g
Pb	208	1177247.935	2.075	0.041268	ug/g
Bi	209	566915.463	566915.463		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	329157.120	29877.886		ug/g
P	31	36873.153	-19430.272		ug/g
S	34	127184.649	-15506.235		ug/g
Cl	35	58850.555	4884.944		ug/g
Cu	63	79813.890	0.190	0.043404	ug/g
Cu	65	37344.120	0.089	0.040816	ug/g
Ge	74	420841.373	420841.373		ug/g
Pb	206	309080.859	0.552	0.042233	ug/g
Pb	207	263541.284	0.471	0.044419	ug/g
Pb	208	1191606.056	2.128	0.042323	ug/g
Bi	209	559543.104	559543.104		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	316699.461	17720.027		ug/g
P	31	39078.787	-17324.657		ug/g
S	34	126624.081	-16136.803		ug/g
Cl	35	57008.094	8044.484		ug/g
Cu	63	75173.015	0.166	0.038451	ug/g
Cu	65	39299.374	0.088	0.040493	ug/g
Ge	74	446403.282	446403.282		ug/g
Pb	206	300510.812	0.529	0.040507	ug/g
Pb	207	255680.275	0.451	0.042512	ug/g
Pb	208	1187312.459	2.092	0.041601	ug/g
Bi	209	567196.290	567196.290		ug/g

001646

ICP-MS Summary Report

Sample ID: QC Std 3

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 11:56:37
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 3.064
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	323749.094	24569.660				ug/g
	P	31	39570.217	-16833.208				ug/g
	S	34	129280.945	-13379.939				ug/g
	Cl	35	55504.846	4540.236				ug/g
⌈	Cu	63	180.003	0.000	0.000008	0.000	146.920	ug/g
|	Cu	65	86.668	-0.000	-0.000009	0.000	281.169	ug/g
⌊>	Ge	74	435924.983	435924.983				ug/g
⌈	Pb	206	191.670	0.000	0.000001	0.000	428.755	ug/g
|	Pb	207	156.669	0.000	0.000001	0.000	813.138	ug/g
|	Pb	208	745.011	0.000	0.000002	0.000	66.927	ug/g
⌊>	Bi	209	558822.388	558822.388				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	343801.183	44821.749		ug/g
	P	31	37424.330	-16979.095		ug/g
	S	34	126902.419	-15758.465		ug/g
	Cl	35	56135.636	5171.026		ug/g
⌈	Cu	63	190.003	0.000	0.000015	ug/g
|	Cu	65	85.001	-0.000	-0.000031	ug/g
⌊>	Ge	74	429274.477	429274.477		ug/g
⌈	Pb	206	218.004	0.000	0.000005	ug/g
|	Pb	207	140.002	-0.000	-0.000002	ug/g
|	Pb	208	748.011	0.000	0.000002	ug/g
⌊>	Bi	209	549699.313	549699.313		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	315304.736	16125.302		ug/g
	P	31	39080.932	-16842.493		ug/g
	S	34	125585.871	-17095.213		ug/g
	Cl	35	58272.271	4307.861		ug/g
⌈	Cu	63	200.003	0.000	0.000015	ug/g
|	Cu	65	88.001	-0.000	-0.000014	ug/g
⌊>	Ge	74	451524.515	451524.515		ug/g
⌈	Pb	206	170.003	-0.000	-0.000002	ug/g
|	Pb	207	195.003	0.000	0.000007	ug/g
|	Pb	208	776.879	0.000	0.000003	ug/g
⌊>	Bi	209	564247.881	564247.881		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	312141.363	12961.929		ug/g
	P	31	41425.589	-14976.036		ug/g
	S	34	135374.744	-7286.140		ug/g
	Cl	35	56106.631	4142.021		ug/g
⌈	Cu	63	150.002	-0.000	-0.000006	ug/g
|	Cu	65	110.002	0.000	0.000018	ug/g
⌊>	Ge	74	426975.956	426975.956		ug/g
⌈	Pb	206	190.003	0.000	0.000000	ug/g
|	Pb	207	135.002	-0.000	-0.000003	ug/g
|	Pb	208	713.344	0.000	0.000000	ug/g
⌊>	Bi	209	563510.971	563510.971		ug/g

001647

ICP-MS Summary Report

Sample ID: 305332

Autosampler Position: 57

Sample Date/Time: Wednesday, May 22, 2002 11:58:58
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305332.065
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	354726.635	55547.202				ug/g
	P	31	85880.439	29477.014				ug/g
	S	34	129820.283	-12840.601				ug/g
	Cl	35	58530.250	7565.640				ug/g
⌈	Cu	63	33300.785	0.078	8.899770	0.149	1.675	ug/g
|	Cu	65	16483.007	0.038	8.865328	0.371	4.184	ug/g
⌊>	Ge	74	426108.673	426108.673				ug/g
⌈	Pb	206	60533.610	0.110	4.222094	0.047	1.114	ug/g
|	Pb	207	40967.405	0.075	3.522681	0.060	1.704	ug/g
|	Pb	208	212523.036	0.388	3.852509	0.047	1.211	ug/g
⌊>	Bi	209	546341.172	546341.172				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	373462.295	74262.861		ug/g
	P	31	91503.025	35099.600		ug/g
	S	34	127850.828	-14810.958		ug/g
	Cl	35	59077.493	8112.885		ug/g
⌈	Cu	63	32306.512	0.077	8.813703	ug/g
|	Cu	65	16174.313	0.039	8.676940	ug/g
⌊>	Ge	74	417378.977	417378.977		ug/g
⌈	Pb	206	61753.802	0.111	4.255466	ug/g
|	Pb	207	40650.102	0.073	3.453385	ug/g
|	Pb	208	212177.063	0.382	3.799452	ug/g
⌊>	Bi	209	552990.140	552990.140		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	348932.446	50753.012		ug/g
	P	31	82930.844	26827.419		ug/g
	S	34	129197.879	-13463.005		ug/g
	Cl	35	58645.715	7681.108		ug/g
⌈	Cu	63	33690.491	0.077	8.813718	ug/g
|	Cu	65	16229.376	0.037	8.488783	ug/g
⌊>	Ge	74	437838.095	437838.095		ug/g
⌈	Pb	206	60001.340	0.109	4.184277	ug/g
|	Pb	207	41525.680	0.075	3.558310	ug/g
|	Pb	208	214404.546	0.390	3.870987	ug/g
⌊>	Bi	209	548601.944	548601.944		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	340785.168	41605.732		ug/g
	P	31	83207.448	26804.023		ug/g
	S	34	132412.141	-10246.743		ug/g
	Cl	35	57867.543	6902.833		ug/g
⌈	Cu	63	33705.051	0.079	9.071869	ug/g
|	Cu	65	17045.353	0.040	8.230282	ug/g
⌊>	Ge	74	423108.946	423108.946		ug/g
⌈	Pb	206	58845.886	0.111	4.242539	ug/g
|	Pb	207	40718.353	0.075	3.558347	ug/g
|	Pb	208	210867.499	0.381	3.687089	ug/g
⌊>	Bi	209	537531.431	537531.431		ug/g

ICP-MS Summary Report

Sample ID: 305333

Autosampler Position: 58

Sample Date/Time: Wednesday, May 22, 2002 12:01:19
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305333.066
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	359216.649	60037.215				ug/g
P	31	86359.594	29956.169				ug/g
S	34	128414.257	-14246.627				ug/g
Cl	35	61154.675	10190.065				ug/g
Cu	63	39443.116	0.091	10.455786	0.455	4.355	ug/g
Cu	65	19695.431	0.046	10.501192	0.265	2.519	ug/g
Ge	74	430795.089	430795.089				ug/g
Pb	206	113177.727	0.211	8.073845	0.078	0.969	ug/g
Pb	207	83943.460	0.156	7.384928	0.077	1.043	ug/g
Pb	208	414207.152	0.772	7.680178	0.020	0.254	ug/g
Bi	209	535677.543	535677.543				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	371774.081	72564.857		ug/g
P	31	85578.404	29172.979		ug/g
S	34	128834.617	-13826.267		ug/g
Cl	35	63285.499	12320.858		ug/g
Cu	63	39058.713	0.088	10.080799	ug/g
Cu	65	19733.818	0.044	10.247613	ug/g
Ge	74	442067.617	442067.617		ug/g
Pb	206	113031.526	0.209	8.003993	ug/g
Pb	207	84494.965	0.156	7.379108	ug/g
Pb	208	418764.318	0.771	7.670821	ug/g
Bi	209	539643.697	539643.697		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	349876.264	50498.650		ug/g
P	31	84233.444	27630.020		ug/g
S	34	126503.904	-16156.980		ug/g
Cl	35	58651.561	7806.951		ug/g
Cu	63	39003.562	0.090	10.324064	ug/g
Cu	65	19678.741	0.045	10.480496	ug/g
Ge	74	431084.977	431084.977		ug/g
Pb	206	114649.521	0.213	8.156362	ug/g
Pb	207	85073.408	0.158	7.464664	ug/g
Pb	208	416532.123	0.774	7.702603	ug/g
Bi	209	537121.430	537121.430		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	356189.572	57020.138		ug/g
P	31	86268.934	32085.509		ug/g
S	34	129904.249	-12786.825		ug/g
Cl	35	61328.965	10342.355		ug/g
Cu	63	40267.073	0.096	10.962496	ug/g
Cu	65	19873.734	0.047	10.775465	ug/g
Ge	74	419232.671	419232.671		ug/g
Pb	206	111632.132	0.211	8.058180	ug/g
Pb	207	82261.987	0.156	7.311012	ug/g
Pb	208	409325.015	0.771	7.667110	ug/g
Bi	209	530267.303	530267.303		ug/g

SMC

001649

ICP-MS Summary Report

Sample ID: 305334

Autosampler Position: 59

Sample Date/Time: Wednesday, May 22, 2002 12:03:40
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305334.067
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	373912.379	74732.945				ug/g
	P	31	130643.844	74240.419				ug/g
	S	34	128158.582	-14502.302				ug/g
	Cl	35	58168.854	7204.244				ug/g
⌈	Cu	63	53686.229	0.131	14.970798	0.224	1.494	ug/g
|	Cu	65	26451.401	0.064	14.841382	0.127	0.853	ug/g
⌊>	Ge	74	409438.676	409438.676				ug/g
⌈	Pb	206	128288.121	0.241	9.218203	0.307	3.326	ug/g
|	Pb	207	88593.099	0.166	7.852311	0.342	4.357	ug/g
|	Pb	208	459627.774	0.863	8.582124	0.170	1.981	ug/g
⌊>	Bi	209	531837.016	531837.016				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	381130.989	81851.535	-	ug/g
	P	31	122549.820	66146.195		ug/g
	S	34	127618.785	-15042.119		ug/g
	Cl	35	56647.857	5563.046		ug/g
⌈	Cu	63	53249.590	0.129	14.746803	ug/g
|	Cu	65	26455.487	0.065	14.965749	ug/g
⌊>	Ge	74	412248.020	412248.020		ug/g
⌈	Pb	206	128955.704	0.250	9.571258	ug/g
|	Pb	207	88787.235	0.174	8.219053	ug/g
|	Pb	208	464200.661	0.881	8.761826	ug/g
⌊>	Bi	209	514578.791	514578.791		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	384372.525	69193.191		ug/g
	P	31	136682.117	80276.682		ug/g
	S	34	127901.277	-14759.807		ug/g
	Cl	35	57501.064	6536.454		ug/g
⌈	Cu	63	53661.130	0.133	15.192765	ug/g
|	Cu	65	26059.008	0.064	14.845048	ug/g
⌊>	Ge	74	403241.362	403241.362		ug/g
⌈	Pb	206	129470.332	0.256	9.018676	ug/g
|	Pb	207	87799.857	0.180	7.541729	ug/g
|	Pb	208	465267.584	0.847	8.423731	ug/g
⌊>	Bi	209	548242.253	548242.253		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	362233.542	83054.108		ug/g
	P	31	132899.795	76286.370		ug/g
	S	34	128955.704	-13706.180		ug/g
	Cl	35	60357.841	9363.231		ug/g
⌈	Cu	63	54147.966	0.131	14.974026	ug/g
|	Cu	65	26439.708	0.064	14.712548	ug/g
⌊>	Ge	74	412628.647	412628.647		ug/g
⌈	Pb	206	126438.328	0.237	9.064677	ug/g
|	Pb	207	86162.205	0.165	7.798151	ug/g
|	Pb	208	458415.067	0.861	8.580814	ug/g
⌊>	Bi	209	532690.006	532690.006		ug/g

001650

ICP-MS Summary Report

Sample ID: 305335
Autosampler Position: 60
Sample Date/Time: Wednesday, May 22, 2002 12:06:01
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305335.068
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	379389.390	80209.957				ug/g
P	31	96232.523	39829.098				ug/g
S	34	127255.627	-15405.257				ug/g
Cl	35	56999.112	6034.502				ug/g
Cu	63	51272.387	0.125	14.322936	0.334	2.335	ug/g
Cu	65	25289.284	0.062	14.215270	0.006	0.041	ug/g
Ge	74	408303.127	408303.127				ug/g
Pb	206	89688.301	0.169	6.462470	0.223	3.443	ug/g
Pb	207	64417.341	0.121	5.721695	0.179	3.120	ug/g
Pb	208	324568.346	0.612	6.077544	0.123	2.028	ug/g
Bi	209	529454.086	529454.086				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	409726.828	110547.194		ug/g
P	31	97366.653	40863.228		ug/g
S	34	129466.196	-13205.688		ug/g
Cl	35	58565.386	7600.775		ug/g
Cu	63	52391.417	0.128	14.884005	ug/g
Cu	65	25217.490	0.062	14.221150	ug/g
Ge	74	406976.129	406976.129		ug/g
Pb	206	90149.446	0.170	6.507366	ug/g
Pb	207	61969.736	0.117	5.515678	ug/g
Pb	208	321025.171	0.606	6.022726	ug/g
Bi	209	528348.104	528348.104		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	373058.992	73877.469		ug/g
P	31	92937.253	36533.828		ug/g
S	34	126029.736	-16631.148		ug/g
Cl	35	55397.757	4433.147		ug/g
Cu	63	51302.465	0.125	14.261025	ug/g
Cu	65	25412.837	0.063	14.215140	ug/g
Ge	74	410301.551	410301.551		ug/g
Pb	206	87818.748	0.165	6.220944	ug/g
Pb	207	66540.270	0.124	5.826473	ug/g
Pb	208	324545.279	0.603	5.991204	ug/g
Bi	209	537111.050	537111.050		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	355384.641	56265.207		ug/g
P	31	96393.564	41990.239		ug/g
S	34	126281.951	-16378.933		ug/g
Cl	35	57034.194	6089.584		ug/g
Cu	63	50123.276	0.123	14.023778	ug/g
Cu	65	25237.525	0.062	14.209518	ug/g
Ge	74	407631.702	407631.702		ug/g
Pb	206	91298.709	0.174	6.659100	ug/g
Pb	207	64742.616	0.124	5.823039	ug/g
Pb	208	328034.588	0.626	6.216709	ug/g
Bi	209	522903.105	522903.105		ug/g

001651

ICP-MS Summary Report

Sample ID: 305335dup
Autosampler Position: 61
Sample Date/Time: Wednesday, May 22, 2002 12:08:24
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305335dup.069
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	374721.590	75542.156				ug/g
P	31	103586.967	47183.543				ug/g
S	34	131429.807	-11231.077				ug/g
Cl	35	56641.010	5676.399				ug/g
Cu	63	41507.296	0.098	11.221527	0.190	1.693	ug/g
Cu	65	20730.238	0.049	11.275567	0.106	0.936	ug/g
Ge	74	421871.441	421871.441				ug/g
Pb	206	95316.323	0.176	6.734817	0.194	2.881	ug/g
Pb	207	68244.994	0.126	5.946082	0.125	2.110	ug/g
Pb	208	344164.159	0.636	6.320212	0.112	1.777	ug/g
Bi	209	540177.005	540177.005				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	381593.366	92413.952		ug/g
P	31	103041.304	46637.879		ug/g
S	34	130512.489	-11846.395		ug/g
Cl	35	55688.488	4823.887		ug/g
Cu	63	41575.826	0.100	11.432019	ug/g
Cu	65	20554.963	0.049	11.371697	ug/g
Ge	74	414734.038	414734.038		ug/g
Pb	206	93420.394	0.172	6.572955	ug/g
Pb	207	67263.808	0.124	5.835127	ug/g
Pb	208	341682.704	0.629	6.252184	ug/g
Bi	209	542390.042	542390.042		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	361628.493	82449.080		ug/g
P	31	102235.538	45832.113		ug/g
S	34	132422.234	-10238.850		ug/g
Cl	35	56095.479	5130.866		ug/g
Cu	63	41139.582	0.098	11.189893	ug/g
Cu	65	20670.150	0.048	11.292340	ug/g
Ge	74	419975.631	419975.631		ug/g
Pb	206	94748.115	0.175	6.661617	ug/g
Pb	207	68087.351	0.128	5.920933	ug/g
Pb	208	341468.216	0.630	6.256634	ug/g
Bi	209	541175.237	541175.237		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	370942.590	71783.456		ug/g
P	31	105464.058	49080.635		ug/g
S	34	131084.996	-11808.188		ug/g
Cl	35	56238.052	7274.442		ug/g
Cu	63	41606.500	0.097	11.062849	ug/g
Cu	65	20965.583	0.048	11.182643	ug/g
Ge	74	430904.656	430904.656		ug/g
Pb	206	97779.462	0.182	6.949879	ug/g
Pb	207	68393.827	0.129	5.982185	ug/g
Pb	208	349141.887	0.649	6.449819	ug/g
Bi	209	536965.736	536965.736		ug/g

001652

ICP-MS Summary Report

Sample ID: 305335s

Autosampler Position: 62

Sample Date/Time: Wednesday, May 22, 2002 12:10:46
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305335s.070
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	392727.088	93547.654				ug/g
	P	31	99790.683	43387.258				ug/g
	S	34	131266.170	-11394.714				ug/g
	Cl	35	56219.320	5254.710				ug/g
⌈	Cu	63	116459.336	0.274	31.417971	1.292	4.111	ug/g
|	Cu	65	57368.924	0.135	31.145544	0.714	2.293	ug/g
⌊>	Ge	74	423788.146	423788.146				ug/g
⌈	Pb	206	410542.270	0.744	28.456206	1.204	4.231	ug/g
|	Pb	207	334032.213	0.606	28.562888	1.000	3.500	ug/g
|	Pb	208	1564443.744	2.836	28.184414	0.680	2.412	ug/g
⌊>	Bi	209	551585.592	551585.592				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	401667.463	102466.030		ug/g
	P	31	96438.358	40031.934		ug/g
	S	34	122922.609	-19736.075		ug/g
	Cl	35	57114.815	6148.904		ug/g
⌈	Cu	63	121263.674	0.287	32.807944	ug/g
|	Cu	65	58883.341	0.132	30.338553	ug/g
⌊>	Ge	74	421327.067	421327.067		ug/g
⌈	Pb	206	422078.882	0.760	29.810832	ug/g
|	Pb	207	339233.676	0.627	28.553531	ug/g
|	Pb	208	1577576.507	2.814	28.961779	ug/g
⌊>	Bi	209	541133.707	541133.707		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	385348.887	86167.433		ug/g
	P	31	106136.869	49739.465		ug/g
	S	34	134844.781	-7816.123		ug/g
	Cl	35	65212.038	4247.428		ug/g
⌈	Cu	63	114437.871	0.267	30.815962	ug/g
|	Cu	65	56329.421	0.130	31.411732	ug/g
⌊>	Ge	74	427263.352	427263.352		ug/g
⌈	Pb	206	394974.616	0.719	27.507499	ug/g
|	Pb	207	332697.770	0.608	28.580834	ug/g
|	Pb	208	1540692.327	2.808	27.890759	ug/g
⌊>	Bi	209	546766.834	546766.834		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	381166.934	81967.500		ug/g
	P	31	96797.801	40394.376		ug/g
	S	34	136030.940	-8629.948		ug/g
	Cl	35	56531.407	5366.798		ug/g
⌈	Cu	63	113456.463	0.268	30.730007	ug/g
|	Cu	65	56223.991	0.138	31.668348	ug/g
⌊>	Ge	74	422774.020	422774.020		ug/g
⌈	Pb	206	414573.542	0.734	28.050268	ug/g
|	Pb	207	330164.991	0.864	27.554800	ug/g
|	Pb	208	1575062.398	2.787	27.700703	ug/g
⌊>	Bi	209	564856.234	564856.234		ug/g

ICP-MS Summary Report

Sample ID: 305335sd

Autosampler Position: 63

Sample Date/Time: Wednesday, May 22, 2002 12:13:09
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305335sd.071
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	394586.706	95407.273				ug/g
P	31	99091.985	42688.560				ug/g
S	34	130491.872	-12169.012				ug/g
Cl	35	58227.341	7262.731				ug/g
Cu	63	121586.434	0.293	33.571805	0.628	1.871	ug/g
Cu	65	60197.176	0.145	33.455579	0.689	2.060	ug/g
Ge	74	414625.507	414625.507				ug/g
Pb	206	406182.656	0.756	28.956742	0.227	0.783	ug/g
Pb	207	333474.471	0.621	29.322515	0.807	2.753	ug/g
Pb	208	1543523.660	2.874	28.601870	0.060	0.210	ug/g
Bi	209	536760.074	536760.074				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	414825.709	115648.275		ug/g
P	31	97009.250	40606.805		ug/g
S	34	124766.727	-17892.158		ug/g
Cl	35	57632.401	6867.791		ug/g
Cu	63	121894.040	0.293	33.559259	ug/g
Cu	65	59368.699	0.143	32.099581	ug/g
Ge	74	415737.085	415737.085		ug/g
Pb	206	406332.540	0.763	29.218488	ug/g
Pb	207	322642.627	0.602	28.423822	ug/g
Pb	208	1539341.069	2.877	28.630835	ug/g
Bi	209	534760.257	534760.257		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	390129.116	90949.682		ug/g
P	31	102255.882	45852.257		ug/g
S	34	135041.610	-7619.274		ug/g
Cl	35	58259.134	7294.524		ug/g
Cu	63	121334.300	0.288	32.950264	ug/g
Cu	65	60009.756	0.144	33.240532	ug/g
Ge	74	421467.248	421467.248		ug/g
Pb	206	403436.290	0.753	28.833812	ug/g
Pb	207	340140.056	0.635	29.986331	ug/g
Pb	208	1541756.144	2.878	28.641833	ug/g
Bi	209	535393.325	535393.325		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	378605.294	79628.861		ug/g
P	31	98011.043	41607.816		ug/g
S	34	131685.278	-10995.606		ug/g
Cl	35	56590.488	7025.876		ug/g
Cu	63	121530.963	0.296	34.205851	ug/g
Cu	65	60413.074	0.148	34.226613	ug/g
Ge	74	406672.189	406672.189		ug/g
Pb	206	406779.138	0.753	28.817945	ug/g
Pb	207	338240.731	0.626	29.557391	ug/g
Pb	208	1549474.767	2.867	28.532942	ug/g
Bi	209	540126.641	540126.641		ug/g

DMC

ICP-MS Summary Report

Sample ID: 305335L

Autosampler Position: 64

Sample Date/Time: Wednesday, May 22, 2002 12:15:33
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 3e+001
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305335L.072
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	344972.596	45793.162				ug/g
P	31	53331.599	-3071.826				ug/g
S	34	129419.978	-13240.906				ug/g
Cl	35	54626.599	3661.989				ug/g
Cu	63	11186.159	0.026	14.619269	0.528	3.608	ug/g
Cu	65	5394.407	0.012	14.162047	0.915	6.459	ug/g
Ge	74	431489.535	431489.535				ug/g
Pb	206	18577.257	0.033	6.360246	0.085	1.330	ug/g
Pb	207	13199.561	0.024	5.565170	0.019	0.349	ug/g
Pb	208	66977.922	0.120	5.957966	0.044	0.741	ug/g
Bi	209	552576.789	552576.789				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	344336.906	45158.475		ug/g
P	31	52526.815	-3676.510		ug/g
S	34	130887.903	-11802.981		ug/g
Cl	35	57501.064	6536.454		ug/g
Cu	63	11459.709	0.027	15.224656	ug/g
Cu	65	5541.130	0.013	14.779337	ug/g
Ge	74	424544.486	424544.486		ug/g
Pb	206	18672.382	0.033	6.338266	ug/g
Pb	207	13346.365	0.024	5.580727	ug/g
Pb	208	67041.825	0.119	5.913452	ug/g
Bi	209	557193.863	557193.863		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	349087.130	49907.696		ug/g
P	31	52992.525	-3710.900		ug/g
S	34	127033.578	-15627.306		ug/g
Cl	35	53284.721	2320.111		ug/g
Cu	63	11284.844	0.025	14.256306	ug/g
Cu	65	5160.984	0.011	13.111197	ug/g
Ge	74	444781.663	444781.663		ug/g
Pb	206	18672.382	0.034	6.453320	ug/g
Pb	207	13026.066	0.024	5.543392	ug/g
Pb	208	68360.448	0.120	5.956296	ug/g
Bi	209	547442.433	547442.433		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	341491.748	42312.315		ug/g
P	31	54775.358	-1528.067		ug/g
S	34	130366.453	-12292.431		ug/g
Cl	35	53094.011	2129.401		ug/g
Cu	63	10844.223	0.025	14.374847	ug/g
Cu	65	5481.106	0.013	14.585607	ug/g
Ge	74	425142.454	425142.454		ug/g
Pb	206	18367.009	0.033	6.268148	ug/g
Pb	207	13226.252	0.024	5.571391	ug/g
Pb	208	67531.692	0.121	6.001950	ug/g
Bi	209	553094.050	553094.050		ug/g

001655

ICP-MS Summary Report

Sample ID: 305335pds

Autosampler Position: 65

Sample Date/Time: Wednesday, May 22, 2002 12:17:57
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305335pds.073
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	376159.695	76980.261				ug/g
P	31	94344.973	37941.548				ug/g
S	34	127834.130	-14826.755				ug/g
Cl	35	57737.040	6772.429				ug/g
Cu	63	133936.327	0.326	37.289448	0.943	2.528	ug/g
Cu	65	64907.796	0.158	36.370302	0.759	2.086	ug/g
Ge	74	410631.127	410631.127				ug/g
Pb	206	421046.701	0.798	30.501256	1.086	3.562	ug/g
Pb	207	336510.868	0.638	30.062667	0.233	0.773	ug/g
Pb	208	1593084.611	3.020	29.993112	0.355	1.183	ug/g
Bi	209	527390.824	527390.824				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	397729.515	98560.081		ug/g
P	31	91538.985	34033.541		ug/g
S	34	126756.127	-15804.757		ug/g
Cl	35	56705.982	7741.362		ug/g
Cu	63	132624.096	0.335	38.295774	ug/g
Cu	65	63933.380	0.161	37.199211	ug/g
Ge	74	395738.609	395738.609		ug/g
Pb	206	422114.694	0.800	30.573692	ug/g
Pb	207	333537.011	0.632	29.798243	ug/g
Pb	208	1598924.071	3.027	30.064872	ug/g
Bi	209	527362.667	527362.667		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	387921.209	68741.775		ug/g
P	31	94648.450	38245.025		ug/g
S	34	126327.350	-16333.534		ug/g
Cl	35	56682.796	5716.166		ug/g
Cu	63	133441.665	0.318	36.427070	ug/g
Cu	65	64073.105	0.156	36.308061	ug/g
Ge	74	416580.539	416580.539		ug/g
Pb	206	409253.343	0.769	29.380307	ug/g
Pb	207	340529.166	0.640	30.154653	ug/g
Pb	208	1588648.952	2.981	29.807739	ug/g
Bi	209	532057.055	532057.055		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	362828.360	63448.926		ug/g
P	31	97048.502	40646.078		ug/g
S	34	130418.911	-12241.973		ug/g
Cl	35	57822.361	6857.750		ug/g
Cu	63	135743.218	0.325	37.149499	ug/g
Cu	65	64716.904	0.155	35.845836	ug/g
Ge	74	417574.232	417574.232		ug/g
Pb	206	431772.065	0.826	31.549980	ug/g
Pb	207	335466.428	0.641	30.235103	ug/g
Pb	208	1595682.809	3.051	30.306625	ug/g
Bi	209	522752.748	522752.748		ug/g

001656

ICP-MS Summary Report

Sample ID: 185916-120mpb

Autosampler Position: 66

Sample Date/Time: Wednesday, May 22, 2002 12:20:22
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\185916-120mpb.074
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	374821.498	75642.064				ug/g
P	31	43274.395	-13129.029				ug/g
S	34	138036.079	-4624.805				ug/g
Cl	35	59323.534	8358.924				ug/g
Cu	63	245.005	0.000	0.018390	0.004	21.517	ug/g
Cu	65	131.669	0.000	0.016324	0.002	14.061	ug/g
Ge	74	455715.743	455715.743				ug/g
Pb	206	480.013	0.001	0.019477	0.002	9.502	ug/g
Pb	207	355.008	0.000	0.016492	0.003	15.363	ug/g
Pb	208	1780.052	0.002	0.018664	0.001	6.348	ug/g
Bi	209	570170.395	570170.395				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	392081.509	92902.075		ug/g
P	31	45633.223	-10770.202		ug/g
S	34	143431.671	1170.887		ug/g
Cl	35	60307.829	9343.019		ug/g
Cu	63	220.004	0.000	0.014008	ug/g
Cu	65	130.002	0.000	0.017611	ug/g
Ge	74	441179.160	441179.160		ug/g
Pb	206	470.012	0.001	0.019144	ug/g
Pb	207	365.008	0.000	0.017849	ug/g
Pb	208	1810.054	0.002	0.019528	ug/g
Bi	209	564050.302	564050.302		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	372641.259	73461.825		ug/g
P	31	44048.244	-12366.181		ug/g
S	34	130746.882	-11813.992		ug/g
Cl	35	58339.462	7374.882		ug/g
Cu	63	250.005	0.000	0.019460	ug/g
Cu	65	135.002	0.000	0.017605	ug/g
Ge	74	457644.777	457644.777		ug/g
Pb	206	480.012	0.000	0.017815	ug/g
Pb	207	360.009	0.000	0.016241	ug/g
Pb	208	1826.722	0.002	0.019151	ug/g
Bi	209	576060.708	576060.708		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	359741.725	60562.291		ug/g
P	31	40141.719	-16261.705		ug/g
S	34	139528.474	-3131.410		ug/g
Cl	35	59323.512	8358.901		ug/g
Cu	63	283.005	0.000	0.021702	ug/g
Cu	65	130.002	0.000	0.013874	ug/g
Ge	74	466323.293	466323.293		ug/g
Pb	206	510.014	0.001	0.021472	ug/g
Pb	207	320.007	0.000	0.013666	ug/g
Pb	208	1703.381	0.002	0.017314	ug/g
Bi	209	570400.175	570400.175		ug/g

001657

ICP-MS Summary Report

Sample ID: QC Std 2
Autosampler Position: 2
Sample Date/Time: Wednesday, May 22, 2002 12:22:46
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 2.075
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	337306.472	38127.038				ug/g
	P	31	44647.048	-11756.377				ug/g
	S	34	131620.052	-11040.832				ug/g
	Cl	35	58193.907	7229.297				ug/g
⌈	Cu	63	81261.323	0.183	0.041829	0.000	0.760	ug/g
|	Cu	65	39613.580	0.089	0.041040	0.000	0.760	ug/g
⌊>	Ge	74	444020.147	444020.147				ug/g
⌈	Pb	206	310394.913	0.536	0.041038	0.001	2.255	ug/g
|	Pb	207	248645.937	0.430	0.040544	0.001	2.761	ug/g
|	Pb	208	1189077.442	2.055	0.040864	0.001	1.805	ug/g
⌊>	Bi	209	578288.562	578288.562				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	336374.390	56194.957		ug/g
	P	31	48121.393	-8282.032		ug/g
	S	34	134345.082	-8315.802		ug/g
	Cl	35	58123.562	7156.972		ug/g
⌈	Cu	63	80104.758	0.183	0.041985	ug/g
|	Cu	65	39118.877	0.089	0.041263	ug/g
⌊>	Ge	74	438077.069	438077.069		ug/g
⌈	Pb	206	304534.730	0.530	0.040524	ug/g
|	Pb	207	239142.375	0.416	0.039252	ug/g
|	Pb	208	1168434.363	2.032	0.040415	ug/g
⌊>	Bi	209	574541.305	574541.305		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	331758.241	32576.807		ug/g
	P	31	44589.957	-11803.467		ug/g
	S	34	131867.129	-10793.795		ug/g
	Cl	35	59519.325	8554.715		ug/g
⌈	Cu	63	82890.611	0.184	0.042039	ug/g
|	Cu	65	39860.932	0.088	0.040884	ug/g
⌊>	Ge	74	450664.567	450664.567		ug/g
⌈	Pb	206	317866.218	0.550	0.042107	ug/g
|	Pb	207	251700.492	0.436	0.041152	ug/g
|	Pb	208	1210782.508	2.096	0.041715	ug/g
⌊>	Bi	209	576810.061	576810.061		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	324788.785	25609.351		ug/g
	P	31	41219.793	-15183.831		ug/g
	S	34	128547.944	-14012.840		ug/g
	Cl	35	56938.814	5974.203		ug/g
⌈	Cu	63	80788.569	0.181	0.041484	ug/g
|	Cu	65	39060.932	0.088	0.041173	ug/g
⌊>	Ge	74	445316.765	445316.765		ug/g
⌈	Pb	206	308963.792	0.529	0.040484	ug/g
|	Pb	207	255094.944	0.437	0.041227	ug/g
|	Pb	208	1188035.454	2.035	0.040461	ug/g
⌊>	Bi	209	583514.320	583514.320		ug/g

001658

ICP-MS Summary Report

Sample ID: QC Std 3
Autosampler Position: 1
Sample Date/Time: Wednesday, May 22, 2002 12:25:08
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 3.076
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	329591.757	30412.323				ug/g
P	31	42415.315	-13988.110				ug/g
S	34	138947.850	-3713.034				ug/g
Cl	35	56574.106	5609.496				ug/g
Cu	63	146.669	-0.000	-0.000013	0.000	90.884	ug/g
Cu	65	110.002	0.000	0.000009	0.000	273.369	ug/g
Ge	74	460903.376	460903.376				ug/g
Pb	206	210.004	0.000	0.000003	0.000	186.028	ug/g
Pb	207	173.336	0.000	0.000003	0.000	104.666	ug/g
Pb	208	791.123	0.000	0.000003	0.000	97.990	ug/g
Bi	209	565749.902	565749.902				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	344636.517	47656.883		ug/g
P	31	40056.480	-16346.945		ug/g
S	34	133219.804	-9441.280		ug/g
Cl	35	56382.599	4418.085		ug/g
Cu	63	140.002	-0.000	-0.000015	ug/g
Cu	65	95.001	-0.000	-0.000004	ug/g
Ge	74	453133.733	453133.733		ug/g
Pb	206	165.003	-0.000	-0.000003	ug/g
Pb	207	155.002	0.000	0.000000	ug/g
Pb	208	711.677	0.000	0.000000	ug/g
Bi	209	560816.623	560816.623		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	328908.442	29727.808		ug/g
P	31	40267.129	-16116.296		ug/g
S	34	139815.307	-3045.577		ug/g
Cl	35	56625.632	7661.022		ug/g
Cu	63	125.002	-0.000	-0.000024	ug/g
Cu	65	140.002	0.000	0.000039	ug/g
Ge	74	462859.423	462859.423		ug/g
Pb	206	240.004	0.000	0.000008	ug/g
Pb	207	190.003	0.000	0.000007	ug/g
Pb	208	881.681	0.000	0.000008	ug/g
Bi	209	550060.189	550060.189		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	313030.512	13851.079		ug/g
P	31	46902.336	-9501.089		ug/g
S	34	144006.840	1347.756		ug/g
Cl	35	55713.966	4749.376		ug/g
Cu	63	175.003	-0.000	-0.000000	ug/g
Cu	65	95.001	-0.000	-0.000007	ug/g
Ge	74	466716.970	466716.970		ug/g
Pb	206	225.004	0.000	0.000004	ug/g
Pb	207	175.003	0.000	0.000002	ug/g
Pb	208	800.012	0.000	0.000002	ug/g
Bi	209	566372.896	566372.896		ug/g

001659

ICP-MS Summary Report

Sample ID: 185916-120lfb

Autosampler Position: 67

Sample Date/Time: Wednesday, May 22, 2002 12:27:31
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\185916-120lfb.077
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	356591.734	57412.301				ug/g
P	31	42446.732	-13956.693				ug/g
S	34	137755.069	-4905.815				ug/g
Cl	35	57139.628	6175.017				ug/g
Cu	63	96460.763	0.216	24.727754	1.096	4.433	ug/g
Cu	65	47134.781	0.105	24.314090	0.567	2.331	ug/g
Ge	74	446156.217	446156.217				ug/g
Pb	206	359112.732	0.623	23.847726	0.341	1.429	ug/g
Pb	207	300706.734	0.522	24.642086	1.259	5.107	ug/g
Pb	208	1396533.233	2.425	24.112424	0.591	2.452	ug/g
Bi	209	575668.230	575668.230				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	376120.718	76941.283		ug/g
P	31	41911.609	-14491.515		ug/g
S	34	129995.070	-12665.814		ug/g
Cl	35	57877.584	6912.874		ug/g
Cu	63	99002.857	0.218	24.923617	ug/g
Cu	65	47960.970	0.105	24.310686	ug/g
Ge	74	454089.810	454089.810		ug/g
Pb	206	365023.245	0.625	23.903915	ug/g
Pb	207	287628.514	0.493	23.249106	ug/g
Pb	208	1376458.866	2.357	23.429757	ug/g
Bi	209	583800.673	583800.673		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	353903.531	54724.097		ug/g
P	31	43055.214	-13348.211		ug/g
S	34	142033.999	-620.885		ug/g
Cl	35	58206.664	5432.054		ug/g
Cu	63	92686.992	0.206	23.546713	ug/g
Cu	65	46851.187	0.103	23.748918	ug/g
Ge	74	450956.004	450956.004		ug/g
Pb	206	349635.209	0.614	23.482295	ug/g
Pb	207	301521.792	0.529	24.979786	ug/g
Pb	208	1399078.167	2.458	24.440548	ug/g
Bi	209	569224.842	569224.842		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	339750.955	40571.522		ug/g
P	31	42373.172	-14030.253		ug/g
S	34	141236.139	-1424.745		ug/g
Cl	35	57144.635	6180.025		ug/g
Cu	63	97482.439	0.225	25.712730	ug/g
Cu	65	48672.257	0.108	24.882667	ug/g
Ge	74	433420.836	433420.836		ug/g
Pb	206	362879.853	0.632	24.156968	ug/g
Pb	207	312769.694	0.545	25.997368	ug/g
Pb	208	1413162.846	2.481	24.466868	ug/g
Bi	209	573879.374	573879.374		ug/g

001660

ICP-MS Summary Report

Sample ID: 305336

Autosampler Position: 68

Sample Date/Time: Wednesday, May 22, 2002 12:29:56
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305336.078
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	389885.624	90706.190				ug/g
P	31	127728.077	71324.652				ug/g
S	34	128154.453	-14506.431				ug/g
Cl	35	56294.618	5330.008				ug/g
Cu	63	47315.371	0.114	13.064013	0.374	2.866	ug/g
Cu	65	23876.850	0.058	13.263318	0.342	2.581	ug/g
Ge	74	413320.806	413320.806				ug/g
Pb	206	150360.413	0.294	11.231183	0.220	1.958	ug/g
Pb	207	105529.642	0.206	9.721752	0.357	3.671	ug/g
Pb	208	535256.438	1.046	10.391837	0.260	2.506	ug/g
Bi	209	511247.481	511247.481				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	403287.185	104167.731		ug/g
P	31	127820.550	71417.134		ug/g
S	34	124329.821	-18330.963		ug/g
Cl	35	56823.754	5959.143		ug/g
Cu	63	47047.615	0.116	13.282857	ug/g
Cu	65	23264.180	0.057	13.216183	ug/g
Ge	74	404054.909	404054.909		ug/g
Pb	206	150868.967	0.295	11.259273	ug/g
Pb	207	104305.441	0.204	9.596730	ug/g
Pb	208	536572.176	1.047	10.408003	ug/g
Bi	209	511661.743	511661.743		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	382830.266	83450.832		ug/g
P	31	126239.291	71035.866		ug/g
S	34	124662.982	-17077.902		ug/g
Cl	35	56618.334	5853.724		ug/g
Cu	63	47898.633	0.118	13.277540	ug/g
Cu	65	24426.108	0.059	13.826745	ug/g
Ge	74	411500.313	411500.313		ug/g
Pb	206	148024.413	0.288	10.998577	ug/g
Pb	207	103041.304	0.200	9.441870	ug/g
Pb	208	524217.402	1.019	10.123730	ug/g
Bi	209	513899.994	513899.994		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	383739.440	84560.007		ug/g
P	31	127124.381	70720.957		ug/g
S	34	128450.457	-7219.427		ug/g
Cl	35	55141.767	4177.157		ug/g
Cu	63	47002.666	0.110	12.631842	ug/g
Cu	65	23940.282	0.056	12.947046	ug/g
Ge	74	424407.195	424407.195		ug/g
Pb	206	152187.859	0.299	11.435700	ug/g
Pb	207	109242.162	0.215	10.123654	ug/g
Pb	208	544879.737	1.071	10.643778	ug/g
Bi	209	508180.705	508180.705		ug/g

DMC

001661

ICP-MS Summary Report

Sample ID: 305337

Autosampler Position: 69

Sample Date/Time: Wednesday, May 22, 2002 12:32:22
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305337.079
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	406865.404	107685.970				ug/g
P	31	139092.001	82688.576				ug/g
S	34	126176.384	-16484.500				ug/g
Cl	35	61158.074	10193.464				ug/g
Cu	63	56806.680	0.140	16.049265	0.531	3.309	ug/g
Cu	65	27673.722	0.068	15.731396	0.064	0.408	ug/g
Ge	74	404128.349	404128.349				ug/g
Pb	206	102175.205	0.197	7.524025	0.222	2.947	ug/g
Pb	207	73465.855	0.141	6.669895	0.051	0.769	ug/g
Pb	208	369336.485	0.711	7.068261	0.096	1.353	ug/g
Bi	209	518455.826	518455.826				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	468102.439	188923.005		ug/g
P	31	140791.760	84388.356		ug/g
S	34	130106.075	-12554.809		ug/g
Cl	35	64189.928	13224.817		ug/g
Cu	63	58344.462	0.145	16.630199	ug/g
Cu	65	27536.789	0.069	15.792939	ug/g
Ge	74	400556.689	400556.689		ug/g
Pb	206	102175.107	0.198	7.504980	ug/g
Pb	207	73735.538	0.142	6.679035	ug/g
Pb	208	368420.738	0.708	7.033560	ug/g
Bi	209	519673.389	519673.389		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	368701.308	70521.874		ug/g
P	31	136782.886	80358.481		ug/g
S	34	122191.560	-20480.315		ug/g
Cl	35	60146.952	9182.342		ug/g
Cu	63	56918.734	0.139	16.929643	ug/g
Cu	65	27617.335	0.068	15.864958	ug/g
Ge	74	407932.653	407932.653		ug/g
Pb	206	106125.653	0.191	7.312483	ug/g
Pb	207	74584.634	0.142	6.715870	ug/g
Pb	208	368482.738	0.704	6.994832	ug/g
Bi	209	522633.501	522633.501		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	382782.465	63613.031		ug/g
P	31	138721.337	83317.912		ug/g
S	34	126231.507	-18429.377		ug/g
Cl	35	59137.742	8173.132		ug/g
Cu	63	55156.825	0.136	15.588953	ug/g
Cu	65	27867.042	0.068	15.736292	ug/g
Ge	74	403895.494	403895.494		ug/g
Pb	206	104224.855	0.203	7.754632	ug/g
Pb	207	72097.191	0.140	6.614451	ug/g
Pb	208	371108.982	0.722	7.176380	ug/g
Bi	209	513060.610	513060.610		ug/g

ICP-MS Summary Report

Sample ID: 305338

Autosampler Position: 70

Sample Date/Time: Wednesday, May 22, 2002 12:34:49
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305338.080
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	370097.769	70918.335				ug/g
P	31	96259.850	39856.425				ug/g
S	34	125404.836	-17256.048				ug/g
Cl	35	54715.165	3750.554				ug/g
Cu	63	40227.024	0.098	11.254022	0.449	3.986	ug/g
Cu	65	20075.977	0.049	11.300767	0.405	3.587	ug/g
Ge	74	407988.354	407988.354				ug/g
Pb	206	89287.384	0.170	6.499317	0.030	0.463	ug/g
Pb	207	66012.913	0.126	5.926379	0.203	3.431	ug/g
Pb	208	331075.228	0.630	6.264152	0.093	1.485	ug/g
Bi	209	524787.190	524787.190				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	378110.451	76931.016		ug/g
P	31	96300.397	33896.972		ug/g
S	34	119932.523	-22728.361		ug/g
Cl	35	53319.652	2355.242		ug/g
Cu	63	39391.902	0.094	10.783369	ug/g
Cu	65	19253.130	0.047	10.849097	ug/g
Ge	74	407078.022	407078.022		ug/g
Pb	206	88173.338	0.169	6.466387	ug/g
Pb	207	65515.540	0.124	5.860554	ug/g
Pb	208	332880.479	0.630	6.271827	ug/g
Bi	209	526610.669	526610.669		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	377527.106	78347.673		ug/g
P	31	100780.309	44358.884		ug/g
S	34	125630.015	-16030.669		ug/g
Cl	35	55609.356	4844.746		ug/g
Cu	63	41656.060	0.102	11.643175	ug/g
Cu	65	20865.172	0.050	11.632897	ug/g
Ge	74	408432.982	408432.982		ug/g
Pb	206	89540.829	0.170	6.501111	ug/g
Pb	207	64380.385	0.122	5.764136	ug/g
Pb	208	326619.339	0.620	6.167468	ug/g
Bi	209	526123.187	526123.187		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	356655.749	57478.318		ug/g
P	31	97888.644	41285.420		ug/g
S	34	129881.870	-13008.914		ug/g
Cl	35	55016.283	4051.673		ug/g
Cu	63	40633.110	0.099	11.355522	ug/g
Cu	65	20309.630	0.050	11.420208	ug/g
Ge	74	408457.058	408457.058		ug/g
Pb	206	89146.182	0.171	6.528453	ug/g
Pb	207	66142.814	0.130	6.154446	ug/g
Pb	208	333755.887	0.638	6.353041	ug/g
Bi	209	521627.714	521627.714		ug/g

001663

ICP-MS Summary Report

Sample ID: 305339
Autosampler Position: 71
Sample Date/Time: Wednesday, May 22, 2002 12:37:12
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305339.081
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	376227.681	77048.247				ug/g
	P	31	91077.884	34674.459				ug/g
	S	34	126919.555	-15741.329				ug/g
	Cl	35	55215.469	4250.859				ug/g
⌈	Cu	63	35790.146	0.088	10.057228	0.234	2.329	ug/g
|	Cu	65	17812.944	0.044	10.073001	0.320	3.173	ug/g
⌊>	Ge	74	406213.672	406213.672				ug/g
⌈	Pb	206	83998.762	0.158	6.047648	0.227	3.762	ug/g
|	Pb	207	62250.969	0.117	5.526176	0.162	2.929	ug/g
|	Pb	208	309406.183	0.582	5.789622	0.191	3.296	ug/g
⌊>	Bi	209	530703.314	530703.314				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	391586.524	92419.090		ug/g
	P	31	96938.753	40535.329		ug/g
	S	34	131206.078	-11454.606		ug/g
	Cl	35	56210.932	5246.322		ug/g
⌈	Cu	63	35449.282	0.089	10.176875	ug/g
|	Cu	65	17691.124	0.044	10.218179	ug/g
⌊>	Ge	74	397365.036	397365.036		ug/g
⌈	Pb	206	83096.805	0.153	5.854082	ug/g
|	Pb	207	61582.066	0.113	5.350174	ug/g
|	Pb	208	306575.391	0.564	5.613748	ug/g
⌊>	Bi	209	542000.870	542000.870		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	371722.781	72543.347		ug/g
	P	31	91779.794	35378.370		ug/g
	S	34	124904.910	-17755.874		ug/g
	Cl	35	53018.731	2054.121		ug/g
⌈	Cu	63	35303.922	0.089	10.207433	ug/g
|	Cu	65	17596.130	0.045	10.294215	ug/g
⌊>	Ge	74	394555.900	394555.900		ug/g
⌈	Pb	206	85244.425	0.165	6.296213	ug/g
|	Pb	207	62215.605	0.120	5.868606	ug/g
|	Pb	208	312051.280	0.602	5.992560	ug/g
⌊>	Bi	209	516878.681	516878.681		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	385361.738	66182.305		ug/g
	P	31	84515.103	28111.678		ug/g
	S	34	124447.675	-19013.209		ug/g
	Cl	35	56416.743	5452.133		ug/g
⌈	Cu	63	34617.234	0.085	9.757374	ug/g
|	Cu	65	16051.578	0.042	9.706811	ug/g
⌊>	Ge	74	426720.079	426720.079		ug/g
⌈	Pb	206	83685.055	0.157	5.990648	ug/g
|	Pb	207	62954.036	0.118	5.550748	ug/g
|	Pb	208	309561.869	0.579	5.782559	ug/g
⌊>	Bi	209	533229.562	533229.562		ug/g

001664

ICP-MS Summary Report

Sample ID: 305340

Autosampler Position: 72

Sample Date/Time: Wednesday, May 22, 2002 12:39:31
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305340.082
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	415846.444	116667.011				ug/g
P	31	91697.646	35294.221				ug/g
S	34	120678.878	-21982.006				ug/g
Cl	35	51894.629	930.019				ug/g
Cu	63	142419.788	0.362	41.460530	1.283	3.094	ug/g
Cu	65	70254.729	0.178	41.163609	0.569	1.383	ug/g
Ge	74	393434.776	393434.776				ug/g
Pb	206	29183222.332	54.898	2101.603467	35.993	1.713	ug/g
Pb	207	25436221.477	47.864	2260.116507	94.746	4.192	ug/g
Pb	208	114482818.359	215.371	2143.057174	38.303	1.787	ug/g
Bi	209	531655.862	531655.862				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	416611.563	117432.149		ug/g
P	31	90219.890	33816.465		ug/g
S	34	118480.301	-24200.583		ug/g
Cl	35	52767.802	1803.192		ug/g
Cu	63	144099.881	0.353	40.483400	ug/g
Cu	65	71065.021	0.176	40.507859	ug/g
Ge	74	407703.132	407703.132		ug/g
Pb	206	29516105.124	55.562	2130.509342	ug/g
Pb	207	26071558.747	49.343	2329.982284	ug/g
Pb	208	115225643.747	216.677	2160.983129	ug/g
Bi	209	528368.850	528368.850		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	416050.578	116871.145		ug/g
P	31	92957.383	36553.956		ug/g
S	34	122635.361	-20025.533		ug/g
Cl	35	50738.440	-229.170		ug/g
Cu	63	138231.938	0.358	41.010354	ug/g
Cu	65	69544.556	0.180	41.532498	ug/g
Ge	74	386891.162	386891.162		ug/g
Pb	206	28799588.111	54.049	2099.703143	ug/g
Pb	207	25554212.870	48.066	2298.093384	ug/g
Pb	208	113878758.849	217.072	2159.991207	ug/g
Bi	209	525070.469	525070.469		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	414877.172	115697.738		ug/g
P	31	91915.665	35512.240		ug/g
S	34	120840.902	-21719.902		ug/g
Cl	35	52160.648	1216.036		ug/g
Cu	63	144027.875	0.374	42.907837	ug/g
Cu	65	69554.607	0.180	41.460441	ug/g
Ge	74	386710.033	386710.033		ug/g
Pb	206	29233975.763	53.984	2066.587617	ug/g
Pb	207	24682681.813	45.580	2152.273874	ug/g
Pb	208	114243651.482	210.984	2099.207185	ug/g
Bi	209	541528.247	541528.247		ug/g

001665

ICP-MS Summary Report

Sample ID: 305341

Autosampler Position: 73

Sample Date/Time: Wednesday, May 22, 2002 12:41:51
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305341.083
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	354464.736	55285.302				ug/g
	P	31	75989.626	19586.201				ug/g
	S	34	121877.419	-20783.465				ug/g
	Cl	35	53953.910	2989.300				ug/g
⌈	Cu	63	50096.519	0.124	14.174259	0.158	1.116	ug/g
|	Cu	65	24706.596	0.061	14.068825	0.410	2.916	ug/g
⌊>	Ge	74	403469.242	403469.242				ug/g
⌈	Pb	206	262378.907	0.495	18.925330	0.242	1.280	ug/g
|	Pb	207	209979.096	0.396	18.682402	0.784	4.194	ug/g
|	Pb	208	1012096.431	1.909	18.976156	0.078	0.411	ug/g
⌊>	Bi	209	529835.187	529835.187				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	366402.911	67223.477		ug/g
	P	31	76169.170	21765.745		ug/g
	S	34	118651.967	-23998.917		ug/g
	Cl	35	54740.223	3775.613		ug/g
⌈	Cu	63	49847.313	0.125	14.356532	ug/g
|	Cu	65	25047.109	0.063	14.516845	ug/g
⌊>	Ge	74	396335.305	396335.305		ug/g
⌈	Pb	206	258332.377	0.488	18.660896	ug/g
|	Pb	207	219703.729	0.415	19.578280	ug/g
|	Pb	208	1014836.492	1.917	19.058179	ug/g
⌊>	Bi	209	529069.071	529069.071		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	348029.035	46649.601		ug/g
	P	31	76021.566	13618.481		ug/g
	S	34	124092.671	-18568.013		ug/g
	Cl	35	53716.337	2751.727		ug/g
⌈	Cu	63	50218.613	0.123	14.093841	ug/g
|	Cu	65	24751.671	0.061	13.977987	ug/g
⌊>	Ge	74	406707.025	406707.025		ug/g
⌈	Pb	206	262044.103	0.496	18.978893	ug/g
|	Pb	207	202770.934	0.384	18.114148	ug/g
|	Pb	208	1003885.935	1.901	18.899137	ug/g
⌊>	Bi	209	527679.037	527679.037		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	350962.281	51782.827		ug/g
	P	31	79757.821	23354.397		ug/g
	S	34	122877.421	-19783.463		ug/g
	Cl	35	53405.171	2440.861		ug/g
⌈	Cu	63	50223.631	0.123	14.072404	ug/g
|	Cu	65	24320.928	0.059	13.711561	ug/g
⌊>	Ge	74	407365.397	407365.397		ug/g
⌈	Pb	206	258760.248	0.500	19.136402	ug/g
|	Pb	207	207462.626	0.388	18.356779	ug/g
|	Pb	208	1017567.885	1.909	18.974154	ug/g
⌊>	Bi	209	532787.483	532757.453		ug/g

DMC

001666

ICP-MS Summary Report

Sample ID: 305342
Autosampler Position: 74
Sample Date/Time: Wednesday, May 22, 2002 12:44:12
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305342.084
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	369479.078	70299.645				ug/g
	P	31	82652.575	26249.151				ug/g
	S	34	127055.501	-15605.383				ug/g
	Cl	35	56266.170	5301.559				ug/g
⌈	Cu	63	25277.636	0.060	6.823833	0.118	1.727	ug/g
|	Cu	65	12742.478	0.030	6.922573	0.089	1.280	ug/g
⌊>	Ge	74	421692.605	421692.605				ug/g
⌈	Pb	206	75268.524	0.141	5.408722	0.048	0.896	ug/g
|	Pb	207	54434.071	0.102	4.823522	0.096	1.983	ug/g
|	Pb	208	271785.753	0.510	5.076131	0.055	1.085	ug/g
⌊>	Bi	209	531388.102	531388.102				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	379128.709	79948.275		ug/g
	P	31	82443.027	26039.803		ug/g
	S	34	127046.712	-15612.172		ug/g
	Cl	35	56847.697	5583.046		ug/g
⌈	Cu	63	24816.785	0.060	6.686726	ug/g
|	Cu	65	12410.812	0.030	6.926787	ug/g
⌊>	Ge	74	410337.584	410337.584		ug/g
⌈	Pb	206	75152.910	0.142	5.441968	ug/g
|	Pb	207	54840.808	0.104	4.896878	ug/g
|	Pb	208	272549.586	0.516	5.129535	ug/g
⌊>	Bi	209	527326.363	527326.363		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	377157.531	77976.097		ug/g
	P	31	82248.900	25843.475		ug/g
	S	34	128419.393	-17241.481		ug/g
	Cl	35	55207.010	4242.409		ug/g
⌈	Cu	63	24265.834	0.058	6.667865	ug/g
|	Cu	65	12640.716	0.030	7.006907	ug/g
⌊>	Ge	74	413081.700	413081.700		ug/g
⌈	Pb	206	75866.781	0.142	5.431076	ug/g
|	Pb	207	53435.283	0.100	4.715339	ug/g
|	Pb	208	273071.682	0.511	5.079378	ug/g
⌊>	Bi	209	533540.900	533540.900		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	362150.995	52971.561		ug/g
	P	31	83267.798	26864.374		ug/g
	S	34	128898.398	-13962.488		ug/g
	Cl	35	56843.634	5079.223		ug/g
⌈	Cu	63	26750.289	0.060	6.896908	ug/g
|	Cu	65	13176.205	0.030	6.831833	ug/g
⌊>	Ge	74	441658.551	441658.551		ug/g
⌈	Pb	206	74785.883	0.140	5.353122	ug/g
|	Pb	207	56026.322	0.103	4.856348	ug/g
|	Pb	208	269735.900	0.505	5.019479	ug/g
⌊>	Bi	209	533297.041	533297.041		ug/g

DMC

ICP-MS Summary Report

Sample ID: 305342dup
Autosampler Position: 75
Sample Date/Time: Wednesday, May 22, 2002 12:46:33
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305342dup.085
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	361024.724	61845.290				ug/g
	P	31	77302.714	20899.289				ug/g
	S	34	128253.892	-14406.992				ug/g
	Cl	35	55391.087	4426.477				ug/g
⌈	Cu	63	21306.092	0.050	5.754067	0.096	1.664	ug/g
|	Cu	65	10697.448	0.025	5.811279	0.269	4.624	ug/g
⌊>	Ge	74	421260.804	421260.804				ug/g
⌈	Pb	206	70150.872	0.130	4.967137	0.102	2.052	ug/g
|	Pb	207	51630.315	0.095	4.508070	0.081	1.799	ug/g
|	Pb	208	254739.880	0.471	4.687771	0.046	0.992	ug/g
⌊>	Bi	209	539229.592	539229.592				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	370999.328	71819.894		ug/g
	P	31	78344.213	19940.788		ug/g
	S	34	121062.001	-21598.883		ug/g
	Cl	35	55573.439	4606.629		ug/g
⌈	Cu	63	21651.612	0.050	5.719121	ug/g
|	Cu	65	11084.417	0.026	5.894147	ug/g
⌊>	Ge	74	430544.603	430544.603		ug/g
⌈	Pb	206	70648.440	0.133	5.082268	ug/g
|	Pb	207	51864.485	0.097	4.582291	ug/g
|	Pb	208	264817.867	0.477	4.741432	ug/g
⌊>	Bi	209	532850.842	532850.842		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	363382.178	64202.744		ug/g
	P	31	76305.242	21861.817		ug/g
	S	34	128592.448	-14068.436		ug/g
	Cl	35	56281.209	5316.599		ug/g
⌈	Cu	63	21351.157	0.050	5.680684	ug/g
|	Cu	65	10305.816	0.024	5.510680	ug/g
⌊>	Ge	74	427421.150	427421.150		ug/g
⌈	Pb	206	70408.785	0.129	4.925495	ug/g
|	Pb	207	51257.303	0.094	4.421497	ug/g
|	Pb	208	256277.320	0.466	4.658663	ug/g
⌊>	Bi	209	545707.910	545707.910		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	348892.866	49513.232		ug/g
	P	31	77178.867	20775.263		ug/g
	S	34	135107.226	-7553.658		ug/g
	Cl	35	54316.814	3354.004		ug/g
⌈	Cu	63	20915.509	0.051	5.802397	ug/g
|	Cu	65	10894.108	0.026	6.026809	ug/g
⌊>	Ge	74	405616.658	405616.658		ug/g
⌈	Pb	206	69087.392	0.128	4.892648	ug/g
|	Pb	207	51789.149	0.096	4.520422	ug/g
|	Pb	208	253324.452	0.469	4.662197	ug/g
⌊>	Bi	209	539130.025	539130.025		ug/g

001668

ICP-MS Summary Report

Sample ID: 305342s

Autosampler Position: 76

Sample Date/Time: Wednesday, May 22, 2002 12:48:54
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305342s.086
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	371087.289	71907.856				ug/g
	P	31	81362.069	24958.644				ug/g
	S	34	119328.449	-23332.435				ug/g
	Cl	35	54641.695	3677.085				ug/g
⌈	Cu	63	124864.856	0.298	34.190723	0.259	0.758	ug/g
|	Cu	65	60680.954	0.145	33.444147	0.384	1.149	ug/g
⌊>	Ge	74	417803.173	417803.173				ug/g
⌈	Pb	206	438274.356	0.819	31.324402	1.038	3.313	ug/g
|	Pb	207	349257.128	0.652	30.780540	0.170	0.554	ug/g
|	Pb	208	1663625.406	3.107	30.902955	0.594	1.922	ug/g
⌊>	Bi	209	535389.840	535389.840				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	387344.003	86164.570		ug/g
	P	31	80542.212	24138.787		ug/g
	S	34	126382.661	-16298.223		ug/g
	Cl	35	57627.381	6862.771		ug/g
⌈	Cu	63	126209.021	0.301	34.434707	ug/g
|	Cu	65	62642.668	0.147	33.685051	ug/g
⌊>	Ge	74	425754.816	425754.816		ug/g
⌈	Pb	206	447845.882	0.849	32.487013	ug/g
|	Pb	207	346013.869	0.656	30.859733	ug/g
|	Pb	208	1670071.140	3.166	31.489799	ug/g
⌊>	Bi	209	527310.804	527310.804		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	363869.350	84688.917		ug/g
	P	31	84791.758	28388.313		ug/g
	S	34	117930.943	-24729.841		ug/g
	Cl	35	63555.734	2991.124		ug/g
⌈	Cu	63	125263.205	0.298	34.180838	ug/g
|	Cu	65	60423.117	0.144	33.181161	ug/g
⌊>	Ge	74	419368.050	419368.050		ug/g
⌈	Pb	206	428964.328	0.810	30.995103	ug/g
|	Pb	207	345148.098	0.652	30.761476	ug/g
|	Pb	208	1646135.701	3.108	30.916924	ug/g
⌊>	Bi	209	529380.290	529380.290		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	352048.514	52869.060		ug/g
	P	31	78752.256	22348.831		ug/g
	S	34	113891.743	-26968.141		ug/g
	Cl	35	52541.970	1577.360		ug/g
⌈	Cu	63	121102.342	0.296	33.936623	ug/g
|	Cu	65	58977.078	0.144	33.266226	ug/g
⌊>	Ge	74	406266.643	406266.643		ug/g
⌈	Pb	206	438012.860	0.797	30.491089	ug/g
|	Pb	207	356609.518	0.849	30.620412	ug/g
|	Pb	208	1674569.378	3.046	30.302142	ug/g
⌊>	Bi	209	549478.425	549478.425		ug/g

001669

ICP-MS Summary Report

Sample ID: QC Std 2

Autosampler Position: 2

Sample Date/Time: Wednesday, May 22, 2002 12:51:16
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 2.087
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	334480.770	35301.336				ug/g
	P	31	41494.004	-14909.421				ug/g
	S	34	132054.116	-10606.768				ug/g
	Cl	35	58090.227	7125.617				ug/g
⌈	Cu	63	81445.797	0.181	0.041446	0.000	0.668	ug/g
⌊	Cu	65	39535.028	0.088	0.040506	0.001	2.172	ug/g
>	Ge	74	449090.545	449090.545				ug/g
⌈	Pb	206	316315.771	0.555	0.042444	0.001	3.115	ug/g
|	Pb	207	258579.393	0.453	0.042780	0.000	0.630	ug/g
⌊	Pb	208	1209585.813	2.121	0.042182	0.001	1.684	ug/g
>	Bi	209	569993.998	569993.998				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	349122.991	49843.557		ug/g
	P	31	38334.470	-17068.954		ug/g
	S	34	132033.658	-10627.225		ug/g
	Cl	35	57807.300	6842.688		ug/g
⌈	Cu	63	78696.852	0.180	0.041158	ug/g
⌊	Cu	65	38209.125	0.089	0.041251	ug/g
>	Ge	74	437218.445	437218.445		ug/g
⌈	Pb	206	320299.062	0.568	0.042435	ug/g
|	Pb	207	263653.324	0.457	0.043088	ug/g
⌊	Pb	208	1225146.075	2.122	0.042191	ug/g
>	Bi	209	577091.078	577091.078		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	329368.674	30187.440		ug/g
	P	31	42385.232	-14010.193		ug/g
	S	34	128642.899	-14017.985		ug/g
	Cl	35	60433.159	8468.549		ug/g
⌈	Cu	63	82136.285	0.182	0.041673	ug/g
⌊	Cu	65	39891.018	0.088	0.040731	ug/g
>	Ge	74	450476.105	450476.105		ug/g
⌈	Pb	206	309916.729	0.538	0.041127	ug/g
|	Pb	207	260730.379	0.452	0.042678	ug/g
⌊	Pb	208	1202181.788	2.085	0.041467	ug/g
>	Bi	209	576143.967	576143.967		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	324852.445	25773.012		ug/g
	P	31	42754.308	-13649.116		ug/g
	S	34	138485.790	-7175.084		ug/g
	Cl	35	56030.223	5065.612		ug/g
⌈	Cu	63	83504.175	0.181	0.041528	ug/g
⌊	Cu	65	39504.941	0.088	0.039535	ug/g
>	Ge	74	459579.085	459579.085		ug/g
⌈	Pb	206	318729.523	0.572	0.043771	ug/g
|	Pb	207	251354.475	0.451	0.042577	ug/g
⌊	Pb	208	1201459.575	2.157	0.042867	ug/g
>	Bi	209	556746.950	556746.950		ug/g

001670

ICP-MS Summary Report

Sample ID: QC Std 3

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 12:53:38
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\QC Std 3.088
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	327529.213	28349.779				ug/g
	P	31	42781.311	-13622.113				ug/g
	S	34	142215.939	-444.945				ug/g
	Cl	35	57337.073	6372.463				ug/g
[	Cu	63	143.336	-0.000	-0.000013	0.000	122.917	ug/g
|	Cu	65	95.001	-0.000	-0.000003	0.000	770.961	ug/g
[>	Ge	74	449094.917	449094.917				ug/g
[	Pb	206	278.339	0.000	0.000013	0.000	43.181	ug/g
|	Pb	207	235.004	0.000	0.000014	0.000	27.140	ug/g
|	Pb	208	1011.685	0.001	0.000011	0.000	22.905	ug/g
[>	Bi	209	557001.444	557001.444				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	341916.738	42737.308		ug/g
	P	31	39389.623	-17013.602		ug/g
	S	34	139352.760	-3308.124		ug/g
	Cl	35	57491.024	6528.414		ug/g
[	Cu	63	130.002	-0.000	-0.000021	ug/g
|	Cu	65	80.001	-0.000	-0.000019	ug/g
[>	Ge	74	454108.869	454108.869		ug/g
[	Pb	206	320.007	0.000	0.000018	ug/g
|	Pb	207	255.005	0.000	0.000016	ug/g
|	Pb	208	1076.687	0.001	0.000014	ug/g
[>	Bi	209	546055.276	546055.276		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	324492.154	25312.720		ug/g
	P	31	46009.431	-10393.994		ug/g
	S	34	143735.911	1078.027		ug/g
	Cl	35	57109.495	6144.584		ug/g
[	Cu	63	175.003	0.000	0.000005	ug/g
|	Cu	65	80.001	-0.000	-0.000016	ug/g
[>	Ge	74	437920.567	437920.567		ug/g
[	Pb	206	280.005	0.000	0.000010	ug/g
|	Pb	207	235.004	0.000	0.000014	ug/g
|	Pb	208	1001.665	0.001	0.000011	ug/g
[>	Bi	209	584471.461	584471.461		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	316178.746	16999.312		ug/g
	P	31	42944.881	-13458.544		ug/g
	S	34	143558.145	898.261		ug/g
	Cl	35	57410.701	6446.091		ug/g
[	Cu	63	125.002	-0.000	-0.000023	ug/g
|	Cu	65	125.002	0.000	0.000029	ug/g
[>	Ge	74	455255.194	455255.194		ug/g
[	Pb	206	255.005	0.000	0.000009	ug/g
|	Pb	207	215.004	0.000	0.000011	ug/g
|	Pb	208	956.684	0.000	0.000009	ug/g
[>	Bi	209	556477.562	556477.562		ug/g

DMC

ICP-MS Summary Report

Sample ID: 305342sd

Autosampler Position: 77

Sample Date/Time: Wednesday, May 22, 2002 12:56:00
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305342sd.089
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	367073.763	67894.330				ug/g
	P	31	78888.282	22484.857				ug/g
	S	34	121652.006	-21008.878				ug/g
	Cl	35	54141.320	3176.709				ug/g
⌈	Cu	63	110320.450	0.257	29.449576	0.200	0.680	ug/g
|	Cu	65	55677.200	0.130	29.914069	0.200	0.669	ug/g
⌊>	Ge	74	428373.303	428373.303				ug/g
⌈	Pb	206	430582.152	0.814	31.125186	0.535	1.718	ug/g
|	Pb	207	345455.038	0.653	30.807313	1.099	3.568	ug/g
|	Pb	208	1622663.570	3.066	30.487562	0.521	1.710	ug/g
⌊>	Bi	209	529020.097	529020.097				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	372656.853	73477.219		ug/g
	P	31	77440.099	21036.674		ug/g
	S	34	122479.017	-20161.667		ug/g
	Cl	35	58638.893	4674.063		ug/g
⌈	Cu	63	111316.136	0.258	29.360278	ug/g
|	Cu	65	56763.115	0.131	30.143985	ug/g
⌊>	Ge	74	433420.543	433420.543		ug/g
⌈	Pb	206	432302.763	0.829	31.729187	ug/g
|	Pb	207	353896.053	0.670	32.011874	ug/g
|	Pb	208	1623312.411	3.115	30.969055	ug/g
⌊>	Bi	209	520853.772	520853.772		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	366300.329	67120.695		ug/g
	P	31	76364.428	19961.003		ug/g
	S	34	120893.903	-21866.981		ug/g
	Cl	35	52883.229	1918.619		ug/g
⌈	Cu	63	109645.257	0.256	29.677774	ug/g
|	Cu	65	54735.204	0.129	29.820556	ug/g
⌊>	Ge	74	422461.572	422461.572		ug/g
⌈	Pb	206	426091.506	0.803	30.711569	ug/g
|	Pb	207	344369.636	0.648	30.551600	ug/g
|	Pb	208	1601136.120	3.011	29.854085	ug/g
⌊>	Bi	209	531595.330	531595.330		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	362264.306	63084.674		ug/g
	P	31	82840.320	28436.895		ug/g
	S	34	121783.099	-20877.785		ug/g
	Cl	35	53802.037	2937.426		ug/g
⌈	Cu	63	109987.956	0.256	29.302676	ug/g
|	Cu	65	55533.263	0.128	29.777658	ug/g
⌊>	Ge	74	429237.795	429237.795		ug/g
⌈	Pb	206	432452.187	0.809	30.934773	ug/g
|	Pb	207	336399.425	0.633	29.856164	ug/g
|	Pb	208	1643542.178	3.074	30.559536	ug/g
⌊>	Bi	209	534511.189	534511.189		ug/g

001672

ICP-MS Summary Report

Sample ID: 305342L

Autosampler Position: 78

Sample Date/Time: Wednesday, May 22, 2002 12:58:22
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 3e+001
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305342L.090
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	337750.750	38571.317				ug/g
	P	31	51580.481	-4822.944				ug/g
	S	34	128565.816	-14095.068				ug/g
	Cl	35	53838.522	2873.912				ug/g
⌈	Cu	63	5547.800	0.012	6.855410	0.305	4.454	ug/g
|	Cu	65	2743.625	0.006	6.791629	0.446	6.562	ug/g
⌊>	Ge	74	449695.401	449695.401				ug/g
⌈	Pb	206	15720.475	0.027	5.178042	0.087	1.683	ug/g
|	Pb	207	11139.454	0.019	4.519980	0.176	3.891	ug/g
|	Pb	208	56248.460	0.097	4.814793	0.090	1.866	ug/g
⌊>	Bi	209	573875.213	573875.213				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	357078.058	57896.625		ug/g
	P	31	50569.853	-5633.572		ug/g
	S	34	127806.143	-14774.741		ug/g
	Cl	35	55663.791	4698.180		ug/g
⌈	Cu	63	5371.063	0.012	6.641603	ug/g
|	Cu	65	2745.291	0.006	6.804684	ug/g
⌊>	Ge	74	449747.306	449747.306		ug/g
⌈	Pb	206	15263.302	0.027	5.077717	ug/g
|	Pb	207	11154.465	0.019	4.570176	ug/g
|	Pb	208	55766.216	0.097	4.820780	ug/g
⌊>	Bi	209	568122.015	568122.015		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	330267.317	31087.883		ug/g
	P	31	55858.555	-543.870		ug/g
	S	34	125510.186	-17150.688		ug/g
	Cl	35	52863.158	1898.846		ug/g
⌈	Cu	63	5711.196	0.013	7.205125	ug/g
|	Cu	65	2860.315	0.006	7.230666	ug/g
⌊>	Ge	74	440929.941	440929.941		ug/g
⌈	Pb	206	16274.427	0.027	5.234451	ug/g
|	Pb	207	10828.288	0.018	4.324479	ug/g
|	Pb	208	58533.784	0.095	4.722132	ug/g
⌊>	Bi	209	567815.414	567815.414		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	325906.876	26729.442		ug/g
	P	31	48312.038	-8091.388		ug/g
	S	34	132301.118	-10358.785		ug/g
	Cl	35	52988.820	2024.010		ug/g
⌈	Cu	63	5561.136	0.012	6.719501	ug/g
|	Cu	65	2829.287	0.005	6.339556	ug/g
⌊>	Ge	74	456408.955	456408.955		ug/g
⌈	Pb	206	15823.695	0.027	5.221756	ug/g
|	Pb	207	11334.808	0.020	4.685287	ug/g
|	Pb	208	58445.370	0.099	4.801466	ug/g
⌊>	Bi	209	585668.211	585668.211		ug/g

DMC

001673

ICP-MS Summary Report

Sample ID: 305342pds

Autosampler Position: 79

Sample Date/Time: Wednesday, May 22, 2002 13:00:45
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305342pds.091
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	368698.345	69518.911				ug/g
	P	31	80435.108	24031.684				ug/g
	S	34	122578.301	-20082.583				ug/g
	Cl	35	54924.329	3959.719				ug/g
⌈	Cu	63	109079.475	0.260	29.835584	1.218	4.084	ug/g
|	Cu	65	53503.986	0.128	29.437718	0.839	2.849	ug/g
⌊>	Ge	74	418686.551	418686.551				ug/g
⌈	Pb	206	409405.114	0.753	28.816135	1.283	4.452	ug/g
|	Pb	207	328048.942	0.603	28.475036	0.834	2.929	ug/g
|	Pb	208	1561744.683	2.872	28.569474	0.914	3.201	ug/g
⌊>	Bi	209	543975.555	543975.555				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	375892.072	76412.639		ug/g
	P	31	83504.175	27100.750		ug/g
	S	34	123225.402	-19435.482		ug/g
	Cl	35	56185.634	5221.223		ug/g
⌈	Cu	63	111570.093	0.271	31.065742	ug/g
|	Cu	65	54253.388	0.132	30.405630	ug/g
⌊>	Ge	74	410844.510	410844.510		ug/g
⌈	Pb	206	407804.381	0.778	29.712721	ug/g
|	Pb	207	327310.391	0.624	29.437388	ug/g
|	Pb	208	1560988.071	2.974	29.584780	ug/g
⌊>	Bi	209	524697.137	524697.137		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	364700.145	65520.712		ug/g
	P	31	79184.595	22781.271		ug/g
	S	34	120209.842	-22451.042		ug/g
	Cl	35	53003.878	2039.085		ug/g
⌈	Cu	63	108686.805	0.260	29.811658	ug/g
|	Cu	65	51026.478	0.125	28.923100	ug/g
⌊>	Ge	74	406279.063	406279.063		ug/g
⌈	Pb	206	399883.430	0.714	27.348606	ug/g
|	Pb	207	321505.518	0.592	27.963801	ug/g
|	Pb	208	1564506.886	2.795	27.810821	ug/g
⌊>	Bi	209	559413.150	559413.150		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	365902.617	66623.383		ug/g
	P	31	78606.455	22203.030		ug/g
	S	34	124209.650	-18361.225		ug/g
	Cl	35	55583.478	4818.668		ug/g
⌈	Cu	63	109811.528	0.250	28.629351	ug/g
|	Cu	65	55232.116	0.126	28.984423	ug/g
⌊>	Ge	74	438836.078	438836.078		ug/g
⌈	Pb	206	420827.530	0.784	29.389078	ug/g
|	Pb	207	325350.916	0.584	28.023920	ug/g
|	Pb	208	1589738.992	2.846	28.313021	ug/g
⌊>	Bi	209	547816.369	547816.369		ug/g

SMC

ICP-MS Summary Report

Sample ID: 305343

Autosampler Position: 81

Sample Date/Time: Wednesday, May 22, 2002 13:03:09
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305343.092
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	353216.439	54037.005				ug/g
	P	31	79307.047	22903.622				ug/g
	S	34	120924.845	-21736.039				ug/g
	Cl	35	54758.629	3794.019				ug/g
⌈	Cu	63	24654.849	0.058	6.635720	0.159	2.401	ug/g
⌊	Cu	65	12413.850	0.029	6.720845	0.125	1.858	ug/g
>	Ge	74	422436.345	422436.345				ug/g
⌈	Pb	206	51637.015	0.097	3.713868	0.100	2.706	ug/g
⌊	Pb	207	35275.556	0.066	3.128185	0.162	5.172	ug/g
⌊	Pb	208	184091.436	0.346	3.440841	0.079	2.286	ug/g
>	Bi	209	529636.084	529636.084				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	374919.747	75740.314		ug/g
	P	31	78169.008	21755.580		ug/g
	S	34	120043.450	-22817.434		ug/g
	Cl	35	54819.379	3554.769		ug/g
⌈	Cu	63	23870.333	0.059	6.713868	ug/g
⌊	Cu	65	12165.316	0.030	6.665002	ug/g
>	Ge	74	405846.350	405846.350		ug/g
⌈	Pb	206	52336.215	0.099	3.786649	ug/g
⌊	Pb	207	35690.839	0.068	3.209817	ug/g
⌊	Pb	208	185633.798	0.351	3.490473	ug/g
>	Bi	209	526382.483	526382.483		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	342162.522	42983.088		ug/g
	P	31	76576.269	22172.864		ug/g
	S	34	118045.979	-25818.305		ug/g
	Cl	35	54644.658	3680.249		ug/g
⌈	Cu	63	25417.846	0.059	6.741028	ug/g
⌊	Cu	65	12460.556	0.029	6.845478	ug/g
>	Ge	74	428620.163	428620.163		ug/g
⌈	Pb	206	51606.568	0.096	3.755726	ug/g
⌊	Pb	207	36035.783	0.069	3.252621	ug/g
⌊	Pb	208	184102.202	0.351	3.481582	ug/g
>	Bi	209	523323.075	523323.075		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	342567.049	43387.615		ug/g
	P	31	81185.846	24782.421		ug/g
	S	34	126685.504	-15975.380		ug/g
	Cl	35	55111.651	4147.040		ug/g
⌈	Cu	63	24576.387	0.056	6.452446	ug/g
⌊	Cu	65	12585.676	0.029	6.452058	ug/g
>	Ge	74	432842.523	432842.523		ug/g
⌈	Pb	206	50968.261	0.094	3.599226	ug/g
⌊	Pb	207	33800.276	0.062	2.841618	ug/g
⌊	Pb	208	182538.306	0.337	3.358167	ug/g
>	Bi	209	539202.693	539202.693		ug/g

DMC

001675

ICP-MS Summary Report

Sample ID: 305344

Autosampler Position: 81

Sample Date/Time: Wednesday, May 22, 2002 13:05:33
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305344.093
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	355659.886	56480.452				ug/g
	P	31	82582.440	26179.016				ug/g
	S	34	127617.629	-15043.255				ug/g
	Cl	35	56945.550	5980.940				ug/g
⌈	Cu	63	24873.560	0.057	6.556612	0.185	2.817	ug/g
|	Cu	65	12285.404	0.028	6.513270	0.170	2.616	ug/g
⌊>	Ge	74	431221.698	431221.698				ug/g
⌈	Pb	206	51678.847	0.098	3.752419	0.015	0.397	ug/g
|	Pb	207	35374.104	0.067	3.167157	0.096	3.017	ug/g
|	Pb	208	183600.328	0.349	3.465517	0.074	2.133	ug/g
⌊>	Bi	209	524529.726	524529.726				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	370080.954	70901.520		ug/g
	P	31	86431.536	30028.113		ug/g
	S	34	123296.008	-19364.875		ug/g
	Cl	35	57506.448	6831.838		ug/g
⌈	Cu	63	24270.843	0.055	6.343395	ug/g
|	Cu	65	12385.490	0.028	6.511139	ug/g
⌊>	Ge	74	434760.619	434760.619		ug/g
⌈	Pb	206	50569.853	0.089	3.767484	ug/g
|	Pb	207	35684.620	0.069	3.275619	ug/g
|	Pb	208	183234.538	0.357	3.547920	ug/g
⌊>	Bi	209	511195.484	511195.484		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	347698.869	48519.435		ug/g
	P	31	81573.048	25189.621		ug/g
	S	34	126695.583	-15865.291		ug/g
	Cl	35	56377.670	4413.069		ug/g
⌈	Cu	63	25548.079	0.058	6.659888	ug/g
|	Cu	65	12105.248	0.028	6.343966	ug/g
⌊>	Ge	74	438031.227	438031.227		ug/g
⌈	Pb	206	52657.385	0.096	3.737703	ug/g
|	Pb	207	35750.109	0.066	3.130499	ug/g
|	Pb	208	184698.394	0.343	3.405089	ug/g
⌊>	Bi	209	538524.814	538524.814		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	349199.836	50020.402		ug/g
	P	31	79742.737	23339.313		ug/g
	S	34	132881.287	-9799.597		ug/g
	Cl	35	57862.523	6897.913		ug/g
⌈	Cu	63	24801.759	0.056	6.666553	ug/g
|	Cu	65	12365.473	0.029	6.684484	ug/g
⌊>	Ge	74	422873.249	422873.249		ug/g
⌈	Pb	206	51606.284	0.096	3.752069	ug/g
|	Pb	207	34677.384	0.066	3.095353	ug/g
|	Pb	208	182948.061	0.347	3.443842	ug/g
⌊>	Bi	209	525869.080	525869.080		ug/g

001676

ICP-MS Summary Report

Sample ID: 305345

Autosampler Position: 82

Sample Date/Time: Wednesday, May 22, 2002 13:07:57
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305345.094
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	363630.483	64451.049				ug/g
	P	31	82744.022	26340.597				ug/g
	S	34	125067.192	-17593.692				ug/g
	Cl	35	56505.442	5540.832				ug/g
⌈	Cu	63	19929.094	0.046	5.286663	0.072	1.369	ug/g
|	Cu	65	10127.031	0.023	5.398345	0.186	3.452	ug/g
⌊>	Ge	74	428266.330	428266.330				ug/g
⌈	Pb	206	50058.102	0.092	3.525294	0.141	4.013	ug/g
|	Pb	207	33649.942	0.062	2.920688	0.111	3.813	ug/g
|	Pb	208	174663.935	0.321	3.195948	0.054	1.681	ug/g
⌊>	Bi	209	541342.026	541342.026				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	380514.655	61335.421		ug/g
	P	31	75861.648	19458.223		ug/g
	S	34	122373.114	-20287.770		ug/g
	Cl	35	57370.540	6405.930		ug/g
⌈	Cu	63	18473.456	0.046	5.318541	ug/g
|	Cu	65	9586.292	0.023	5.248070	ug/g
⌊>	Ge	74	415814.912	415814.912		ug/g
⌈	Pb	206	46826.784	0.086	3.404211	ug/g
|	Pb	207	32572.417	0.059	2.798659	ug/g
|	Pb	208	173466.921	0.316	3.142642	ug/g
⌊>	Bi	209	546818.691	546818.691		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	360500.504	61321.071		ug/g
	P	31	84072.498	27669.074		ug/g
	S	34	132099.282	-10561.822		ug/g
	Cl	35	56366.545	5401.035		ug/g
⌈	Cu	63	20109.344	0.045	5.203829	ug/g
|	Cu	65	10769.185	0.024	5.606838	ug/g
⌊>	Ge	74	438888.146	438888.146		ug/g
⌈	Pb	206	49806.474	0.091	3.490660	ug/g
|	Pb	207	33970.662	0.062	2.846583	ug/g
|	Pb	208	174665.152	0.321	3.194722	ug/g
⌊>	Bi	209	541565.352	541565.352		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	348676.090	50696.656		ug/g
	P	31	86297.918	31684.493		ug/g
	S	34	120729.200	-21931.884		ug/g
	Cl	35	55779.241	4814.631		ug/g
⌈	Cu	63	20204.480	0.047	5.337620	ug/g
|	Cu	65	10053.637	0.023	5.340129	ug/g
⌊>	Ge	74	429907.931	429907.931		ug/g
⌈	Pb	206	51739.040	0.096	3.680790	ug/g
|	Pb	207	34406.728	0.064	3.016810	ug/g
|	Pb	208	175829.732	0.327	3.250258	ug/g
⌊>	Bi	209	535824.035	535824.035		ug/g

DMC

001677

ICP-MS Summary Report

Sample ID: crdl 0.2

Autosampler Position: 3

Sample Date/Time: Wednesday, May 22, 2002 13:10:21
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\crdl 0.2.095
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	336209.215	37029.781				ug/g
	P	31	44996.955	-11406.469				ug/g
	S	34	135863.000	-6797.884				ug/g
	Cl	35	59454.063	8489.453				ug/g
⌈	Cu	63	636.687	0.001	0.000242	0.000	15.052	ug/g
|	Cu	65	320.007	0.000	0.000230	0.000	16.073	ug/g
⌊>	Ge	74	445165.867	445165.867				ug/g
⌈	Pb	206	1901.813	0.003	0.000227	0.000	9.137	ug/g
|	Pb	207	1576.770	0.002	0.000233	0.000	5.491	ug/g
|	Pb	208	7373.003	0.012	0.000230	0.000	2.406	ug/g
⌊>	Bi	209	575833.902	575833.902				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	355866.418	56886.985		ug/g
	P	31	51553.368	-4850.068		ug/g
	S	34	136010.746	-6850.136		ug/g
	Cl	35	60016.404	9051.793		ug/g
⌈	Cu	63	595.018	0.001	0.000226	ug/g
|	Cu	65	275.005	0.000	0.000190	ug/g
⌊>	Ge	74	435854.343	435854.343		ug/g
⌈	Pb	206	1870.141	0.003	0.000224	ug/g
|	Pb	207	1610.107	0.003	0.000239	ug/g
|	Pb	208	7160.727	0.011	0.000224	ug/g
⌊>	Bi	209	573297.802	573297.802		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	332196.296	33016.862		ug/g
	P	31	42102.370	-14301.054		ug/g
	S	34	132089.168	-10571.715		ug/g
	Cl	35	58578.576	8614.968		ug/g
⌈	Cu	63	715.025	0.001	0.000283	ug/g
|	Cu	65	328.007	0.001	0.000237	ug/g
⌊>	Ge	74	443573.623	443573.623		ug/g
⌈	Pb	206	2085.173	0.003	0.000249	ug/g
|	Pb	207	1500.094	0.002	0.000218	ug/g
|	Pb	208	7587.497	0.012	0.000235	ug/g
⌊>	Bi	209	580786.439	580786.439		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	320564.930	21385.496		ug/g
	P	31	41335.127	-15068.298		ug/g
	S	34	139489.082	-3171.802		ug/g
	Cl	35	58766.210	7801.800		ug/g
⌈	Cu	63	600.019	0.001	0.000215	ug/g
|	Cu	65	360.008	0.001	0.000263	ug/g
⌊>	Ge	74	456069.435	456069.435		ug/g
⌈	Pb	206	1750.125	0.003	0.000208	ug/g
|	Pb	207	1620.106	0.003	0.000241	ug/g
|	Pb	208	7340.784	0.012	0.000230	ug/g
⌊>	Bi	209	573417.468	573417.465		ug/g

DMC

ICP-MS Summary Report

Sample ID: crdl 1.0

Autosampler Position: 4

Sample Date/Time: Wednesday, May 22, 2002 13:12:45
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\crdl 1.0.096
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	338339.334	39159.900				ug/g
	P	31	43003.415	-13400.009				ug/g
	S	34	141734.467	-926.417				ug/g
	Cl	35	59368.727	8404.116				ug/g
⌈	Cu	63	2375.221	0.005	0.001116	0.000	2.344	ug/g
|	Cu	65	1185.061	0.002	0.001107	0.000	3.544	ug/g
⌊>	Ge	74	452502.139	452502.139				ug/g
⌈	Pb	206	8329.181	0.014	0.001099	0.000	4.221	ug/g
|	Pb	207	7031.801	0.012	0.001145	0.000	3.467	ug/g
|	Pb	208	33375.114	0.058	0.001146	0.000	3.832	ug/g
⌊>	Bi	209	566988.626	566988.626				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	339710.964	40531.531		ug/g
	P	31	42147.504	-14255.921		ug/g
	S	34	137515.062	-5148.822		ug/g
	Cl	35	60623.967	9658.357		ug/g
⌈	Cu	63	2435.232	0.005	0.001146	ug/g
|	Cu	65	1145.067	0.002	0.001066	ug/g
⌊>	Ge	74	452751.816	452751.816		ug/g
⌈	Pb	206	8062.367	0.014	0.001100	ug/g
|	Pb	207	6931.751	0.012	0.001165	ug/g
|	Pb	208	33295.507	0.058	0.001161	ug/g
⌊>	Bi	209	549256.075	549255.075		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	331060.367	31680.933		ug/g
	P	31	42718.204	-13684.221		ug/g
	S	34	151760.641	9127.757		ug/g
	Cl	35	58746.127	7781.817		ug/g
⌈	Cu	63	2325.212	0.005	0.001094	ug/g
|	Cu	65	1215.064	0.002	0.001144	ug/g
⌊>	Ge	74	450311.448	450311.448		ug/g
⌈	Pb	206	8782.774	0.015	0.001144	ug/g
|	Pb	207	7286.920	0.012	0.001171	ug/g
|	Pb	208	34199.578	0.058	0.001162	ug/g
⌊>	Bi	209	573219.751	573219.751		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	324246.871	23067.237		ug/g
	P	31	44143.538	-12250.866		ug/g
	S	34	135899.688	-6761.186		ug/g
	Cl	35	58736.086	7771.476		ug/g
⌈	Cu	63	2365.219	0.005	0.001106	ug/g
|	Cu	65	1195.062	0.002	0.001112	ug/g
⌊>	Ge	74	454443.154	454443.154		ug/g
⌈	Pb	206	8142.491	0.014	0.001051	ug/g
|	Pb	207	6898.733	0.012	0.001099	ug/g
|	Pb	208	32829.958	0.055	0.001097	ug/g
⌊>	Bi	209	576491.041	576491.041		ug/g

DMC

ICP-MS Summary Report

Sample ID: icsa

Autosampler Position: 10

Sample Date/Time: Wednesday, May 22, 2002 13:15:08
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\icsa.097
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	811740.773	512561.339				ug/g
	P	31	2318749.054	2262345.630				ug/g
	S	34	419847.759	277186.875				ug/g
	Cl	35	919920.335	868955.725				ug/g
⌈	Cu	63	3643.835	0.008	0.001920	0.000	4.383	ug/g
|	Cu	65	3818.882	0.009	0.004133	0.000	3.265	ug/g
⌊>	Ge	74	416078.000	416078.000				ug/g
⌈	Pb	206	358.341	0.000	0.000022	0.000	24.328	ug/g
|	Pb	207	263.338	0.000	0.000017	0.000	14.029	ug/g
|	Pb	208	1348.921	0.001	0.000022	0.000	4.244	ug/g
⌊>	Bi	209	576748.207	576748.207				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	837874.270	536894.836		ug/g
	P	31	2393447.868	2337044.243		ug/g
	S	34	421007.726	278348.842		ug/g
	Cl	35	903136.984	852172.374		ug/g
⌈	Cu	63	3770.535	0.009	0.002014	ug/g
|	Cu	65	3840.555	0.009	0.004208	ug/g
⌊>	Ge	74	411178.175	411178.175		ug/g
⌈	Pb	206	315.007	0.000	0.000018	ug/g
|	Pb	207	250.005	0.000	0.000015	ug/g
|	Pb	208	1341.699	0.001	0.000021	ug/g
⌊>	Bi	209	582348.140	582348.140		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	811209.118	512029.882		ug/g
	P	31	2330487.606	2274084.183		ug/g
	S	34	421239.410	278578.526		ug/g
	Cl	35	916877.602	867712.992		ug/g
⌈	Cu	63	3485.460	0.008	0.001852	ug/g
|	Cu	65	3856.556	0.009	0.004216	ug/g
⌊>	Ge	74	411864.455	411864.455		ug/g
⌈	Pb	206	390.009	0.000	0.000026	ug/g
|	Pb	207	280.006	0.000	0.000020	ug/g
|	Pb	208	1353.364	0.001	0.000021	ug/g
⌊>	Bi	209	582795.858	582795.858		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	786136.932	486959.498		ug/g
	P	31	2232311.688	2175908.463		ug/g
	S	34	417296.140	274635.256		ug/g
	Cl	35	937946.420	886861.810		ug/g
⌈	Cu	63	3675.510	0.008	0.001594	ug/g
|	Cu	65	3760.532	0.009	0.003977	ug/g
⌊>	Ge	74	425193.371	425193.371		ug/g
⌈	Pb	206	370.008	0.000	0.000025	ug/g
|	Pb	207	260.005	0.000	0.000018	ug/g
|	Pb	208	1351.898	0.001	0.000023	ug/g
⌊>	Bi	209	585100.622	585100.622		ug/g

DMC

ICP-MS Summary Report

Sample ID: icsab

Autosampler Position: 11

Sample Date/Time: Wednesday, May 22, 2002 13:17:30
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\icsab.098
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	791273.215	492093.782				ug/g
	P	31	2142866.629	2086463.204				ug/g
	S	34	409641.728	266980.844				ug/g
	Cl	35	862671.431	811706.820				ug/g
⌈	Cu	63	39269.291	0.101	0.023064	0.000	0.640	ug/g
|	Cu	65	21673.318	0.056	0.025621	0.000	1.807	ug/g
⌊>	Ge	74	388500.252	388500.252				ug/g
⌈	Pb	206	306.673	0.000	0.000017	0.000	20.776	ug/g
|	Pb	207	256.672	0.000	0.000019	0.000	51.699	ug/g
|	Pb	208	1126.134	0.001	0.000016	0.000	16.035	ug/g
⌊>	Bi	209	548617.125	548617.125				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	787518.813	488337.378		ug/g
	P	31	2126553.708	2072150.284		ug/g
	S	34	407921.027	265260.143		ug/g
	Cl	35	838472.912	787508.302		ug/g
⌈	Cu	63	39209.125	0.100	0.022840	ug/g
|	Cu	65	21851.918	0.056	0.025738	ug/g
⌊>	Ge	74	389985.738	389985.738		ug/g
⌈	Pb	206	340.007	0.000	0.000020	ug/g
|	Pb	207	290.003	0.000	0.000006	ug/g
|	Pb	208	1081.588	0.001	0.000013	ug/g
⌊>	Bi	209	567211.691	567211.691		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	790108.267	490929.634		ug/g
	P	31	2178376.103	2121972.678		ug/g
	S	34	416384.532	273703.648		ug/g
	Cl	35	875551.394	824586.764		ug/g
⌈	Cu	63	39379.585	0.101	0.023025	ug/g
|	Cu	65	22102.306	0.056	0.026015	ug/g
⌊>	Ge	74	390238.114	390238.114		ug/g
⌈	Pb	206	305.006	0.000	0.000018	ug/g
|	Pb	207	260.006	0.000	0.000023	ug/g
|	Pb	208	1153.356	0.001	0.000018	ug/g
⌊>	Bi	209	536566.131	536566.131		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	796193.586	497014.132		ug/g
	P	31	2121876.075	2065268.651		ug/g
	S	34	404639.628	261978.742		ug/g
	Cl	35	873989.888	823025.376		ug/g
⌈	Cu	63	39218.153	0.101	0.023226	ug/g
|	Cu	65	21965.731	0.054	0.028111	ug/g
⌊>	Ge	74	385275.905	385275.905		ug/g
⌈	Pb	206	275.005	0.000	0.000013	ug/g
|	Pb	207	290.006	0.000	0.000025	ug/g
|	Pb	208	1143.358	0.001	0.000017	ug/g
⌊>	Bi	209	542073.352	542073.352		ug/g

001681

ICP-MS Summary Report

Sample ID: ccv

Autosampler Position: 2

Sample Date/Time: Wednesday, May 22, 2002 13:19:53
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\ccv.099
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	305160.570	5981.136				ug/g
	P	31	40986.066	-15417.358				ug/g
	S	34	128399.302	-14261.582				ug/g
	Cl	35	56691.218	5726.608				ug/g
⌈	Cu	63	71266.401	0.180	0.041283	0.001	2.310	ug/g
|	Cu	65	34802.694	0.088	0.040581	0.001	3.160	ug/g
⌊>	Ge	74	394685.192	394685.192				ug/g
⌈	Pb	206	306888.457	0.554	0.042354	0.002	4.032	ug/g
|	Pb	207	247460.711	0.446	0.042121	0.001	3.049	ug/g
|	Pb	208	1177093.912	2.123	0.042224	0.001	3.293	ug/g
⌊>	Bi	209	554333.473	554333.473				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	306434.735	7255.302		ug/g
	P	31	44549.801	-11855.624		ug/g
	S	34	124850.305	-17710.879		ug/g
	Cl	35	56475.016	7510.405		ug/g
⌈	Cu	63	72710.283	0.181	0.041487	ug/g
|	Cu	65	34328.834	0.085	0.039414	ug/g
⌊>	Ge	74	400566.372	400566.372		ug/g
⌈	Pb	206	303257.557	0.552	0.042245	ug/g
|	Pb	207	246072.823	0.452	0.042628	ug/g
|	Pb	208	1175991.064	2.142	0.042565	ug/g
⌊>	Bi	209	548613.580	548613.580		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	311180.296	11960.862		ug/g
	P	31	40768.564	-15614.871		ug/g
	S	34	131483.707	-11167.177		ug/g
	Cl	35	55734.065	4709.454		ug/g
⌈	Cu	63	70338.439	0.184	0.042118	ug/g
|	Cu	65	34812.713	0.091	0.041953	ug/g
⌊>	Ge	74	381705.394	381705.394		ug/g
⌈	Pb	206	313751.070	0.577	0.044114	ug/g
|	Pb	207	248372.974	0.456	0.043074	ug/g
|	Pb	208	1187457.371	2.182	0.043398	ug/g
⌊>	Bi	209	543791.868	543791.868		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	297866.678	-1292.756		ug/g
	P	31	37619.844	-19783.560		ug/g
	S	34	128753.694	-13908.990		ug/g
	Cl	35	55064.574	4899.964		ug/g
|	Cu	63	70750.470	0.178	0.040244	ug/g
|	Cu	65	35240.835	0.089	0.040275	ug/g
⌊>	Ge	74	401783.810	401783.810		ug/g
⌈	Pb	206	303676.744	0.532	0.040704	ug/g
|	Pb	207	245036.335	0.431	0.040661	ug/g
|	Pb	208	1167833.300	2.046	0.040686	ug/g
⌊>	Bi	209	570394.873	570394.873		ug/g

ICP-MS Summary Report

Sample ID: ccb

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 13:22:15
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\ccb.100
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	306366.560	7187.126				ug/g
	P	31	43264.659	-13138.765				ug/g
	S	34	137839.919	-4820.965				ug/g
	Cl	35	53329.900	2365.290				ug/g
⌈	Cu	63	183.336	0.000	0.000015	0.000	57.216	ug/g
|	Cu	65	98.335	0.000	0.000009	0.000	285.586	ug/g
⌊>	Ge	74	412810.470	412810.470				ug/g
⌈	Pb	206	216.671	0.000	0.000005	0.000	161.842	ug/g
|	Pb	207	208.337	0.000	0.000010	0.000	62.484	ug/g
|	Pb	208	841.125	0.000	0.000006	0.000	45.658	ug/g
⌊>	Bi	209	549979.279	549979.279				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	322983.524	23404.090		ug/g
	P	31	40693.282	-15710.143		ug/g
	S	34	135014.841	-6746.043		ug/g
	Cl	35	52998.857	2034.047		ug/g
⌈	Cu	63	205.004	0.000	0.000024	ug/g
|	Cu	65	85.001	-0.000	-0.000008	ug/g
⌊>	Ge	74	427618.830	427618.830		ug/g
⌈	Pb	206	170.003	-0.000	-0.000002	ug/g
|	Pb	207	180.003	0.000	0.000006	ug/g
|	Pb	208	773.345	0.000	0.000003	ug/g
⌊>	Bi	209	560359.183	560359.183		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	301399.245	2218.812		ug/g
	P	31	40592.998	-15810.429		ug/g
	S	34	139620.356	-3040.526		ug/g
	Cl	35	52878.211	1913.600		ug/g
⌈	Cu	63	180.003	0.000	0.000017	ug/g
|	Cu	65	85.001	-0.000	-0.000003	ug/g
⌊>	Ge	74	401271.456	401271.456		ug/g
⌈	Pb	206	270.005	0.000	0.000013	ug/g
|	Pb	207	195.003	0.000	0.000009	ug/g
|	Pb	208	858.347	0.000	0.000007	ug/g
⌊>	Bi	209	535253.218	535253.218		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	294718.911	-4482.523		ug/g
	P	31	48507.700	-7898.725		ug/g
	S	34	137864.561	-4678.323		ug/g
	Cl	35	54112.833	3148.223		ug/g
⌈	Cu	63	165.003	0.000	0.000005	ug/g
|	Cu	65	125.002	0.000	0.000040	ug/g
⌊>	Ge	74	409541.323	409541.323		ug/g
⌈	Pb	206	210.004	0.000	0.000004	ug/g
|	Pb	207	250.005	0.000	0.000017	ug/g
|	Pb	208	891.882	0.000	0.000007	ug/g
⌊>	Bi	209	554328.437	554329.437		ug/g

001683

ICP-MS Summary Report

Sample ID: 305052pds

Autosampler Position: 24

Sample Date/Time: Wednesday, May 22, 2002 13:28:53
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305052pds.101
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	346828.718	47649.284				ug/g
	P	31	57862.704	1459.279				ug/g
	S	34	131389.568	-11271.316				ug/g
	Cl	35	50135.001	-829.609				ug/g
⌈	Cu	63	96150.114	0.234	26.816144	0.260	0.969	ug/g
|	Cu	65	48300.357	0.118	27.114018	0.622	2.293	ug/g
⌊>	Ge	74	410034.758	410034.758				ug/g
⌈	Pb	206	453355.847	0.831	31.800472	1.292	4.064	ug/g
|	Pb	207	367489.628	0.674	31.790048	0.824	2.593	ug/g
|	Pb	208	1715955.830	3.146	31.286565	0.957	3.058	ug/g
⌊>	Bi	209	545490.911	545490.911				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	363515.506	64336.074		ug/g
	P	31	59107.817	2704.193		ug/g
	S	34	134279.469	-8381.415		ug/g
	Cl	35	49937.628	-1026.982		ug/g
⌈	Cu	63	95634.997	0.232	26.564576	ug/g
|	Cu	65	47163.262	0.114	26.396957	ug/g
⌊>	Ge	74	411366.825	411366.825		ug/g
⌈	Pb	206	448677.097	0.800	30.614458	ug/g
|	Pb	207	370794.099	0.680	31.138152	ug/g
|	Pb	208	1705758.183	3.035	30.185632	ug/g
⌊>	Bi	209	561726.347	561726.347		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	332053.020	32873.887		ug/g
	P	31	54869.954	-1733.471		ug/g
	S	34	129581.424	-13069.460		ug/g
	Cl	35	51006.405	41.798		ug/g
⌈	Cu	63	96515.800	0.234	26.766640	ug/g
|	Cu	65	49310.448	0.119	27.526371	ug/g
⌊>	Ge	74	412336.844	412336.844		ug/g
⌈	Pb	206	467278.855	0.867	33.177858	ug/g
|	Pb	207	358854.514	0.656	31.515338	ug/g
|	Pb	208	1728432.743	3.210	31.917491	ug/g
⌊>	Bi	209	538631.743	538631.743		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	344917.827	45738.193		ug/g
	P	31	59810.541	3407.116		ug/g
	S	34	130297.013	-12363.071		ug/g
	Cl	35	49460.969	-1503.841		ug/g
⌈	Cu	63	96299.445	0.237	27.097218	ug/g
|	Cu	65	48407.380	0.119	27.416726	ug/g
⌊>	Ge	74	406400.805	406400.805		ug/g
⌈	Pb	206	443111.587	0.826	31.609070	ug/g
|	Pb	207	371820.270	0.693	32.716653	ug/g
|	Pb	208	1712875.564	3.193	31.756571	ug/g
⌊>	Bi	209	536114.641	536114.641		ug/g

001684

ICP-MS Summary Report

Sample ID: 305325pds

Autosampler Position: 50

Sample Date/Time: Wednesday, May 22, 2002 13:31:16
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305325pds.102
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
C	12	364624.244	65444.810				ug/g
P	31	76251.281	19847.856				ug/g
S	34	127008.731	-15652.153				ug/g
Cl	35	48437.466	-2527.144				ug/g
Cu	63	112623.380	0.266	30.493240	0.336	1.101	ug/g
Cu	65	54924.276	0.130	29.945374	1.149	3.838	ug/g
Ge	74	422845.163	422845.163				ug/g
Pb	206	420438.333	0.760	29.107772	0.552	1.897	ug/g
Pb	207	335400.356	0.606	28.637761	0.192	0.671	ug/g
Pb	208	1581471.142	2.859	28.454707	0.167	0.586	ug/g
Bi	209	552885.148	552885.148				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	379811.496	80632.064		ug/g
P	31	81175.789	24772.364		ug/g
S	34	122484.060	-20176.824		ug/g
Cl	35	46818.750	-2145.851		ug/g
Cu	63	110776.864	0.269	30.615028	ug/g
Cu	65	55568.498	0.138	31.124691	ug/g
Ge	74	411510.157	411510.157		ug/g
Pb	206	421692.492	0.765	29.303693	ug/g
Pb	207	336106.209	0.610	28.809172	ug/g
Pb	208	1570578.693	2.850	28.368715	ug/g
Bi	209	550761.453	550761.453		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	361500.308	62320.876		ug/g
P	31	76319.664	21916.460		ug/g
S	34	120171.869	-12469.215		ug/g
Cl	35	47920.718	-3043.893		ug/g
Cu	63	113832.661	0.263	30.145338	ug/g
Cu	65	54087.738	0.125	28.828813	ug/g
Ge	74	432234.919	432234.919		ug/g
Pb	206	423823.395	0.771	29.535188	ug/g
Pb	207	330584.765	0.602	28.430170	ug/g
Pb	208	1564287.355	2.848	28.348373	ug/g
Bi	209	540948.624	540948.624		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	352560.926	53381.492		ug/g
P	31	69258.169	12854.744		ug/g
S	34	128370.462	-14290.422		ug/g
Cl	35	46572.921	-2391.669		ug/g
Cu	63	113258.316	0.266	30.518355	ug/g
Cu	65	55096.593	0.129	29.582817	ug/g
Ge	74	424790.413	424790.413		ug/g
Pb	206	415898.111	0.744	28.484437	ug/g
Pb	207	330500.094	0.607	28.673842	ug/g
Pb	208	1569547.178	2.878	28.647032	ug/g
Bi	209	558945.368	558945.368		ug/g

SMC

ICP-MS Summary Report

Sample ID: 305340 x500

Autosampler Position: 83

Sample Date/Time: Wednesday, May 22, 2002 13:33:41
Initial Sample Quantity (mg): 5e+002
Sample Prep Volume (mL): 5e+001
Aliquot Volume (mL): 1
Diluted To Volume (mL): 5e+002
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\305340 x500.103
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	330053.835	30874.402				ug/g
	P	31	43951.495	-12451.930				ug/g
	S	34	133892.861	-8768.023				ug/g
	Cl	35	48233.449	-2731.161				ug/g
⌈	Cu	63	1686.784	0.003	40.059267	4.744	11.843	ug/g
|	Cu	65	860.035	0.002	40.511414	4.175	10.305	ug/g
⌊>	Ge	74	435567.421	435567.421				ug/g
⌈	Pb	206	326920.301	0.562	2150.408915	145.861	6.783	ug/g
|	Pb	207	270196.412	0.464	2190.747110	25.267	1.153	ug/g
|	Pb	208	1251291.295	2.149	2138.586274	56.366	2.636	ug/g
⌊>	Bi	209	582043.631	582043.631				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	354293.012	55113.579		ug/g
	P	31	42729.234	-13674.191		ug/g
	S	34	137898.738	-4782.148		ug/g
	Cl	35	49044.533	-1920.077		ug/g
⌈	Cu	63	1820.134	0.004	43.802756	ug/g
|	Cu	65	910.038	0.002	43.387926	ug/g
⌊>	Ge	74	433531.931	433531.931		ug/g
⌈	Pb	206	324867.769	0.558	2165.246179	ug/g
|	Pb	207	263755.188	0.458	2197.696529	ug/g
|	Pb	208	1245027.294	2.147	2136.302157	ug/g
⌊>	Bi	209	574208.306	574208.306		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	325024.220	26744.766		ug/g
	P	31	41706.207	-14897.218		ug/g
	S	34	130323.042	-12357.843		ug/g
	Cl	35	47725.082	-3239.548		ug/g
⌈	Cu	63	1765.127	0.004	41.851100	ug/g
|	Cu	65	905.038	0.002	42.411762	ug/g
⌊>	Ge	74	440110.812	440110.812		ug/g
⌈	Pb	206	345470.750	0.596	2268.284318	ug/g
|	Pb	207	271452.442	0.470	2217.762611	ug/g
|	Pb	208	1268520.453	2.195	2183.966021	ug/g
⌊>	Bi	209	577632.311	577632.311		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	309844.274	10764.840		ug/g
	P	31	47419.043	-8904.382		ug/g
	S	34	133456.805	-9204.078		ug/g
	Cl	35	47930.751	-3033.859		ug/g
⌈	Cu	63	1475.091	0.003	34.723946	ug/g
|	Cu	65	765.028	0.002	35.724556	ug/g
⌊>	Ge	74	433058.521	433058.521		ug/g
⌈	Pb	206	310322.354	0.522	1997.696248	ug/g
|	Pb	207	275361.816	0.483	2188.762189	ug/g
|	Pb	208	1240316.137	2.088	2075.490865	ug/g
⌊>	Bi	209	584290.276	584290.276		ug/g

001686

ICP-MS Summary Report

Sample ID: crdl 0.2

Autosampler Position: 3

Sample Date/Time: Wednesday, May 22, 2002 13:36:05
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\crdl 0.2.104
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	330711.391	31531.957				ug/g
	P	31	42461.908	-13941.517				ug/g
	S	34	143787.693	1126.809				ug/g
	Cl	35	57492.778	6528.168				ug/g
⌈	Cu	63	638.354	0.001	0.000251	0.000	16.912	ug/g
|	Cu	65	306.673	0.000	0.000225	0.000	8.602	ug/g
⌊>	Ge	74	434157.306	434157.306				ug/g
⌈	Pb	206	1890.144	0.003	0.000229	0.000	4.004	ug/g
|	Pb	207	1600.106	0.003	0.000240	0.000	7.765	ug/g
|	Pb	208	7181.282	0.011	0.000227	0.000	2.944	ug/g
⌊>	Bi	209	567976.246	567976.246				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	346034.157	46854.723		ug/g
P	31	40723.368	-15680.057		ug/g
S	34	140645.347	-2015.537		ug/g
Cl	35	56023.174	7058.564		ug/g
Cu	63	728.026	0.001	0.000299	ug/g
Cu	65	325.007	0.001	0.000247	ug/g
Ge	74	430741.542	430741.542		ug/g
Pb	206	1770.127	0.003	0.000220	ug/g
Pb	207	1620.108	0.003	0.000251	ug/g
Pb	208	7117.388	0.012	0.000232	ug/g
Bi	209	552190.050	552190.050		ug/g

Repeat 2

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	323438.853	24258.219		ug/g
P	31	45252.010	-11151.415		ug/g
S	34	182258.807	9597.723		ug/g
Cl	35	55422.854	4456.244		ug/g
Cu	63	605.019	0.001	0.000252	ug/g
Cu	65	300.006	0.000	0.000217	ug/g
Ge	74	435601.227	435601.227		ug/g
Pb	206	1660.143	0.003	0.000229	ug/g
Pb	207	1660.113	0.003	0.000251	ug/g
Pb	208	7234.066	0.012	0.000230	ug/g
Bi	209	565386.614	565386.614		ug/g

Repeat 3

Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
C	12	322861.382	23481.926		ug/g
P	31	41410.345	-14993.080		ug/g
S	34	138459.124	-4201.760		ug/g
Cl	35	59032.506	8087.696		ug/g
Cu	63	565.018	0.001	0.000231	ug/g
Cu	65	295.006	0.000	0.000211	ug/g
Ge	74	436129.150	436129.150		ug/g
Pb	206	2020.183	0.003	0.000238	ug/g
Pb	207	1520.096	0.002	0.000219	ug/g
Pb	208	7192.393	0.011	0.000219	ug/g
Bi	209	584352.066	584352.066		ug/g

001687

ICP-MS Summary Report

Sample ID: crdl 1.0

Autosampler Position: 4

Sample Date/Time: Wednesday, May 22, 2002 13:38:29
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\crdl 1.0.105
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	320610.054	21430.620				ug/g
	P	31	42450.164	-13953.261				ug/g
	S	34	137856.850	-4804.034				ug/g
	Cl	35	56309.685	5345.074				ug/g
⌈	Cu	63	2258.535	0.005	0.001118	0.000	3.812	ug/g
|	Cu	65	1126.722	0.002	0.001111	0.000	8.636	ug/g
⌊>	Ge	74	429465.023	429465.023				ug/g
⌈	Pb	206	8475.932	0.014	0.001103	0.000	0.899	ug/g
|	Pb	207	6938.422	0.012	0.001113	0.000	1.701	ug/g
|	Pb	208	32679.782	0.056	0.001106	0.000	1.428	ug/g
⌊>	Bi	209	574777.067	574777.067				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	331053.481	32674.027		ug/g
	P	31	42122.430	-14280.985		ug/g
	S	34	134804.363	-7856.501		ug/g
	Cl	35	56738.015	5773.408		ug/g
⌈	Cu	63	2175.187	0.005	0.001071	ug/g
|	Cu	65	1090.052	0.002	0.001067	ug/g
⌊>	Ge	74	430840.739	430840.739		ug/g
⌈	Pb	206	8402.554	0.015	0.001111	ug/g
|	Pb	207	6711.643	0.012	0.001094	ug/g
|	Pb	208	32656.297	0.058	0.001123	ug/g
⌊>	Bi	209	565662.211	565662.211		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	318765.309	19585.875		ug/g
	P	31	44830.051	-11773.373		ug/g
	S	34	138459.124	-4201.780		ug/g
	Cl	35	56018.283	4051.873		ug/g
⌈	Cu	63	2265.202	0.005	0.001152	ug/g
|	Cu	65	1200.062	0.003	0.001221	ug/g
⌊>	Ge	74	418837.255	418837.255		ug/g
⌈	Pb	206	8502.615	0.014	0.001092	ug/g
|	Pb	207	7141.056	0.012	0.001132	ug/g
|	Pb	208	32709.857	0.055	0.001062	ug/g
⌊>	Bi	209	582233.610	582233.610		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	311211.392	12031.958		ug/g
	P	31	40586.010	-15805.414		ug/g
	S	34	140307.041	-2353.843		ug/g
	Cl	35	57174.755	6210.145		ug/g
⌈	Cu	63	2335.214	0.005	0.001132	ug/g
|	Cu	65	1090.052	0.002	0.001045	ug/g
⌊>	Ge	74	436817.075	436817.075		ug/g
⌈	Pb	206	8522.627	0.014	0.001108	ug/g
|	Pb	207	6961.766	0.012	0.001114	ug/g
|	Pb	208	32671.391	0.056	0.001102	ug/g
⌊>	Bi	209	576435.379	576435.379		ug/g

001688

ICP-MS Summary Report

Sample ID: icsa

Autosampler Position: 10

Sample Date/Time: Wednesday, May 22, 2002 13:40:52
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\icsa.106
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	812565.174	513385.740				ug/g
	P	31	2297622.456	2241219.032				ug/g
	S	34	426994.616	284333.732				ug/g
	Cl	35	877951.636	826987.026				ug/g
⌈	Cu	63	3523.803	0.008	0.001877	0.000	0.231	ug/g
|	Cu	65	3943.918	0.009	0.004323	0.000	2.743	ug/g
⌊>	Ge	74	410999.978	410999.978				ug/g
⌈	Pb	206	348.341	0.000	0.000022	0.000	28.906	ug/g
|	Pb	207	285.006	0.000	0.000022	0.000	27.784	ug/g
|	Pb	208	1326.141	0.001	0.000022	0.000	15.889	ug/g
⌊>	Bi	209	564976.057	564976.057				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	830459.487	531280.054		ug/g
	P	31	2322836.567	2286235.182		ug/g
	S	34	424570.919	281910.035		ug/g
	Cl	35	871680.044	820715.434		ug/g
⌈	Cu	63	3565.486	0.008	0.001880	ug/g
|	Cu	65	4015.604	0.009	0.004334	ug/g
⌊>	Ge	74	417599.713	417598.715		ug/g
⌈	Pb	206	325.007	0.000	0.000019	ug/g
|	Pb	207	310.006	0.000	0.000026	ug/g
|	Pb	208	1355.032	0.001	0.000023	ug/g
⌊>	Bi	209	564034.704	564034.704		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	799717.405	500538.051		ug/g
	P	31	2181303.802	2134900.477		ug/g
	S	34	409386.519	266705.035		ug/g
	Cl	35	871090.688	820126.058		ug/g
⌈	Cu	63	3555.478	0.008	0.001879	ug/g
|	Cu	65	4075.622	0.010	0.004435	ug/g
⌊>	Ge	74	414301.276	414301.276		ug/g
⌈	Pb	206	400.010	0.000	0.000029	ug/g
|	Pb	207	300.006	0.000	0.000025	ug/g
|	Pb	208	1400.033	0.001	0.000025	ug/g
⌊>	Bi	209	562386.583	562386.583		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	807518.550	508339.117		ug/g
	P	31	2378924.881	2322821.456		ug/g
	S	34	447046.410	304385.526		ug/g
	Cl	35	891084.195	840119.585		ug/g
⌈	Cu	63	3430.446	0.008	0.001872	ug/g
|	Cu	65	3740.527	0.009	0.004199	ug/g
⌊>	Ge	74	401138.845	401138.845		ug/g
⌈	Pb	206	320.007	0.000	0.000018	ug/g
|	Pb	207	245.005	0.000	0.000018	ug/g
|	Pb	208	1223.390	0.001	0.000018	ug/g
⌊>	Bi	209	566506.865	566506.865		ug/g

001689

ICP-MS Summary Report

Sample ID: icsab

Autosampler Position: 11

Sample Date/Time: Wednesday, May 22, 2002 13:43:14
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\icsab.107
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	756977.528	457798.095				ug/g
	P	31	2091617.140	2035213.715				ug/g
	S	34	391827.892	249167.008				ug/g
	Cl	35	826653.751	775689.141				ug/g
⌈	Cu	63	37654.951	0.097	0.022174 - ICSA	0.001	2.393	ug/g
|	Cu	65	20858.766	0.054	0.024722	0.001	2.281	ug/g
⌊>	Ge	74	387466.782	387466.782				ug/g
⌈	Pb	206	268.339	0.000	0.000012	0.000	12.457	ug/g
|	Pb	207	265.005	0.000	0.000020	0.000	18.904	ug/g
|	Pb	208	1082.799	0.001	0.000014	0.000	4.012	ug/g
⌊>	Bi	209	551074.026	551074.026				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	737227.756	428046.322		ug/g
	P	31	2012917.065	1956813.840		ug/g
	S	34	386189.440	243538.556		ug/g
	Cl	35	842097.071	791132.466		ug/g
⌈	Cu	63	38121.176	0.097	0.022156	ug/g
|	Cu	65	21451.306	0.054	0.025101	ug/g
⌊>	Ge	74	392480.712	392480.712		ug/g
⌈	Pb	206	280.005	0.000	0.000011	ug/g
|	Pb	207	270.005	0.000	0.000021	ug/g
|	Pb	208	1071.667	0.001	0.000014	ug/g
⌊>	Bi	209	545463.847	545463.847		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	779552.235	480372.801		ug/g
	P	31	2136402.729	2079999.308		ug/g
	S	34	405585.338	262904.454		ug/g
	Cl	35	834637.787	783673.177		ug/g
⌈	Cu	63	38086.062	0.099	0.022712	ug/g
|	Cu	65	20820.369	0.054	0.024991	ug/g
⌊>	Ge	74	382616.363	382616.363		ug/g
⌈	Pb	206	280.006	0.000	0.000013	ug/g
|	Pb	207	240.004	0.000	0.000015	ug/g
|	Pb	208	1096.888	0.001	0.000015	ug/g
⌊>	Bi	209	548977.078	548977.078		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	754152.564	464673.160		ug/g
	P	31	2125531.926	2068128.201		ug/g
	S	34	383718.899	241058.015		ug/g
	Cl	35	803228.395	752261.784		ug/g
⌈	Cu	63	36757.586	0.095	0.021651	ug/g
|	Cu	65	20304.622	0.052	0.024074	ug/g
⌊>	Ge	74	387293.253	387293.253		ug/g
⌈	Pb	206	265.005	0.000	0.000011	ug/g
|	Pb	207	285.006	0.000	0.000022	ug/g
|	Pb	208	1080.021	0.001	0.000014	ug/g
⌊>	Bi	209	557781.153	557781.153		ug/g

001690

ICP-MS Summary Report

Sample ID: ccv

Autosampler Position: 2

Sample Date/Time: Wednesday, May 22, 2002 13:45:36
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\ccv.108
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	303530.552	4351.118				ug/g
	P	31	42284.971	-14118.453				ug/g
	S	34	125041.166	-17619.718				ug/g
	Cl	35	55103.292	4138.682				ug/g
⌈	Cu	63	68891.450	0.176	0.040234	0.001	1.271	ug/g
|	Cu	65	34052.597	0.087	0.040012	0.001	2.663	ug/g
⌊>	Ge	74	391354.910	391354.910				ug/g
⌈	Pb	206	289447.921	0.531	0.040658	0.001	3.490	ug/g
|	Pb	207	240812.039	0.442	0.041709	0.000	0.768	ug/g
|	Pb	208	1134254.406	2.082	0.041405	0.001	1.727	ug/g
⌊>	Bi	209	544540.731	544540.731				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	314021.928	14842.494		ug/g
	P	31	47042.766	-9360.627		ug/g
	S	34	123069.062	-19581.822		ug/g
	Cl	35	54089.954	3705.344		ug/g
⌈	Cu	63	67260.877	0.175	0.040007	ug/g
|	Cu	65	32412.051	0.084	0.038793	ug/g
⌊>	Ge	74	384263.356	384263.356		ug/g
⌈	Pb	206	285711.510	0.552	0.042245	ug/g
|	Pb	207	236951.294	0.445	0.042038	ug/g
|	Pb	208	1129405.858	2.123	0.042226	ug/g
⌊>	Bi	209	531564.203	531564.203		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	298489.063	-590.370		ug/g
	P	31	39680.868	-16522.437		ug/g
	S	34	125876.642	-16964.242		ug/g
	Cl	35	55719.006	4754.396		ug/g
⌈	Cu	63	70207.797	0.174	0.039876	ug/g
|	Cu	65	35409.183	0.088	0.040477	ug/g
⌊>	Ge	74	402370.823	402370.823		ug/g
⌈	Pb	206	284456.950	0.516	0.039512	ug/g
|	Pb	207	241613.460	0.439	0.041389	ug/g
|	Pb	208	1137721.743	2.068	0.041080	ug/g
⌊>	Bi	209	550392.636	550392.636		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	286060.664	-1066.770		ug/g
	P	31	39931.128	-16472.297		ug/g
	S	34	126377.794	-16263.090		ug/g
	Cl	35	54920.916	3956.306		ug/g
|	Cu	63	69197.878	0.178	0.040820	ug/g
|	Cu	65	34338.566	0.088	0.040765	ug/g
⌊>	Ge	74	387430.551	387430.551		ug/g
⌈	Pb	206	290175.302	0.526	0.040215	ug/g
|	Pb	207	243671.385	0.442	0.041589	ug/g
|	Pb	208	1135835.617	2.057	0.040910	ug/g
⌊>	Bi	209	551665.355	551665.355		ug/g

001691

ICP-MS Summary Report

Sample ID: ccb

Autosampler Position: 1

Sample Date/Time: Wednesday, May 22, 2002 13:47:58
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Number of Replicates: 3
Sample File: C:\elandata\Sample\y22so-a1.sam
Method File: c:\elandata\Method\TriMatrix Solid114.mth
Dataset File: c:\elandata\dataset\y22so-a1\ccb.109
Tuning File: C:\elandata\Tuning\22may2002.tun
Optimization File: C:\elandata\Optimize\22may2002.dac

Mean Concentration

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Conc. Mean	Conc. SD	Conc. RSD	Sample Unit
	C	12	295762.186	-3417.248				ug/g
	P	31	42094.136	-14309.288				ug/g
	S	34	131529.097	-11131.787				ug/g
	Cl	35	53395.161	2430.551				ug/g
⌈	Cu	63	158.336	0.000	0.000006	0.000	222.951	ug/g
|	Cu	65	83.334	-0.000	-0.000003	0.000	195.651	ug/g
⌊>	Ge	74	392569.383	392569.383				ug/g
⌈	Pb	206	211.670	0.000	0.000004	0.000	60.480	ug/g
|	Pb	207	188.336	0.000	0.000006	0.000	6.694	ug/g
|	Pb	208	795.568	0.000	0.000004	0.000	38.948	ug/g
⌊>	Bi	209	551750.037	551750.037				ug/g

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Replicates

Repeat 1

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	300587.399	1407.965		ug/g
	P	31	39900.208	-16803.218		ug/g
	S	34	133371.009	-9289.875		ug/g
	Cl	35	54067.582	3103.052		ug/g
⌈	Cu	63	160.002	0.000	0.000008	ug/g
|	Cu	65	80.001	-0.000	-0.000005	ug/g
⌊>	Ge	74	388248.207	388248.207		ug/g
⌈	Pb	206	215.004	0.000	0.000004	ug/g
|	Pb	207	195.003	0.000	0.000007	ug/g
|	Pb	208	820.013	0.000	0.000004	ug/g
⌊>	Bi	209	564538.056	564538.056		ug/g

Repeat 2

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	296763.653	-2415.780		ug/g
	P	31	42933.849	-13868.775		ug/g
	S	34	130060.864	-12600.220		ug/g
	Cl	35	53992.376	3027.767		ug/g
⌈	Cu	63	135.002	-0.000	-0.000009	ug/g
|	Cu	65	90.001	0.000	0.000004	ug/g
⌊>	Ge	74	398347.413	398347.413		ug/g
⌈	Pb	206	225.004	0.000	0.000006	ug/g
|	Pb	207	185.003	0.000	0.000007	ug/g
|	Pb	208	818.346	0.000	0.000005	ug/g
⌊>	Bi	209	540749.560	540749.560		ug/g

Repeat 3

	Analyte	Mass	Meas. Intensity	Net Intensity	Concentration	Sample Unit
	C	12	289935.504	-9243.929		ug/g
	P	31	44148.554	-12264.871		ug/g
	S	34	131155.617	-11505.267		ug/g
	Cl	35	52125.444	1160.834		ug/g
⌈	Cu	63	180.003	0.000	0.000019	ug/g
|	Cu	65	80.001	-0.000	-0.000008	ug/g
⌊>	Ge	74	391112.528	391112.528		ug/g
⌈	Pb	206	195.003	0.000	0.000002	ug/g
|	Pb	207	185.003	0.000	0.000008	ug/g
|	Pb	208	748.344	0.000	0.000002	ug/g
⌊>	Bi	209	549981.495	549981.495		ug/g

001692

SECTION - I

PREPARATION LOGS / MISCELLANEOUS

INORGANIC (METALS) FURNACE-AA/ICP/ICPMS/MERCURY DATA

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Oc 5-MAY-2002

METALS DIGESTION BENCHSHEET

Par eter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL USEPA-3050B
Test: 2218.1-2.1

Date run: 05/16/02
Analyst: DSS
Hours:
Stock Std: ICB 8.63.4 ICB 6.79.12

Batch# 185802

Lab Due... Submittal	Client... COC QC	Bottles	Sample Parameters C F H R		Digested?
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305052 AlT •	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305053 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305054 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305055 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305056 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305057 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305058 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305059 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305060 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 17,18	0 0 0 0	305061 AlT	✓

00127694

5/17

15-MAY-02

METALS PRETREATMENT BENCHSHEET

Test #: 2218.01- 2.01
Parameter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 10
Act anal hrs:
Stock std #: Me8.63.4

Owner: MSS
Date run: 05/16/02
Supervisor:
QC Batch #: I85502

Comments: @ 95°C HotBlock #84
15% HNO3 1101090 10% HCl 4100030 H2O2 00510 Lot C2013

Client Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/~~vol~~ grams	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1 6807-13 1Z	305052	YES	LV5	MSS	05/16/02	.4999 .4996 DUP .5003 MS .4997 MSD	50mL		Me8634 Me0.79.12	1500uL		
Stone & Webster Engineering Corp 35988- 1 6807-13 14	305053	YES	LV5			.5002						
Stone & Webster Engineering Corp 35988- 1 6807-13 6F	305054	YES	LV5			.5001						
Stone & Webster Engineering Corp 35988- 1 6807-13 6C	305055	YES	LV5			.4999						
Stone & Webster Engineering Corp 35988- 1 6807-13 3C	305056	YES	LV5			.5004						
Stone & Webster Engineering Corp 35988- 1 6807-13 2B	305057	YES	LV5			.4997						
Stone & Webster Engineering Corp 35988- 1 6807-13 6B	305058	YES	LV5			.4996						
Stone & Webster Engineering Corp 35988- 1 6807-13 8E	305059	YES	LV5			.4995						
Stone & Webster Engineering Corp 35988- 1 6807-13 8E	305060	YES	LV5			.5004						
MPB:	L			MSS	05/16/02							
LFB: Stk	2											
SPK1: Stk	Smp 305052								Me8.63.4 Me0.79.12	+500uL		
SPK2: Stk	Smp											
DUP:	Smp											

TRIMATRIX LABORATORIES, INC.

001695

15-MAY-02

METALS PRETREATMENT BENCHSHEET

001696

Test #: 2218.01- 2.01
Parameter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 10
Act anal hrs:
Stock std #: Me 8.63.4

Owner: MSS
Date run: 05/16/02
Supervisor:
QC Batch #: 185802

Comments: @ 95°C HOTBLOCK #84
15% HNO3 1101090 10% HCl 4100030 H2O2 001510 LotC 2073

Client.....

Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/~~vol~~ grams	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1 6807-13 1D	305061	YES	LV5	MSS	05/16/02	0.5001	50 mls					

MPB:									
LFB: Stk									
SPK1: Stk Smp									
SPk2: Stk Smp									
DUP: Smp									

15m7 J66t15m7 !66t

2002-MAY-16 16:54 BATCH DETAIL REPORT -- METALS LABORATORY ANALYTICAL BATCH # 185802 PAGE 1 OF 1

001697

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
185802	16-MAY-02	MSS	1	YES	YES	D/ICP/3050/SOL	SOIL	USEPA-3050B	0	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
												METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	1.000	-	-116	05/16/02	MSS	305052	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	2.000	-	-116	05/16/02	MSS	305053	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	3.000	-	-116	05/16/02	MSS	305054	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	4.000	-	-116	05/16/02	MSS	305055	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	5.000	-	-116	05/16/02	MSS	305056	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	6.000	-	-116	05/16/02	MSS	305057	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	7.000	-	-116	05/16/02	MSS	305058	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	8.000	-	-116	05/16/02	MSS	305059	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	9.000	-	-116	05/16/02	MSS	305060	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	10.000	-	-116	05/16/02	MSS	305061	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B

06:05 17-MAY-2002 METALS DIGESTION BENCHSHEET PAGE 1

Parameter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL USEPA-3050B
Test: 2218.1-2.1

Date run: 05/17/02
Analyst: MSS
Hours:
Stock Std: Hg 6.79.12
Hg 8.63.4

Batch # 185857

001698

Lab Due... Submittal	Client..... COC QC	Bottles	C F H R	Sample Parameters	Digested?
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305316 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305317 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305318 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305319 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305320 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305321 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305322 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305323 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305324 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305325 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305326 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305327 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305328 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305329 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305330 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305331 AlT	✓

DA 5120

06:05 17-MAY-2002

METALS DIGESTION BENCHSHEET

Parameter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL USEPA-3050B
Test: 2218.1-2.1

Date run: 05/17/02
Analyst: HSS
Hours:
Stock Std: LLC6.79.12

Batch # 185857

Lab Due... Submittal	Client..... COC QC	Bottles	Sample Parameters C F H R		Digested*
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305332 A1T	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305333 A1T	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305334 A1T	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305335 A1T	✓

001699

17-MAY-02

METALS PRETREATMENT BENCHSHEET

001700

Test #: 2218.01- 2.01
Parameter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 20
Act anal hrs:
Stock std #: Mob. 79.12

Owner: MSS
Date run: 05/17/02
Supervisor:
QC Batch #: 185857

Comments: @95°C HOTBLOCK #84
15% HNO_3 1101090 10% HCl 4101100 H_2O_2 001510 Lot C2104

Client / Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/~~vol~~ gran	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1 6731-2 5AW	305316	YES	LV5	MSS	05/17/02	.4998	50mb					
Stone & Webster Engineering Corp 35988- 1 6731-2 4BN	305317	YES	LV5			.5000						
Stone & Webster Engineering Corp 35988- 1 6731-2 3CW	305318	YES	LV5			.5002						
Stone & Webster Engineering Corp 35988- 1 6731-2 3CA	305319	YES	LV5			.5002						
Stone & Webster Engineering Corp 35988- 1 6731-2 2BW	305320	YES	LV5			.5001						
Stone & Webster Engineering Corp 35988- 1 6731-2 1DW	305321	YES	LV5			.4995						
Stone & Webster Engineering Corp 35988- 1 6731-2 3DN	305322	YES	LV5			.5002						
Stone & Webster Engineering Corp 35988- 1 6731-2 5CN	305323	YES	LV5			.4998						
Stone & Webster Engineering Corp 35988- 1 6739 2AWPO	305324	YES	LV5			.4995						

MPB:

LFB: Stk

SPK1: Stk Smp

SPk2: Stk Smp

DUP: Smp

TRIMATRIX LABORATORIES, INC.

17-MAY-02

METALS PRETREATMENT BENCHSHEET

Test #: 2218.01- 2.01
Parameter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 20
Act anal hrs:
Stock std #: Me6.79.12

Owner: USS
Date run: 05/17/02
Supervisor:
QC Batch #: 185852

001701

Comments: @95°C HotBlock #84
15% HNO_3 1101090 10% HCl 410100 H_2O_2 001510 Lot C3104

Client Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/wetgram	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1	305325	YES	LV5	USS	05/17/02	.5000	50ml		Me6.79.12 Me8.63.4	+500ul		
6739 4AWP0						.5005 DUP						
Stone & Webster Engineering Corp 35988- 1	305326	YES	LV5			.4996 MS						
6739 4BNP0						.4996 MSD						
Stone & Webster Engineering Corp 35988- 1	305327	YES	LV5			.4996						
6739 5CWP0												
Stone & Webster Engineering Corp 35988- 1	305328	YES	LV5			.5001						
6739 5CAWP												
Stone & Webster Engineering Corp 35988- 1	305329	YES	LV5			.4996						
6739 6AWP0												
Stone & Webster Engineering Corp 35988- 1	305330	YES	LV5			.5005						
6739 6BWP0												
Stone & Webster Engineering Corp 35988- 1	305331	YES	LV5			.5002						
6739 8AWP0												
Stone & Webster Engineering Corp 35988- 1	305332	YES	LV5			.5000						
6739 9BWP0												
Stone & Webster Engineering Corp 35988- 1	305333	YES	LV5			.4995						
6739 1ANS0						.5001						

MPB: 1				USS	05/17/02							
LFB: Stk 2									Me6.79.12 Me8.63.4	+500ul		
SPK1: Stk	Smp 305326											
SPK2: Stk	Smp											
DUP:	Smp											

TRIMATRIX LABORATORIES, INC.

17-MAY-02

METALS PRETREATMENT BENCHSHEET

Test #: 2218.01- 2.01
Parameter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 20
Act anal hrs:
Stock std #: Me 6.79.1 C

Owner: MSS
Date run: 05/17/02
Supervisor: L
QC Batch #: 185857

001702

Comments: @95°C HOTBLOCK #84
15% HNO_3 1101090 10% HCl 410 1100 H_2O_2 0015.10 Lot C21.04

Client Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/vol (grams)	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Co
Stone & Webster Engineering Corp 35988- 1 6739 2CNS0	305334	YES	LV5	MSS	05/17/02	.5001	50ml					
Stone & Webster Engineering Corp 35988- 1 6739 2CANS	305335	YES	LV5	↓		0.4999 DUP 0.5001 MS 0.5003 MSD	↓		Me 6.79.1 C Me 8.63.4	+500ul		

MPB: 1	MSS	05/17/02									
LFB: Stk 2	↓	↓									
SPK1: Stk _____ Smp 305335							Me 6.79.1 C Me 8.63.4	+500ul			
SPK2: Stk _____ Smp _____											
DUP: _____ Smp _____											

001703

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
185857	17-MAY-02	MSS	1	YES	YES	D/ICP/3050/SOL	SOIL	USEPA-3050B	0	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-117	05/17/02	MSS	305316	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	2.000	-	-117	05/17/02	MSS	305317	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	3.000	-	-117	05/17/02	MSS	305318	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	4.000	-	-117	05/17/02	MSS	305319	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	5.000	-	-117	05/17/02	MSS	305320	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	6.000	-	-117	05/17/02	MSS	305321	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	7.000	-	-117	05/17/02	MSS	305322	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	8.000	-	-117	05/17/02	MSS	305323	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	9.000	-	-117	05/17/02	MSS	305324	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	10.000	-	-117	05/17/02	MSS	305325	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	11.000	-	-117	05/17/02	MSS	305326	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	12.000	-	-117	05/17/02	MSS	305327	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	13.000	-	-117	05/17/02	MSS	305328	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	14.000	-	-117	05/17/02	MSS	305329	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	15.000	-	-117	05/17/02	MSS	305330	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	16.000	-	-117	05/17/02	MSS	305331	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	17.000	-	-117	05/17/02	MSS	305332	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	18.000	-	-117	05/17/02	MSS	305333	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	19.000	-	-117	05/17/02	MSS	305334	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	20.000	-	-117	05/17/02	MSS	305335	SOIL													

06:05 17-MAY-2002

METALS DIGESTION BENCHSHEET

Parameter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL USEPA-3050B
Test: 2218.1-2.1

Date run: 05/17/02
Analyst: MSS
Hours:
Stock Std: ME6.79.12

Batch # 185858

Lab Due... Submittal	Client..... COC QC	Bottles	Sample Parameters C F H R		Digested?
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305336 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305337 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305338 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305339 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305340 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305341 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305342 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305343 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305344 AlT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305345 AlT	✓

05-20

001704

17-MAY-02

METALS PRETREATMENT BENCHSHEET

001705

Test #: 2218.01- 2.01
Parameter: METALS PRETREAT-ICP (TTL)
Method: D7ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 10
Act anal hrs:
Stock std #: Me6.79.12

Owner: MSS
Date run: 05/17/02
Supervisor:
QC Batch #: 1855858

Comments: @95° HOTBLOCK #84
15% HNO_3 1101090 10% HCl 4101100 H_2O_2 001510 Lot C2104

Client / Submittal / Sample / COC / QC / Location	Anl.	Date Treated	Initial wt/~~vol~~ grams	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	QU
Stone & Webster Engineering Corp 35988- 1 305336 YES LV5 6739 2DNS0	MSS	05/17/02	0.5004	50mL					
Stone & Webster Engineering Corp 35988- 1 305337 YES LV5 6739 1ENS0	↓	↓	0.5006	↓					
Stone & Webster Engineering Corp 35988- 1 305338 YES LV5 6712 1CNP0			0.5009						
Stone & Webster Engineering Corp 35988- 1 305339 YES LV5 6712 1CANP			0.4998						
Stone & Webster Engineering Corp 35988- 1 305340 YES LV5 6712 2DNP0			0.5004						
Stone & Webster Engineering Corp 35988- 1 305341 YES LV5 6712 2ANP0			0.4998						
Stone & Webster Engineering Corp 35988- 1 305342 YES LV5 6712 4BNP0			0.4997 DUP 0.5004 MS 0.5005 MSD			Me6.79.12 Me8.63.4	+500µL		
Stone & Webster Engineering Corp 35988- 1 305343 YES LV5 6712 4DNP0			0.5005						
Stone & Webster Engineering Corp 35988- 1 305344 YES LV5 6712 4ANP0	↓		0.5004	↓					

MPB: 1	MSS	05/17/02							
LFB: Stk 2	↓	↓							
SPK1: Stk _____ Smp 305342						Me6.79.12 Me8.63.4	+500µL		
SPK2: Stk _____ Smp _____									
DUP: _____ Smp _____									

17-MAY-02

METALS PRETREATMENT BENCHSHEET

Test #: 2218.01- 2.01
Parameter: METALS PRETREAT-ICP (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 10
Act anal hrs:
Stock std #: M&6.19.12

Owner: MSS
Date run: 05/17/02
Supervisor:
QC Batch #: 185858

Comments: @ 95°C HOTBLOCK #84
15% HNO3 1101090 10% HCl 4101000 H2O2 001510 Lot C204

Client Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/vol	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1 6712 7BNP0	305345	YES	LV5	MSS	05/17/02	0.5000 grams	50 mls					
MPB:												
LFB: Stk												
SPK1: Stk	Smp											
SPk2: Stk	Smp											
DUP:	Smp											

TRIMATRIX LABORATORIES, INC.

001706

15m7 J66t15m7 J66t

2002-MAY-17 16:07 BATCH DETAIL REPORT -- METALS LABORATORY ANALYTICAL BATCH # 185858

001707

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
185858	17-MAY-02	MSS	2	YES	YES	D/ICP/3050/SOL	SOIL	USEPA-3050B	0	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-117	05/17/02	MSS	305336	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	2.000	-	-117	05/17/02	MSS	305337	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	3.000	-	-117	05/17/02	MSS	305338	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	4.000	-	-117	05/17/02	MSS	305339	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	5.000	-	-117	05/17/02	MSS	305340	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	6.000	-	-117	05/17/02	MSS	305341	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	7.000	-	-117	05/17/02	MSS	305342	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	8.000	-	-117	05/17/02	MSS	305343	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	9.000	-	-117	05/17/02	MSS	305344	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B
v	10.000	-	-117	05/17/02	MSS	305345	SOIL					METALS PRETREAT-ICP (TTL)	REG- 1							USEPA-3050B

06: 7 15-MAY-2002

METALS DIGESTION BENCHSHEET

Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL USEPA-3050B
Test: 2356.1-2.1

Date run: 05/16/02
Analyst: MSS
Hours:
Stock Std: Me6.60.18

Batch # 185803

001708

Lab Due... Submittal	Client	COC QC	Bottles	C F H R	Sample Parameters	Digested?
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305052 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305053 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305054 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305055 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305056 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305057 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305058 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305059 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305060 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 17,18	0 0 0 0	305061 CuT PbT	✓

DR 5-17

15-MAY-02 METALS PRETREATMENT BENCHSHEET PAGE 1

001709

Test #: 2356.01- 2.01
Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 10
Act anal hrs: _____
Stock std #: Me6.60.18

Owner: MSS
Date run: 05/16/02
Supervisor: _____
QC Batch #: 1852803

Comments: @95°C HOTBLOCK #84
15:1 HNO3 1101090 H2O2 001510 Lot C2273

Client.....

Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/vol	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1 6807-13 1Z	305052	YES	LV5	MSS	05/16/02	0.4999 grams 0.4996 dup 0.4998 MS 0.5002 MSD	50mL		Me6.60.18 Me6.55.15	+ 100uL		
Stone & Webster Engineering Corp 35988- 1 6807-13 14	305053	YES	LV5			0.5003						
Stone & Webster Engineering Corp 35988- 1 6807-13 6F	305054	YES	LV5			0.4999						
Stone & Webster Engineering Corp 35988- 1 6807-13 6C	305055	YES	LV5			0.4996						
Stone & Webster Engineering Corp 35988- 1 6807-13 3C	305056	YES	LV5			0.5000						
Stone & Webster Engineering Corp 35988- 1 6807-13 2B	305057	YES	LV5			0.5003						
Stone & Webster Engineering Corp 35988- 1 6807-13 6B	305058	YES	LV5			0.4999						
Stone & Webster Engineering Corp 35988- 1 6807-13 8E	305059	YES	LV5			0.4999						
Stone & Webster Engineering Corp 35988- 1 6807-13 8E	305060	YES	LV5			0.5004						

MPB: 1				MSS	05/16/02							
LFB: Stk 2												
SPK1: Stk _____	Smp 305054								Me6.60.18 Me6.55.15	+ 100uL		
SPk2: Stk _____	Smp _____											
DUP: _____	Smp _____											

TRIMATRIX LABORATORIES, INC.

001710

Test #: 2356.01- 2.01
Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 10
Act anal hrs:
Stock std #: Me6.6018

Owner: MSS
Date run: 05/16/02
Supervisor:
QC Batch #: I85803

Comments: @ 95°C HOT Block #84
B.L. HNO_3 1101090 H_2O_2 001510 Lot C2073

Client.....

Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/vol (grams)	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1 6807-13 1D	305061	YES	LV5	MSS	05/16/02	0.5001	50 ml					
MPB:												
LFB: Stk												
SPK1: Stk	Smp											
SPk2: Stk	Smp											
DUP:	Smp											

15m7 J66t15m7 J66t

2002-MAY-16 16:57 BATCH DETAIL REPORT -- METALS LABORATORY ANALYTICAL BATCH # 185803 PAGE 1 OF 1

001711

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
185803	16-MAY-02	MSS	2	YES	YES	D/ICP/3050/SOL	SOIL	USEPA-3050B	0	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-116	05/16/02	MSS	305052	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	2.000	-	-116	05/16/02	MSS	305053	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	3.000	-	-116	05/16/02	MSS	305054	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	4.000	-	-116	05/16/02	MSS	305055	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	5.000	-	-116	05/16/02	MSS	305056	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	6.000	-	-116	05/16/02	MSS	305057	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	7.000	-	-116	05/16/02	MSS	305058	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	8.000	-	-116	05/16/02	MSS	305059	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	9.000	-	-116	05/16/02	MSS	305060	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	10.000	-	-116	05/16/02	MSS	305061	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B

13:05 20-MAY-2002 METALS DIGESTION BENCHSHEET PAGE 1

Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL USEPA-3050B
Test: 2356.1-2.1

Date run: 05/20/02
Analyst: MSS
Hours:
Stock Std: LL6.6.60.18

Batch# 185914

001712

Lab Due... Submittal	Client	COC QC	Bottles	C F H R	Sample Parameters	Digested?
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305316 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305317 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305318 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305319 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305320 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305321 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305322 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305323 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305324 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305325 CuT PbT*	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305326 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305327 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305328 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305329 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305330 CuT PbT	✓
23-MAY 35988-	1	Stone & Webster Engineering Corp YES	LV5 2-125ml glass,60ml	0 0 0 0	305331 CuT PbT	✓

Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL USEPA-3050B
Test: 2356.1-2.1

Date run: 05/20/02
Analyst: MSS
Hours:
Stock Std: ME6.60.18

Batch# 185914

Lab Due... Submittal	Client... COC	QC	Bottles	C	F	H	R	Sample Parameters	Digested?
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 2-125ml glass,60ml	0	0	0	0	305332 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 2-125ml glass,60ml	0	0	0	0	305333 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 2-125ml glass,60ml	0	0	0	0	305334 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES	LV5 2-125ml glass,60ml	0	0	0	0	305335 CuT PbT	✓

001713

17-MAY-02

METALS PRETREATMENT BENCHSHEET

Test #: 2356.01- 2.01
Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 20
Act anal hrs:
Stock std #: Ma6.60.18

Owner: MSS
Date run: 05/20/02
Supervisor:
QC Batch #: 175914

Comments: @95°C HOTBLOCK # 84
15% HNO3 1101090 H2O2 001510 Lot C2104

Client Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/volgram	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc	Qu
Stone & Webster Engineering Corp 35988- 1 6731-2 5AW	305316	YES	LV5	MSS	05/20/02	.5000	50mls					
Stone & Webster Engineering Corp 35988- 1 6731-2 4BN	305317	YES	LV5			.4999						
Stone & Webster Engineering Corp 35988- 1 6731-2 3CW	305318	YES	LV5			.4995						
Stone & Webster Engineering Corp 35988- 1 6731-2 3CA	305319	YES	LV5			.5003						
Stone & Webster Engineering Corp 35988- 1 6731-2 2BW	305320	YES	LV5			.5000						
Stone & Webster Engineering Corp 35988- 1 6731-2 1DW	305321	YES	LV5			.5004						
Stone & Webster Engineering Corp 35988- 1 6731-2 3DN	305322	YES	LV5			.4998						
Stone & Webster Engineering Corp 35988- 1 6731-2 5CN	305323	YES	LV5			.4996						
Stone & Webster Engineering Corp 35988- 1 6739 2AWPO	305324	YES	LV5	↓	↓	.5001	↓					
MPB:												
LFB: Stk												
SPK1: Stk ____ Smp ____												
SPK2: Stk ____ Smp ____												
DUP: ____ Smp ____												

TRIMATRIX LABORATORIES, INC.

001714

17-MAY-02

METALS PRETREATMENT BENCHSHEET

Test #: 2356.01- 2.01
Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 20
Act anal hrs:
Stock std #: M66.60.18

Owner: MSS
Date run: 05/20/02
Supervisor:
QC Batch #: 189914

Comments: @95°C HOTBLOCK #84
15% HNO3 1101090 H2O2 001510 Lot C2104

Client / Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/~~vol~~ gram	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1 6739 4AWP0	305325	YES	LV5	MSS	05/20/02	.4995 .4998DUP .4999MS .4998MSD	50ml		M66.60.18 M66.55.15	+100ul		
Stone & Webster Engineering Corp 35988- 1 6739 4BNP0	305326	YES	LV5			.5005						
Stone & Webster Engineering Corp 35988- 1 6739 5CWP0	305327	YES	LV5			.4998						
Stone & Webster Engineering Corp 35988- 1 6739 5CAWP	305328	YES	LV5			.5000						
Stone & Webster Engineering Corp 35988- 1 6739 6AWP0	305329	YES	LV5			.5000						
Stone & Webster Engineering Corp 35988- 1 6739 6BWP0	305330	YES	LV5			.5001						
Stone & Webster Engineering Corp 35988- 1 6739 8AWP0	305331	YES	LV5			.4997						
Stone & Webster Engineering Corp 35988- 1 6739 9BWP0	305332	YES	LV5			.5004						
Stone & Webster Engineering Corp 35988- 1 6739 1ANS0	305333	YES	LV5			.4997						

MPB:	1			MSS	05/20/02							
LFB: Stk	2											
SPK1: Stk		Smp	305325						305325	+100ul		
SPk2: Stk		Smp										
DUP:		Smp										

TRIMATRIX LABORATORIES, INC.

001715

001716

Test #: 2356.01- 2.01
Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 20
Act anal hrs:
Stock std #: Me6.60.18

Owner: MSS
Date run: 05/20/02
Supervisor:
QC Batch #: 185414

Comments: @95°C HOTBLOCK #84
15% HNO3 1101090 H2O2 001510 Lot C2104

Client Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/vol gram	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1 6739 2CNS0	305334		YES	LV5	MSS	05/20/02	.5001	50 ml					
Stone & Webster Engineering Corp 35988- 1 6739 2CANS	305335		YES	LV5	"	"	.5005 .5002 DUP .5002 MS .4996 MSD	"		Me6.60.18 Me6.55.15	+100 ul		
MPB: 1													
LFB: Stk 2													
SPK1: Stk ____ Smp 305335										Me6.60.18 Me6.55.15	+100 ul		
SPK2: Stk ____ Smp ____													
DUP: ____ Smp ____													

15m7 J66t15m7 J66t

001717

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
185914	20-MAY-02	MSS	1	YES	YES	D/ICP/3050/SOL	SOIL	USEPA-3050B	0	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-120	05/20/02	MSS	305316	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	2.000	-	-120	05/20/02	MSS	305317	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	3.000	-	-120	05/20/02	MSS	305318	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	4.000	-	-120	05/20/02	MSS	305319	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	5.000	-	-120	05/20/02	MSS	305320	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	6.000	-	-120	05/20/02	MSS	305321	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	7.000	-	-120	05/20/02	MSS	305322	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	8.000	-	-120	05/20/02	MSS	305323	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	9.000	-	-120	05/20/02	MSS	305324	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	10.000	-	-120	05/20/02	MSS	305325	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	11.000	-	-120	05/20/02	MSS	305326	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	12.000	-	-120	05/20/02	MSS	305327	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	13.000	-	-120	05/20/02	MSS	305328	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	14.000	-	-120	05/20/02	MSS	305329	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	15.000	-	-120	05/20/02	MSS	305330	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	16.000	-	-120	05/20/02	MSS	305331	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	17.000	-	-120	05/20/02	MSS	305332	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	18.000	-	-120	05/20/02	MSS	305333	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	19.000	-	-120	05/20/02	MSS	305334	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	20.000	-	-120	05/20/02	MSS	305335	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B

Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL USEPA-3050B
Test: 2356.1-2.1

Date run: 05/20/02
Analyst: MSS
Hours:
Stock Std: Me6.60.18

Batch# 185916

Lab Due... Submittal	Client..... COC QC	Bottles	C F H R	Sample Parameters	Digested?
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305336 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305337 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305338 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305339 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305340 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305341 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305342 CuT PbT *	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305343 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305344 CuT PbT	✓
23-MAY 35988-	Stone & Webster Engineering Corp 1	YES LV5 2-125ml glass,60ml	0 0 0 0	305345 CuT PbT	✓

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17-MAY-02

METALS PRETREATMENT BENCHSHEET

Test #: 2356.01- 2.01
Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 10
Act anal hrs:
Stock std #: Me6.60.18

Owner: USS
Date run: 05/20/02
Supervisor:
QC Batch #: 185916

Comments: 95°C HOTBLOCK #84
15% HNO_3 110290 H_2O_2 001510 Lot C2104

Client Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/vol grams	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc	Qu
Stone & Webster Engineering Corp 35988- 1 6739 2DNSO	305336	YES	LV5	USS	05/20/02	0.5003	50 mL					
Stone & Webster Engineering Corp 35988- 1 6739 1ENSO	305337	YES	LV5			0.5002						
Stone & Webster Engineering Corp 35988- 1 6712 1CNPO	305338	YES	LV5			0.4997						
Stone & Webster Engineering Corp 35988- 1 6712 1CANP	305339	YES	LV5			0.4998						
Stone & Webster Engineering Corp 35988- 1 6712 2DNPO	305340	YES	LV5			0.4996						
Stone & Webster Engineering Corp 35988- 1 6712 2ANPO	305341	YES	LV5			0.5001						
Stone & Webster Engineering Corp 35988- 1 6712 4BNPO	305342	YES	LV5			0.4997 MBP 0.4998 MS 0.5000 MSD			Me6.60.18 Me6.55.18	+100uL		
Stone & Webster Engineering Corp 35988- 1 6712 4DNPO	305343	YES	LV5			0.5005						
Stone & Webster Engineering Corp 35988- 1 6712 4ANPO	305344	YES	LV5			0.5005						
MPB: 1				USS	05/20/02							
LFB: Stk 2												
SPK1: Stk	Smp 305342								Me6.60.18 Me6.55.18	+100uL		
SPK2: Stk	Smp											
DUP:	Smp											

TRIMATRIX LABORATORIES, INC.

17-MAY-02

METALS PRETREATMENT BENCHSHEET

Test #: 2356.01- 2.01
Parameter: METALS PRETREAT-MS (TTL)
Method: D/ICP/3050/SOL
Ref. cit.: USEPA-3050B

Est anal hrs: 10
Act anal hrs:
Stock std #: ME6.60.16

Owner: USS
Date run: 05/20/02
Supervisor:
QC Batch #: 185916

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Comments: @95°C HOT BLOCK #84
15% HNO_3 110190 H_2O_2 001510 Lot C2104

Client Submittal Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/vol grams	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
Stone & Webster Engineering Corp 35988- 1 6712 7BNP0	305345	YES	LV5	USS	05/20/02	0.5000	50 mL					
MPB:												
LFB: Stk												
SPK1: Stk ____ Smp ____												
SPK2: Stk ____ Smp ____												
DUP: ____ Smp ____												

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Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
185916	20-MAY-02	MSS	2	YES	YES	D/ICP/3050/SOL	SOIL	USEPA-3050B	0	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-120	05/20/02	MSS	305336	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	2.000	-	-120	05/20/02	MSS	305337	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	3.000	-	-120	05/20/02	MSS	305338	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	4.000	-	-120	05/20/02	MSS	305339	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	5.000	-	-120	05/20/02	MSS	305340	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	6.000	-	-120	05/20/02	MSS	305341	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	7.000	-	-120	05/20/02	MSS	305342	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	8.000	-	-120	05/20/02	MSS	305343	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	9.000	-	-120	05/20/02	MSS	305344	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B
v	10.000	-	-120	05/20/02	MSS	305345	SOIL					METALS PRETREAT-MS	(TTL) REG- 1							USEPA-3050B

SECTION - J

WET CHEMISTRY DATA

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SECTION - J

SAMPLE RESULT SUMMARIES

WET CHEMISTRY DATA

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 12FNS01001		LOD	LOQ	Units
	Lab Sample No:	305052				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.2	J	1.9	6.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 1820		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	* 4.8		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	7.9		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	13:55
Date Received:	05/11/02
Time Received:	09:45

* See attached Statement of Data Qualifications.

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 14HWP01002		LOD	LOQ	Units
	Lab Sample No:	305053				
E-1047	Percent Solids	95		N/A	0.1	%
9004-70-0	Nitrocellulose	5.9	J	2.0	6.5	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	927		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	3.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	1.9		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	13:58
Date Received:	05/11/02
Time Received:	09:45

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		6FNP01003				
	Lab Sample No:	305054				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	6.9	J	2.1	7.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	4.0		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.3		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:05
Date Received:	05/11/02
Time Received:	09:45

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 6CNS01004		LOD	LOQ	Units
	Lab Sample No:	305055				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	6.0	J	2.1	7.0	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1480		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	4.0		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:07
Date Received:	05/11/02
Time Received:	09:45

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		3CNS01005				
	Lab Sample No:	305056				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	5.4	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1190		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	3.9		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	31		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:09
Date Received:	05/11/02
Time Received:	09:45

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13		LOD	LOQ	Units
		2BNS01006				
	Lab Sample No:	305057				
E-1047	Percent Solids	95		N/A	0.1	%
9004-70-0	Nitrocellulose	5.2	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1860		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	5.1		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.4		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:15
Date Received:	05/11/02
Time Received:	09:45

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 6BNS01007		LOD	LOQ	Units
	Lab Sample No:	305058				
E-1047	Percent Solids	94		N/A	0.1	%
9004-70-0	Nitrocellulose	2.6	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1920		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	5.7		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.5		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	04:19
Date Received:	05/11/02
Time Received:	09:45

001730

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 8ENS01008		LOD	LOQ	Units
	Lab Sample No:	305059				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	3.3	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	893		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	2.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	1.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:23
Date Received:	05/11/02
Time Received:	09:45

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 8EANS01008		LOD	LOQ	Units
	Lab Sample No:	305060				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	3.3	J	2.0	6.8	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	967		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	2.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	1.6		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:30
Date Received:	05/11/02
Time Received:	09:45

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6807-13 1DNS01010		LOD	LOQ	Units
	Lab Sample No:	305061				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	5.8	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1280		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	3.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.2		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/10/02
Time Sampled:	14:22
Date Received:	05/11/02
Time Received:	09:45

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 5AWP01001		LOD	LOQ	Units
	Lab Sample No:	305316				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	3.1	J	1.9	6.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	9770		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	9.8		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:32
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 4BNP01002		LOD	LOQ	Units
	Lab Sample No:	305317				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	16		2.0	6.8	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	13500		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	9.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	12		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:38
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 3CWP01003		LOD	LOQ	Units
	Lab Sample No:	305318				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	12		2.0	6.5	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	7440		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.8		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.0		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:43
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 3CAWP01003		LOD	LOQ	Units
	Lab Sample No:	305319				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	9.5		1.9	6.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	10600		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	7.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	9.2		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:47
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 2BWP01004		LOD	LOQ	Units
	Lab Sample No:	305320				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	8.5		2.0	6.8	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	12400		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	12		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 10:52
Date Received: 05/14/02
Time Received: 08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 1DWP01005		LOD	LOQ	Units
	Lab Sample No:	305321				
E-1047	Percent Solids	97		N/A	0.1	%
9004-70-0	Nitrocellulose	21		2.0	6.6	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	13300		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	16		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	30		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	10:55
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 3DNS01006		LOD	LOQ	Units
	Lab Sample No:	305322				
E-1047	Percent Solids	93		N/A	0.1	%
9004-70-0	Nitrocellulose	12		2.1	6.9	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	10700		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	15		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	12		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:00
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6731-2 5CNS01007		LOD	LOQ	Units
	Lab Sample No:	305323				
E-1047	Percent Solids	88		N/A	0.1	%
9004-70-0	Nitrocellulose	8.3		2.1	6.9	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	17300		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	22		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	24		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:07
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 2AWP01001		LOD	LOQ	Units
	Lab Sample No:	305324				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.5	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2570		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.6		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.7		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:30
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 4AWP01002		LOD	LOQ	Units
	Lab Sample No:	305325				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	4.9	J	1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 2780		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.0		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	4.5		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 11:33
Date Received: 05/14/02
Time Received: 08:43

* See attached Statement of Data Qualifications.

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ANALYTICAL REPORT
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Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 4BNP01003		LOD	LOQ	Units
	Lab Sample No:	305326				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	4.7	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2960		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.7		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:37
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 5CWP01004		LOD	LOQ	Units
	Lab Sample No:	305327				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.1	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1140		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.3		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2.1		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:42
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 5CAWP01004		LOD	LOQ	Units
	Lab Sample No:	305328				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	5.1	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2160		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.4		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.7		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 11:45
Date Received: 05/14/02
Time Received: 08:43

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ANALYTICAL REPORT
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Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 6AWP01005		LOD	LOQ	Units
	Lab Sample No:	305329				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.1	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1940		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.1		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.6		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:47
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 6BWP01006		LOD	LOQ	Units
	Lab Sample No:	305330				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	9.8		1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5120		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.9		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.1		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:52
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 8AWP01007		LOD	LOQ	Units
	Lab Sample No:	305331				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	2.8	J	2.1	7.0	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	4200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	10		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.4		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:55
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
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Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6739 9BWP01008		LOD	LOQ	Units
	Lab Sample No:	305332				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.7	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	8.9		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.9		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	11:59
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 1ANS01001		LOD	LOQ	Units
	Lab Sample No:	305333				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.3	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2620		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	10		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	7.7		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:15
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 2CNS01002		LOD	LOQ	Units
	Lab Sample No:	305334				
E-1047	Percent Solids	96		N/A	0.1	%
9004-70-0	Nitrocellulose	2.4	J	1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	4590		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	15		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	8.6		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:19
Date Received:	05/14/02
Time Received:	08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 2CANS01002		LOD	LOQ	Units
	Lab Sample No:	305335				
E-1047	Percent Solids	94		N/A	0.1	%
9004-70-0	Nitrocellulose	4.9	J	2.1	6.9	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 3480		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	* 14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.1		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 12:22
Date Received: 05/14/02
Time Received: 08:43

* See attached Statement of Data Qualifications.

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 2DNS01003		LOD	LOQ	Units
	Lab Sample No:	305336				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	11		2.0	6.6	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	7940		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	13		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	10		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:27
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6736 1ENS01004		LOD	LOQ	Units
	Lab Sample No:	305337				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	4.9	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5200		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	16		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	7.1		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 12:29
Date Received: 05/14/02
Time Received: 08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 1CNP01001		LOD	LOQ	Units
	Lab Sample No:	305338				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	2.4	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5300		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	11		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	6.3		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	12:48
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 1CANP01001		LOD	LOQ	Units
	Lab Sample No:	305339				
E-1047	Percent Solids	98		N/A	0.1	%
9004-70-0	Nitrocellulose	3.3	J	1.9	6.2	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	5380		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	10		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	5.8		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 12:52
Date Received: 05/14/02
Time Received: 08:43

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 2DNP01002		LOD	LOQ	Units
	Lab Sample No:	305340				
E-1047	Percent Solids	99		N/A	0.1	%
9004-70-0	Nitrocellulose	6.8		1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	3540		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	41		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	2140		4.0	13.3	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 12:59
Date Received: 05/14/02
Time Received: 08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 2ANP01003		LOD	LOQ	Units
	Lab Sample No:	305341				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.4	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2380		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	14		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	19		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:10
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4BNP01004		LOD	LOQ	Units
	Lab Sample No:	305342				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	3.9	J	1.8	6.1	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	* 1780		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.8		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	5.1		0.04	0.13	mg/kg dry

Sampled by: C. Bursich
Date Sampled: 05/13/02
Time Sampled: 13:13
Date Received: 05/14/02
Time Received: 08:43

* See attached Statement of Data Qualifications.

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4DNP01005		LOD	LOQ	Units
	Lab Sample No:	305343				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.9	J	1.9	6.4	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2210		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.6		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.4		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:18
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4ANP01006		LOD	LOQ	Units
	Lab Sample No:	305344				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	4.6	J	2.0	6.6	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	2210		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	6.5		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.5		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:21
Date Received:	05/14/02
Time Received:	08:43

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 7BNP01007		LOD	LOQ	Units
	Lab Sample No:	305345				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.7	J	2.0	6.7	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry
7429-90-5	Aluminum, Total	1350		2.3	7.8	mg/kg dry
7440-50-8	Copper, Total	5.3		0.07	0.22	mg/kg dry
7439-92-1	Lead, Total	3.2		0.04	0.13	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	13:28
Date Received:	05/14/02
Time Received:	08:43

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Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples

Submittal Number: 35988- 1
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		6712 4DANP01008		LOD	LOQ	Units
	Lab Sample No:	305346				
E-1047	Percent Solids	100		N/A	0.1	%
9004-70-0	Nitrocellulose	2.5	J	2.0	6.7	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.0	6.7	mg/kg dry

Sampled by:	C. Bursich
Date Sampled:	05/13/02
Time Sampled:	14:00
Date Received:	05/14/02
Time Received:	08:43

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SECTION - J

QUALITY CONTROL SUMMARIES

WET CHEMISTRY DATA

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QUALITY CONTROL REPORT
INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV-CCV)
USEPA CLP FORM 2A

SDG No.	35988 -1	Parameter	Nitrocellulose
Batch No.	186284		
Instrument ID	189	Ref. Cit.	USARMY BR&D Lab
		Matrix	WATER
		Units	mg/L

Verification QC Type	True Value	Amount Found	% Recovery	Acceptance Window-%	Date	Analyst
ICV 1	0.50	0.55	110	0 - 0	05/22/02	JLB
CCV 1	0.50	0.51	102	0 - 0	05/22/02	JLB
CCV 2	0.50	0.51	102	0 - 0	05/22/02	JLB
CCV 3	0.50	0.52	104	0 - 0	05/22/02	JLB
CCV 4	0.50	0.51	102	0 - 0	05/22/02	JLB
CCV 5	0.50	0.51	102	0 - 0	05/22/02	JLB
CCV 6	0.50	0.50	100	0 - 0	05/22/02	JLB

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QUALITY CONTROL REPORT
CRDL STANDARD
USEPA CLP FORM 2B

SDG No.	35988 -1	Matrix	WATER
		Units	mg/L

Analyte	Analytical Batch	True Value	Amount Found	% Recovery
Nitrocellulose	186284	0.05	0.038	76

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Nitrocellulose
Instrument ID	189	Ref. Cit.	USARMY BR&D Lab
		Matrix	WATER
		Units	mg/L

Batch	Blank QC Type	Sequence No.	Amount Found
186284	Initial Calibration	1	<0.05
186284	Continuing Calibration	1	<0.05
186284	Continuing Calibration	2	<0.05
186284	Continuing Calibration	3	<0.05
186284	Continuing Calibration	4	<0.05
186284	Continuing Calibration	5	<0.05
186284	Continuing Calibration	6	<0.05
186284	Instrument	1	<0.05

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Nitrocellulose
Instrument ID	189	Ref. Cit.	USARMY BR&D Lab
		Matrix	SOIL
		Units	mg/kg dry

Batch	Blank QC Type	Sequence No.	Amount Found
75293	Method Preparation	1	<4.0

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -1	Parameter	Percent Solids
Instrument ID	177	Ref. Cit.	SW-846 3550B
		Matrix	SOIL
		Units	%

Batch	Blank QC Type	Sequence No.	Amount Found
185808	Instrument	1	<0.1
185987	Instrument	1	<0.1

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -1
Sample ID. 6807-1312FNS01001
Matrix SOIL
Lab Sample No. 305052
Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Copper, Total	47 - 144	26.8	4.8		25	88	MS
Copper, Total	47 - 144	27.5	4.8		25	91	MS
Lead, Total	74 - 132	30.7	7.9		25	91	MS
Lead, Total	74 - 132	33.0	7.9		25	100	MS
Nitrocellulose	0 - 0	16	3.2	J	42	30	

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TriMatrix Laboratories, Inc.

QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305325
Sample ID.	67394AWP01002	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Copper, Total	47 - 144	30.9	8.0		25	92	MS
Copper, Total	47 - 144	30.8	8.0		25	91	MS
Lead, Total	74 - 132	30.0	4.5		25	102	MS
Lead, Total	74 - 132	28.5	4.5		25	96	MS
Nitrocellulose	0 - 0	27	4.9	J	38	58	

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TriMatrix Laboratories, Inc.

QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305346
Sample ID.	67124DANP01008	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitrocellulose	0 - 0	33	2.5	J	42	73	
Nitroglycerine	70 - 130	42.2	<25	U	50	84	
Nitroglycerine	70 - 130	39.4	<25	U	50	79	

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No. 35988 -1
Sample ID. 6807-1312FNS01001

Matrix SOIL
Lab Sample No. 305052
Units mg/kg dry

Analyte	Control Limit	Sample Result		Duplicate Result		RPD	M
Aluminum, Total	0 - 20	1820		1880		3	P
Copper, Total	0 - 20	4.8		24		133	MS
Lead, Total	0 - 20	7.9		7.3		8	MS
Nitrocellulose	0 - 0	3.2	J	3.0	J	6	

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305061
Sample ID.	6807-131DNS01010	Units	%

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Percent Solids	0 - 20	96	96	0	G

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No. 35988 -1
Sample ID. 67394AWP01002

Matrix SOIL
Lab Sample No. 305325
Units mg/kg dry

Analyte	Control Limit	Sample Result		Duplicate Result		RPD	M
Aluminum, Total	0 - 20	2780		2750		1	P
Copper, Total	0 - 20	8.0		6.8		16	MS
Lead, Total	0 - 20	4.5		4.1		9	MS
Nitrocellulose	0 - 0	4.9	J	3.1	J	45	

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305343
Sample ID.	67124DNP01005	Units	%

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Percent Solids	0 - 20	100	99	1	G

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305344
Sample ID.	67124ANP01006	Units	%

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Percent Solids	0 - 20	100	100	0	G

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305345
Sample ID.	67127BNP01007	Units	%

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Percent Solids	0 - 20	100	100	0	G

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305346
Sample ID.	67124DANP01008	Units	%

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Percent Solids	0 - 20	100	100	0	G

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -1	Matrix	SOIL
		Lab Sample No.	305346
Sample ID.	67124DANP01008	Units	mg/kg dry

Analyte	Control Limit	Sample Result		Duplicate Result		RPD	M
Nitrocellulose	0 - 0	2.5	J	5.8	J	80	

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE
USEPA CLP FORM 7

SDG No. 35988 -1 Units mg/L

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitrocellulose	186284	0.50	0.48	0 - 0	96

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QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No.	35988 -1	Units	mg/kg dry

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitrocellulose	75293	39	25	0 - 0	64

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SECTION - J

SAMPLE RAW DATA

WET CHEMISTRY DATA

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Due 5-23-02

KLK 5-29-02

20-MAY-02

INORGANIC BENCHSHEET — AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: ~~0.14~~ 0
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: 1861284 LMK 5-29-02

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #: 189
Benchsheet ID: 289104
Owner: JLB
Batch Opened Date: 5-22-02
Supervisor:
Est anal hrs: 41
Act anal hrs:
Samples in batch: 41
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

MDL = 1.829 mg/kg dry, LOQ = 6.1

Client / Submittal / Sample / COC / QC / Location	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk WS.85.15							0.55	0.05		0.50	
ICB:							<0.05	0.05		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 1 305052 YES LV5 6807-13 12			4.8497/50				3.2 J	~~0.1~~ 6.3		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 1 305053 YES LV5 6807-13 14			4.9410/50			LOD	5.9 J	~~0.1~~ 6.5			
Stone & Webster Engineering Corp 35988- 1 305054 YES LV5 6807-13 6F			4.4746/50			95	6.9 J	~~0.1~~ 7.1			
Stone & Webster Engineering Corp 35988- 1 305055 YES LV5 6807-13 6C			4.5122/50			96	6.0 J	~~0.1~~ 7.0			
Stone & Webster Engineering Corp 35988- 1 305056 YES LV5 6807-13 3C			5.1722/50			96	5.4 J	~~0.1~~ 6.1			
Stone & Webster Engineering Corp 35988- 1 305057 YES LV5 6807-13 2B			5.5160/50			98	5.2 J	~~0.1~~ 6.1			
Stone & Webster Engineering Corp 35988- 1 305058 YES LV5 6807-13 6B			5.2781/50			95	2.6 J	~~0.1~~ 6.1			
Stone & Webster Engineering Corp 35988- 1 305059 YES LV5 6807-13 8E			5.0847/50			94	3.3 J	~~0.1~~ 6.2			
ICV: Stk WS.85.15 Rep 1						97	0.51	0.05		0.50	
ICB: Rep 1							<0.05	0.05		XXXXXXXX	

~~6.09~~ 6.1 = MDL x 3.333

to calculate DL

1.829 x (3.333) x mL/g x 100/% Sol

(0.1829)

0017/85

20-MAY-02

INORGANIC BENCHSHEET — AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 0.1
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 289104
Owner: JLB
Batch Opened Date: 5-22-02
Supervisor:
Est anal hrs: 41
Act anal hrs:
Samples in batch: 41
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client / Submittal / Sample / Location	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____													
ICB: _____												XXXXXXXX	
Stone & Webster Engineering Corp 35988- 1 305060 6807-13 8E	YES	LV5			4.6071/50			97	3.3J	6.8		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 1 305061 6807-13 1D	YES	LV5			5.1814/50			96	5.8J	6.1			
Stone & Webster Engineering Corp 35988- 1 305316 6731-2 5AW	YES	LV5			4.9822/50			97	3.1J	6.3			
Stone & Webster Engineering Corp 35988- 1 305317 6731-2 4BN	YES	LV5			4.6304/50			97	16	6.8			
Stone & Webster Engineering Corp 35988- 1 305318 6731-2 3CW	YES	LV5			4.7916/50			98	12	6.5			
Stone & Webster Engineering Corp 35988- 1 305319 6731-2 3CA	YES	LV5			4.9490/50			98	9.5	6.3			
Stone & Webster Engineering Corp 35988- 1 305320 6731-2 2BW	YES	LV5			4.6231/50			97	8.5	6.8			
Stone & Webster Engineering Corp 35988- 1 305321 6731-2 1DW	YES	LV5			4.7587/50			97	21	6.6			
CCV: Stk WS.85.15 Rep 2									0.51	0.05		0.50	
CCB: _____ Rep 2									<0.05	0.05		XXXXXXXX	

0017890

20-MAY-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 0.1
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 289104
Owner: JWB
Batch Opened Date: 5-22-02
Supervisor:
Est anal hrs: 41
Act anal hrs:
Samples in batch: 41
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client / Submittal / Sample / COC / QC / Location	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____											
ICB: _____										XXXXXXXX XXXXXXXX	
Stone & Webster Engineering Corp 35988- 1 305322 YES LV5 6731-2 3DN			4.7405/50			93	12	0.6.9			
Stone & Webster Engineering Corp 35988- 1 305323 YES LV5 6731-2 5CN			4.9863/50			88	8.3	0.6.9			
Stone & Webster Engineering Corp 35988- 1 305324 YES LV5 6739 2AWPO			4.9416/50			100	2.5J	0.6.2			
Stone & Webster Engineering Corp 35988- 1 305325 YES LV5 6739 4AWPO			4.7789/50			100	4.9J	0.6.4			
Stone & Webster Engineering Corp 35988- 1 305326 YES LV5 6739 4BNPO			5.1719/50			99	4.7J	0.6.1			
Stone & Webster Engineering Corp 35988- 1 305327 YES LV5 6739 5CWPO			5.2576/50			100	3.1J	0.6.1			
Stone & Webster Engineering Corp 35988- 1 305328 YES LV5 6739 5CAWP			5.0957/50			100	5.1J	0.6.1			
Stone & Webster Engineering Corp 35988- 1 305329 YES LV5 6739 6AWPO			5.3416/50			100	2.1J	0.6.1			
CCV: Stk WS-85-15 Rep 3							6.52			0.50	
CCB: _____ Rep 3							<0.05			XXXXXXXX XXXXXXXX	

001787

20-MAY-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 0.1
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 289104
Owner: MB
Batch Opened Date: 5.22.02
Supervisor:
Est anal hrs: 41
Act anal hrs:
Samples in batch: 41
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client / Submittal / Sample / COC / QC / Location	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk											
ICB:										XXXXXXXX	
Stone & Webster Engineering Corp 35988- 1 305330 YES LV5 6739 6BWP0			4.7953/50			99	9.8	0.1 6.4		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 1 305331 YES LV5 6739 8AWP0			4.3778/50			99	2.8 J	0.1 7.0			
Stone & Webster Engineering Corp 35988- 1 305332 YES LV5 6739 9BWP0			5.1330/50			100	3.7 J	0.1 6.1			
Stone & Webster Engineering Corp 35988- 1 305333 YES LV5 6736 1ANS0			5.5232/50			100	2.3 J	0.1 6.1			
Stone & Webster Engineering Corp 35988- 1 305334 YES LV5 6736 2CNS0			4.9570/50			96	2.4 J	0.1 6.4			
Stone & Webster Engineering Corp 35988- 1 305335 YES LV5 6736 2CANS			4.6694/50			94	4.9 J	0.1 6.9			
Stone & Webster Engineering Corp 35988- 1 305336 YES LV5 6736 2DNS0			4.7461/50			98	11	0.1 6.6			
Stone & Webster Engineering Corp 35988- 1 305337 YES LV5 6736 1ENS0			4.9617/50			99	4.9 J	0.1 6.2			
CCV: Stk INS85.15 Rep 4							0.51			0.50	
CCB: Rep 4							<0.05			XXXXXXXX	

001788

20-MAY-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 0.1
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 289104
Owner: JMB
Batch Opened Date: 5-22-02
Supervisor:
Est anal hrs: 41
Act anal hrs:
Samples in batch: 41
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client..... Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____														
ICB: _____													XXXXXXXX	
Stone & Webster Engineering Corp 35988- 1 6712 1CNP0	305338	YES	LV5			5.0432/50			99	2.4 J	0.1 6.1		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 1 6712 1CANP	305339	YES	LV5			5.0535/50			98	3.3 J	0.1 6.2			
Stone & Webster Engineering Corp 35988- 1 6712 2DNP0	305340	YES	LV5			4.8168/50			99	6.8	0.1 6.4			
Stone & Webster Engineering Corp 35988- 1 6712 2ANP0	305341	YES	LV5			4.9982/50			100	3.4 J	0.1 6.1			
Stone & Webster Engineering Corp 35988- 1 6712 4BNP0	305342	YES	LV5			4.9957/50			100	3.9 J	0.1 6.1			
Stone & Webster Engineering Corp 35988- 1 6712 4DNP0	305343	YES	LV5			4.7962/50			100	2.9 J	0.1 6.4			
Stone & Webster Engineering Corp 35988- 1 6712 4ANP0	305344	YES	LV5			4.6365/50			100	4.6 J	0.1 6.6			
Stone & Webster Engineering Corp 35988- 1 6712 7BNP0	305345	YES	LV5			4.5611/50			100	2.7 J	0.1 6.7			
CCV: Stk WS85.15 Rep 5										0.51			0.50	
CCB: _____ Rep 5										<0.05			XXXXXXXX	

0011789

20-MAY-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 0.1
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 289104
Owner: JLB
Batch Opened Date: 5-22-02
Supervisor:
Est anal hrs: 41
Act anal hrs:
Samples in batch: 41
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client / Submittal / Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk														
ICB:													XXXXXXXX	
Stone & Webster Engineering Corp													XXXXXXXX	
35988- 1	305346	YES	LV5			4.5548/50			100	2.5 J	0.6.7			
6712 4DANP														
CCV: Stk WS.85.15 Rep 6										0.50			0.50	
CCB: Rep 6										0.05			XXXXXXXX	
													XXXXXXXX	

001790

20-MAY-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY ** QC **

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 0.1
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Instrument #:
Benchsheet ID: 289104
Owner: JLB
Batch Opened Date: 5-22-02
Supervisor:
Est anal hrs: 41
Act anal hrs:
Samples in batch: 41
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:							<0.05			XXXXXXXX XXXXXXXX	
LCS: Stk WS.86.3							0.48			0.50	
SPK1: Stk WS.93.11 Smp 305052			4.6604/50			100	16			42	38
SPK2: Stk Smp											
MSD: Smp		XXXXXXX XXXXXXX	XXXXXXXXXXX XXXXXXXXXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXX XXXXXXXX	XXXX XXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXX XXXXXXXX		XXXXXXXX XXXXXXXX	
DUP: Smp 305052			4.9415/50			100	3.0 J			XXXXXXXX XXXXXXXX	
SPK1: Stk WS.93.11 Smp 305325			5.1417/50			100	27			38	
SPK2: Stk Smp											
MSD: Smp		XXXXXXX XXXXXXX	XXXXXXXXXXX XXXXXXXXXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXX XXXXXXXX	XXXX XXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXX XXXXXXXX		XXXXXXXX XXXXXXXX	
DUP: Smp 305325			4.7171/50			100	3.1 J			XXXXXXXX XXXXXXXX	
MPB: QCB# same as analytical batch							<4.0	4.0		XXXXXXXX XXXXXXXX	
LFB: Stk WS.93.11 QCB#							25	4.0		39	
CRDL: Stk WS.86.1							0.038	0.038		0.05	
DUP Smp 305346			4.7457/50			100	5.8 J				
SPK WS.93.11 Smp 305346			4.6366/50			100	33			42	

QC Type	Range	Lower	Upper
LFB (wtr)	1		
SPK	1		

001791

TRIMATRIX LABORATORIES, INC.

15m7 J66t15m7 J66t

JLB 5-29-02

2002-MAY-29 12:05 BATCH DETAIL REPORT -- INORGANIC LABORATORY ANALYTICAL BATCH # 186284

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
186284	22-MAY-02	JLB	1	NO	YES	NC/AUTOAN/WTR	WATER	USARMY BR&D Lab	41	1	1	1	6	6

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc		Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	05/22/02	JLB		WATER	0.05		0.55		0.50	NITROCELLULOSE	ICV- 1	110						USARMY BR&D Lab
v	2.000	-	-	05/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	ICB- 1	0						USARMY BR&D Lab
v	3.000	-	186284-122	05/22/02	JLB	305052	SOIL	6.3		3.2	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	4.000	-	186284-122	05/22/02	JLB	305053	SOIL	6.5		5.9	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	5.000	-	186284-122	05/22/02	JLB	305054	SOIL	7.1		6.9	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	6.000	-	186284-122	05/22/02	JLB	305055	SOIL	7.0		6.0	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	7.000	-	186284-122	05/22/02	JLB	305056	SOIL	6.1		5.4	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	8.000	-	186284-122	05/22/02	JLB	305057	SOIL	6.1		5.2	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	9.000	-	186284-122	05/22/02	JLB	305058	SOIL	6.1		2.6	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	10.000	-	186284-122	05/22/02	JLB	305059	SOIL	6.2		3.3	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	11.000	-	-	05/22/02	JLB		WATER	0.05		0.51		0.50	NITROCELLULOSE	CCV- 1	102						USARMY BR&D Lab
v	12.000	-	-	05/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 1	0						USARMY BR&D Lab
v	13.000	-	186284-122	05/22/02	JLB	305060	SOIL	6.8		3.3	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	14.000	-	186284-122	05/22/02	JLB	305061	SOIL	6.1		5.8	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	15.000	-	186284-122	05/22/02	JLB	305316	SOIL	6.3		3.1	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	16.000	-	186284-122	05/22/02	JLB	305317	SOIL	6.8		16			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	17.000	-	186284-122	05/22/02	JLB	305318	SOIL	6.5		12			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	18.000	-	186284-122	05/22/02	JLB	305319	SOIL	6.3		9.5			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	19.000	-	186284-122	05/22/02	JLB	305320	SOIL	6.8		8.5			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	20.000	-	186284-122	05/22/02	JLB	305321	SOIL	6.6		21			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	21.000	-	-	05/22/02	JLB		WATER	0.05		0.51		0.50	NITROCELLULOSE	CCV- 2	102						USARMY BR&D Lab
v	22.000	-	-	05/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 2	0						USARMY BR&D Lab
v	23.000	-	186284-122	05/22/02	JLB	305322	SOIL	6.9		12			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	24.000	-	186284-122	05/22/02	JLB	305323	SOIL	6.9		8.3			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	25.000	-	186284-122	05/22/02	JLB	305324	SOIL	6.2		2.5	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	26.000	-	186284-122	05/22/02	JLB	305325	SOIL	6.4		4.9	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	27.000	-	186284-122	05/22/02	JLB	305326	SOIL	6.1		4.7	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	28.000	-	186284-122	05/22/02	JLB	305327	SOIL	6.1		3.1	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	29.000	-	186284-122	05/22/02	JLB	305328	SOIL	6.1		5.1	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	30.000	-	186284-122	05/22/02	JLB	305329	SOIL	6.1		2.1	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	31.000	-	-	05/22/02	JLB		WATER	0.05		0.52		0.50	NITROCELLULOSE	CCV- 3	104						USARMY BR&D Lab
v	32.000	-	-	05/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 3	0						USARMY BR&D Lab

0001792

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc		Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	33.000	-	186284-122	05/22/02	JLB	305330	SOIL	6.4		9.8			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	34.000	-	186284-122	05/22/02	JLB	305331	SOIL	7.0		2.8	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	35.000	-	186284-122	05/22/02	JLB	305332	SOIL	6.1		3.7	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	36.000	-	186284-122	05/22/02	JLB	305333	SOIL	6.1		2.3	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	37.000	-	186284-122	05/22/02	JLB	305334	SOIL	6.4		2.4	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	38.000	-	186284-122	05/22/02	JLB	305335	SOIL	6.9		4.9	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	39.000	-	186284-122	05/22/02	JLB	305336	SOIL	6.6		11			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	40.000	-	186284-122	05/22/02	JLB	305337	SOIL	6.2		4.9	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	41.000	-	-	05/22/02	JLB		WATER	0.05		0.51		0.50	NITROCELLULOSE	CCV- 4	102	___	___				USARMY BR&D Lab
v	42.000	-	-	05/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 4	0						USARMY BR&D Lab
v	43.000	-	186284-122	05/22/02	JLB	305338	SOIL	6.1		2.4	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	44.000	-	186284-122	05/22/02	JLB	305339	SOIL	6.2		3.3	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	45.000	-	186284-122	05/22/02	JLB	305340	SOIL	6.4		6.8			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	46.000	-	186284-122	05/22/02	JLB	305341	SOIL	6.1		3.4	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	47.000	-	186284-122	05/22/02	JLB	305342	SOIL	6.1		3.9	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	48.000	-	186284-122	05/22/02	JLB	305343	SOIL	6.4		2.9	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	49.000	-	186284-122	05/22/02	JLB	305344	SOIL	6.6		4.6	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	50.000	-	186284-122	05/22/02	JLB	305345	SOIL	6.7		2.7	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	51.000	-	-	05/22/02	JLB		WATER	0.05		0.51		0.50	NITROCELLULOSE	CCV- 5	102	___	___				USARMY BR&D Lab
v	52.000	-	-	05/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 5	0						USARMY BR&D Lab
v	53.000	-	186284-122	05/22/02	JLB	305346	SOIL	6.7		2.5	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	54.000	-	-	05/22/02	JLB		WATER	0.05		0.50		0.50	NITROCELLULOSE	CCV- 6	100	___	___				USARMY BR&D Lab
v	55.000	-	-	05/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 6	0						USARMY BR&D Lab
v	56.000	-	-	05/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	BLK- 1	0						USARMY BR&D Lab
v	57.000	-	-	05/22/02	JLB		WATER	0.05		0.48		0.50	NITROCELLULOSE	LCS- 1	96	___	___				USARMY BR&D Lab
v	58.000	- 3	186284-122	05/22/02	JLB	305052	SOIL	6.3	3.2	16		42	NITROCELLULOSE	SPK- 1	30	___	___				USARMY BR&D Lab
v	59.000	- 3	186284-122	05/22/02	JLB	305052	SOIL	6.3	3.2	3.0	J		NITROCELLULOSE	DUP- 1	6		___				USARMY BR&D Lab
v	60.000	- 26	186284-122	05/22/02	JLB	305325	SOIL	6.4	4.9	27		38	NITROCELLULOSE	SPK- 1	58	___	___				USARMY BR&D Lab
v	61.000	- 26	186284-122	05/22/02	JLB	305325	SOIL	6.4	4.9	3.1	J		NITROCELLULOSE	DUP- 1	45		___				USARMY BR&D Lab
v	62.000	-	186284-122	05/22/02	JLB		WATER	4.0		<4.0			NITROCELLULOSE	MPB- 1	0						USARMY BR&D Lab
v	63.000	-	186284-122	05/22/02	JLB		WATER	4.0		25		39	NITROCELLULOSE	LFB- 1	64	___	___				USARMY BR&D Lab
v	64.000	-	-	05/22/02	JLB		WATER	0.038		0.038		0.05	NITROCELLULOSE	CRL- 1	76						USARMY BR&D Lab
v	65.000	- 53	186284-122	05/22/02	JLB	305346	SOIL	6.7	2.5	5.8	J		NITROCELLULOSE	DUP- 1	80		___				USARMY BR&D Lab
v	66.000	- 53	186284-122	05/22/02	JLB	305346	SOIL	6.7	2.5	33		42	NITROCELLULOSE	SPK- 1	73	___	___				USARMY BR&D Lab

0017793

Nitrocellulose Worksheet

TriMatrix Laboratories, Inc.

Sample Number	weight grams	volume mls	N-NO2 mg/L	% Solids	N-NO2 mg/kg-dry	**Nitrocellulose-NO2 mg/kg-dry**
MPB	5	50	0.0336	100	0.336	**2.647**
LFB	5	50	0.3175	100	3.175	**25.015**
305052	4.8497	50	0.0388	100	0.400	**3.152**
305052D	4.9415	50	0.0372	100	0.376	**2.966**
305052S	4.6604	50	0.19	100	2.038	**16.061**
305053	4.941	50	0.0701	95	0.747	**5.883**
305054	4.4746	50	0.0754	96	0.878	**6.915**
305055	4.5122	50	0.0656	96	0.757	**5.966**
305056	5.1722	50	0.0696	98	0.687	**5.409**
305057	5.516	50	0.0694	95	0.662	**5.217**
305058	5.2781	50	0.0327	94	0.330	**2.596**
305059	5.0847	50	0.0407	97	0.41	**3.251**
305060	4.6071	50	0.0371	97	0.42	**3.270**
305061	5.1814	50	0.0732	96	0.74	**5.797**
305316	4.9822	50	0.0385	97	0.40	**3.138**
305317	4.6304	50	0.1812	97	2.02	**15.893**
305318	4.7916	50	0.1435	98	1.53	**12.039**
305319	4.949	50	0.1167	98	1.20	**9.479**
305320	4.6231	50	0.0969	97	1.08	**8.512**
305321	4.7587	50	0.2441	97	2.64	**20.832**
305322	4.7405	50	0.1296	93	1.47	**11.581**
305323	4.9863	50	0.0926	88	1.06	**8.313**
305324	4.9416	50	0.0318	100	0.32	**2.535**
305325	4.7786	50	0.0596	100	0.62	**4.913**
305325D	4.7171	50	0.0366	100	0.39	**3.057**
305325S	5.1417	50	0.3546	100	3.45	**27.168**
305326	5.1719	50	0.0607	99	0.59	**4.670**
305327	5.2576	50	0.0409	100	0.39	**3.065**
305328	5.0957	50	0.0656	100	0.64	**5.071**
305329	5.3416	50	0.0288	100	0.27	**2.124**
305330	4.7953	50	0.1187	99	1.25	**9.850**
305331	4.3778	50	0.0303	99	0.35	**2.754**
305332	5.133	50	0.0485	100	0.47	**3.722**

0017794

Nitrocellulose Worksheet

TriMatrix Laboratories, Inc.

305333	5.5232	50	0.0323	100	0.29	**2.304**
305334	4.957	50	0.0294	96	0.31	**2.434**
305335	4.6694	50	0.0541	94	0.62	**4.856**
305336	4.7461	50	0.1301	98	1.40	**11.019**
305337	4.9617	50	0.0615	99	0.63	**4.932**
305338	5.0432	50	0.0299	99	0.30	**2.359**
305339	5.0535	50	0.0415	98	0.42	**3.301**
305340	4.8168	50	0.0827	99	0.87	**6.832**
305341	4.9982	50	0.0432	100	0.43	**3.405**
305342	4.9957	50	0.0496	100	0.50	**3.911**
305343	4.7962	50	0.0352	100	0.37	**2.891**
305344	4.6365	50	0.0542	100	0.58	**4.605**
305345	4.5611	50	0.0309	100	0.34	**2.669**
305346	4.5548	50	0.0287	100	0.32	**2.482**
305346D	4.7457	50	0.0695	100	0.73	**5.769**
305346S	4.6366	50	0.3934	100	4.24	**33.424**
					#DIV/0!	**#DIV/0!**
LFB SPK AMT	5	50	0.5	100	5.00	**39.394**
305052 PK AM	4.6604	50	0.5	100	5.36	**42.265**
05325 SPK AM	5.1417	50	0.5	100	4.86	**38.308**
05346 SPK AM	4.6366	50	0.5	100	5.39	**42.482**
					#DIV/0!	**#DIV/0!**
					#DIV/0!	**#DIV/0!**
					#DIV/0!	**#DIV/0!**
					#DIV/0!	**#DIV/0!**
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					#DIV/0!	**#DIV/0!**
					#DIV/0!	**#DIV/0!**
					#DIV/0!	**#DIV/0!**
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					#DIV/0!	**#DIV/0!**
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					#DIV/0!	**#DIV/0!**
					#DIV/0!	**#DIV/0!**
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					#DIV/0!	**#DIV/0!**

Creator: Jodi Blouw
Creation Date: May 22, 2002 9:43:14
Last Modified: May 22, 2002 9:43:14
Description: None

Cup #	Sample ID	Manual Dilution	Sample Type	
1	blk	1.0000	Unknown	
2	lcs	1.0000	Unknown	
3	crdl	1.0000	Unknown	
4	mpb nc	1.0000	Unknown	
5	mdl1 nc	1.0000	Unknown	
6	mdl2 nc	1.0000	Unknown	
7	mdl3 nc	1.0000	Unknown	
8	mdl4 nc	1.0000	Unknown	
9	mdl5 nc	1.0000	Unknown	
10	mdl6 nc	1.0000	Unknown	
11	mdl7 nc	1.0000	Unknown	
12	lfb1	1.0000	Unknown	
13	lfb2	1.0000	Unknown	
14	lfb3	1.0000	Unknown	
15	lfb4	1.0000	Unknown	



Creator: Jodi Blouw
Creation Date: May 22, 2002 10:23:23
Last Modified: May 22, 2002 10:23:23
Description: None

Cup #	Sample ID	Manual Dilution	Sample Type	
1	305052 sw	1.0000	Unknown	
2	305052 dup	1.0000	Unknown	
3	305052 spk	1.0000	Unknown	
4	305053	1.0000	Unknown	
5	305054	1.0000	Unknown	
6	305055	1.0000	Unknown	
7	305056	1.0000	Unknown	
8	305057	1.0000	Unknown	
9	305058	1.0000	Unknown	
10	305059	1.0000	Unknown	
11	305060	1.0000	Unknown	
12	305061	1.0000	Unknown	
13	305316	1.0000	Unknown	
14	305317	1.0000	Unknown	
15	305318	1.0000	Unknown	
16	305319	1.0000	Unknown	
17	305320	1.0000	Unknown	
18	305321	1.0000	Unknown	
19	305322	1.0000	Unknown	
20	305323	1.0000	Unknown	
21	305324	1.0000	Unknown	
22	305325	1.0000	Unknown	
23	305325 dup	1.0000	Unknown	
24	305325 spk	1.0000	Unknown	
25	305326	1.0000	Unknown	
26	305327	1.0000	Unknown	
27	305328	1.0000	Unknown	
28	305329	1.0000	Unknown	
29	305330	1.0000	Unknown	

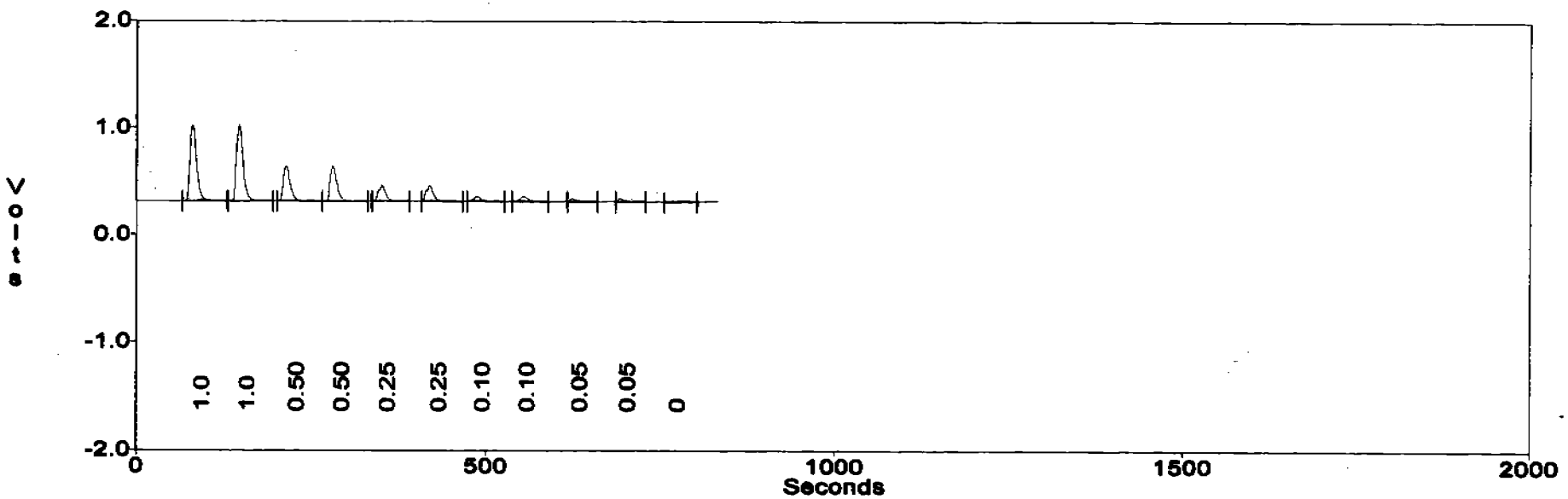
Creator: Jodi Blouw
Creation Date: May 22, 2002 12:42:25
Last Modified: May 22, 2002 12:42:25
Description: None

Cup #	Sample ID	Manual Dilution	Sample Type	
1	305331	1.0000	Unknown	
2	305332	1.0000	Unknown	
3	305333	1.0000	Unknown	
4	305334	1.0000	Unknown	
5	305335	1.0000	Unknown	
6	305336	1.0000	Unknown	
7	305337	1.0000	Unknown	
8	305338	1.0000	Unknown	
9	305339	1.0000	Unknown	
10	305340	1.0000	Unknown	
11	305341	1.0000	Unknown	
12	305342	1.0000	Unknown	
13	305343	1.0000	Unknown	
14	305344	1.0000	Unknown	
15	305345	1.0000	Unknown	
16	305346	1.0000	Unknown	
17	305346 dup	1.0000	Unknown	
18	305346 spk	1.0000	Unknown	

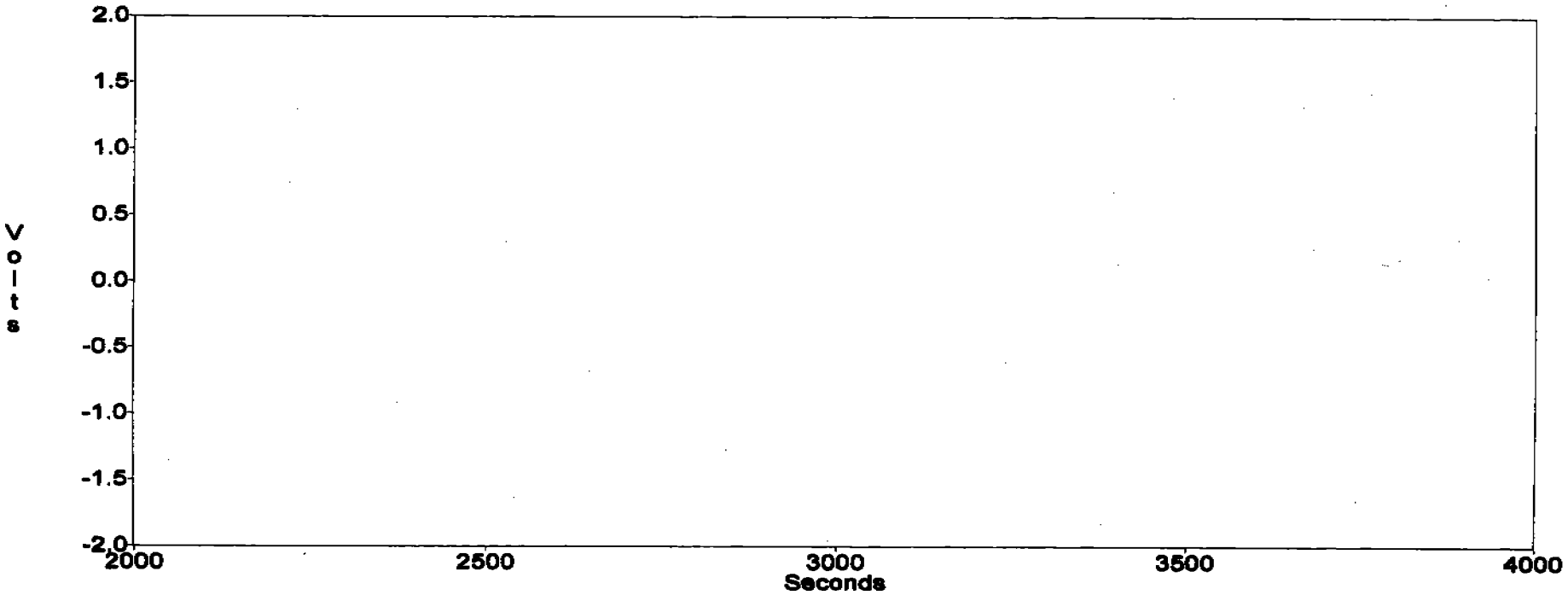
OPERATOR: Jodi Bloew
DATA FILENAME: C:\OMNION\DATA\052102NT.FDT
TRAY FILENAME: C:\OMNION\TRAYS\NITCELL.TRA

001799

Channel 1 - nitrite



Channel 1 - nitrite



OPERATOR: Jodi Blouw
ACQ. TIME: May 21, 2002 9:01:05
DATA FILENAME: C:\OMNION\DATA\052102NT.FDT

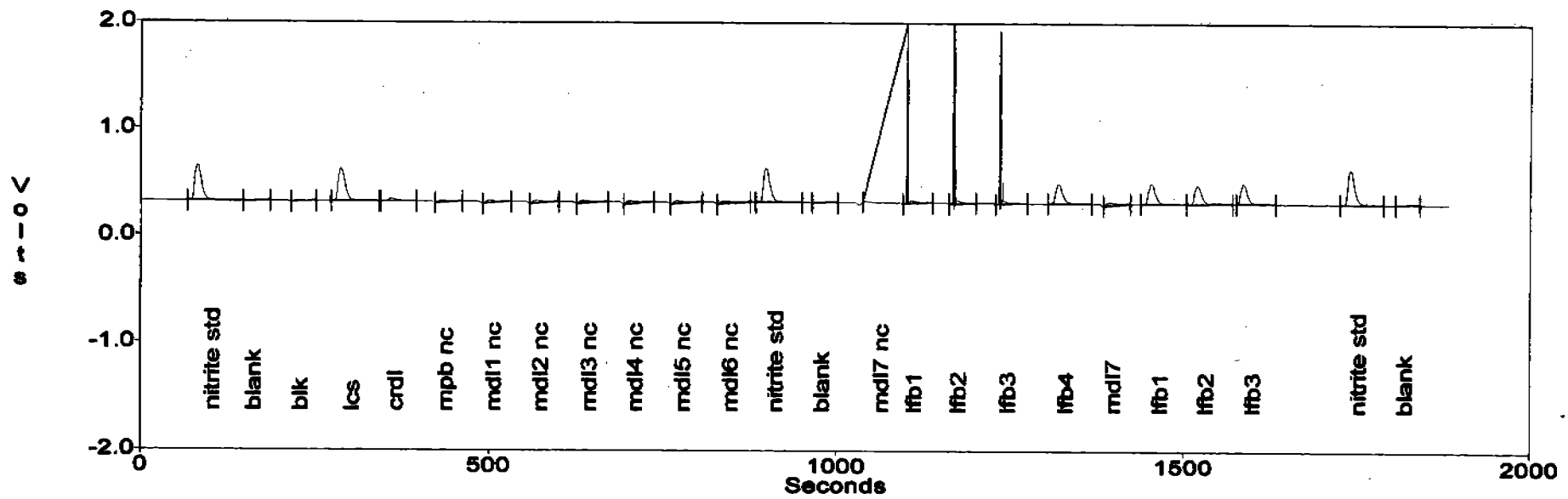
Multi-Channel Table
Type: Calibration Standards
Channel Range: 1 to 8 -- Cup Range: 1 to 49

Cup	Sample ID	Sampling Date	# of Reps	nitrite (uv-s)	Auto Dil Factor
1	1.0	21 May 2002	2	7909970.500	1.00
2	0.50	21 May 2002	2	3779214.000	1.00
3	0.25	21 May 2002	2	1864614.500	1.00
4	0.10	21 May 2002	2	677890.500	1.00
5	0.05	21 May 2002	2	433995.000	1.00
6	0	21 May 2002	1	287234.000	1.00

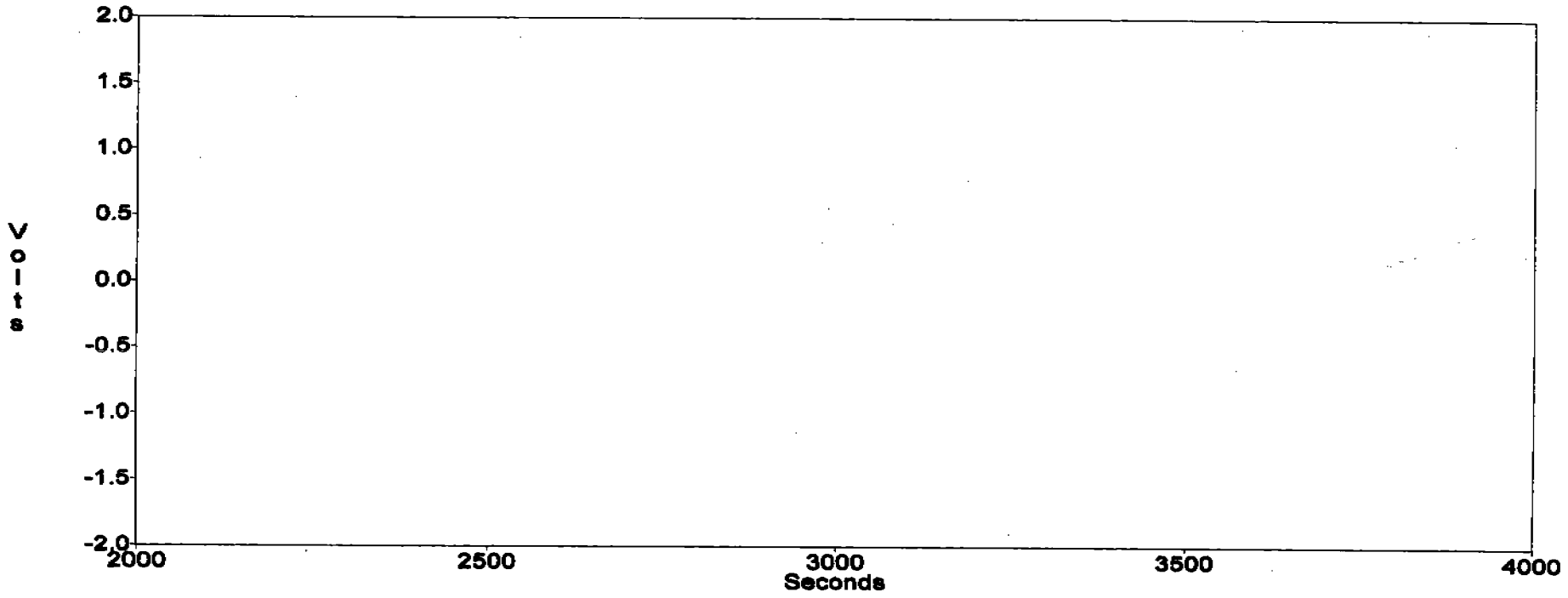
OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\052202CA.FDT
TRAY FILENAME: C:\OMNION\TRAYS\052202CA.TRA

001801

Channel 1 - nitrite



Channel 1 - nitrite



OPERATOR: Jodi Blouw
ACQ. TIME: May 22, 2002 10:11:47
DATA FILENAME: C:\OMNION\DATA\052202CA.FDT

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 50

Cup	Sample ID	Sampling Date	Sampling Time	# of Reps	nitrite (mg/l)	Auto Dil Factor
1	blk	22 May 2002	10:14:06	1	0.021	1.00
2	lcs	22 May 2002	10:15:15	1	0.485	1.00
3	crdl	22 May 2002	10:16:23	1	0.039	1.00
4	mpb nc	22 May 2002	10:17:32	1	0.034	1.00
5	mdl1 nc	22 May 2002	10:18:40	1	0.062	1.00
6	mdl2 nc	22 May 2002	10:19:48	1	0.064	1.00
7	mdl3 nc	22 May 2002	10:20:55	1	0.070	1.00
8	mdl4 nc	22 May 2002	10:22:03	1	0.069	1.00
9	mdl5 nc	22 May 2002	10:23:10	1	0.070	1.00
10	mdl6 nc	22 May 2002	10:24:18	1	0.071	1.00
11	mdl7 nc	22 May 2002	10:27:42	1	10.377	1.00
11	mdl7	22 May 2002	10:33:32	1	0.060	1.00
12	lfb1	22 May 2002	10:28:49	1	0.376	1.00
12	lfb1	22 May 2002	10:34:40	1	0.303	1.00
13	lfb2	22 May 2002	10:29:56	1	0.409	1.00
13	lfb2	22 May 2002	10:35:46	1	0.276	1.00
14	lfb3	22 May 2002	10:31:02	1	0.366	1.00
14	lfb3	22 May 2002	10:36:53	1	0.301	1.00
15	lfb4	22 May 2002	10:32:25	1	0.298	1.00

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 – Cup Range: 1 to 50

Cup	Sample ID	Sample Type	Sampling Date	Sampling Time	# of Reps	nitrite (mg/l)	Auto Dil Factor
2	nitrite std	RelChkStd	22 May 2002	10:11:49	1	0.548	1.00
				Known Concentration:		0.500	
				% Difference:		9.550	
2	nitrite std	RelChkStd	22 May 2002	10:25:25	1	0.510	1.00
				Known Concentration:		0.500	
				% Difference:		1.947	
2	nitrite std	RelChkStd	22 May 2002	10:39:28	1	0.510	1.00
				Known Concentration:		0.500	
				% Difference:		2.083	
6	blank	Blank	22 May 2002	10:12:57	1	0.005	1.00
6	blank	Blank	22 May 2002	10:26:34	1	0.003	1.00
6	blank	Blank	22 May 2002	10:40:36	1	0.003	1.00

OPERATOR: Jodi Blouw
ACQ. TIME: May 22, 2002 13:02:19
DATA FILENAME: C:\OMNION\DATA\052202CC.FDT

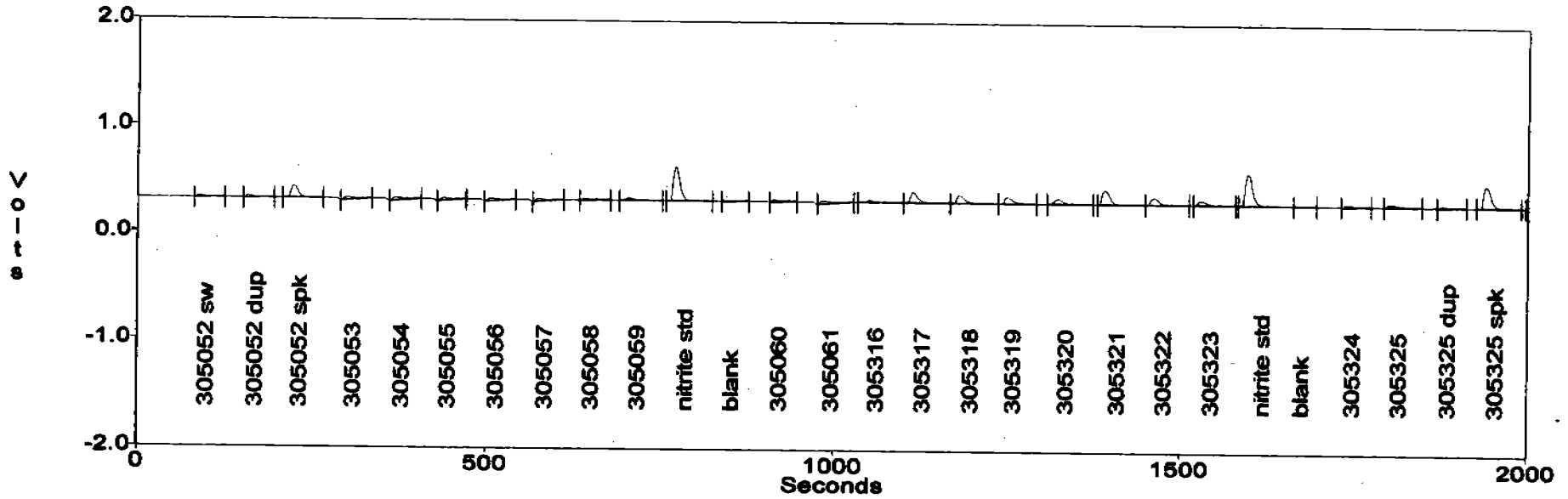
Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 28 to 50

Cup	Sample ID	Sampling Date	# of Reps	nitrite (mg/l)	Auto Dil Factor
28	mdl6	22 May 2002	1	0.017	1.00
29	mdl7	22 May 2002	1	0.025	1.00

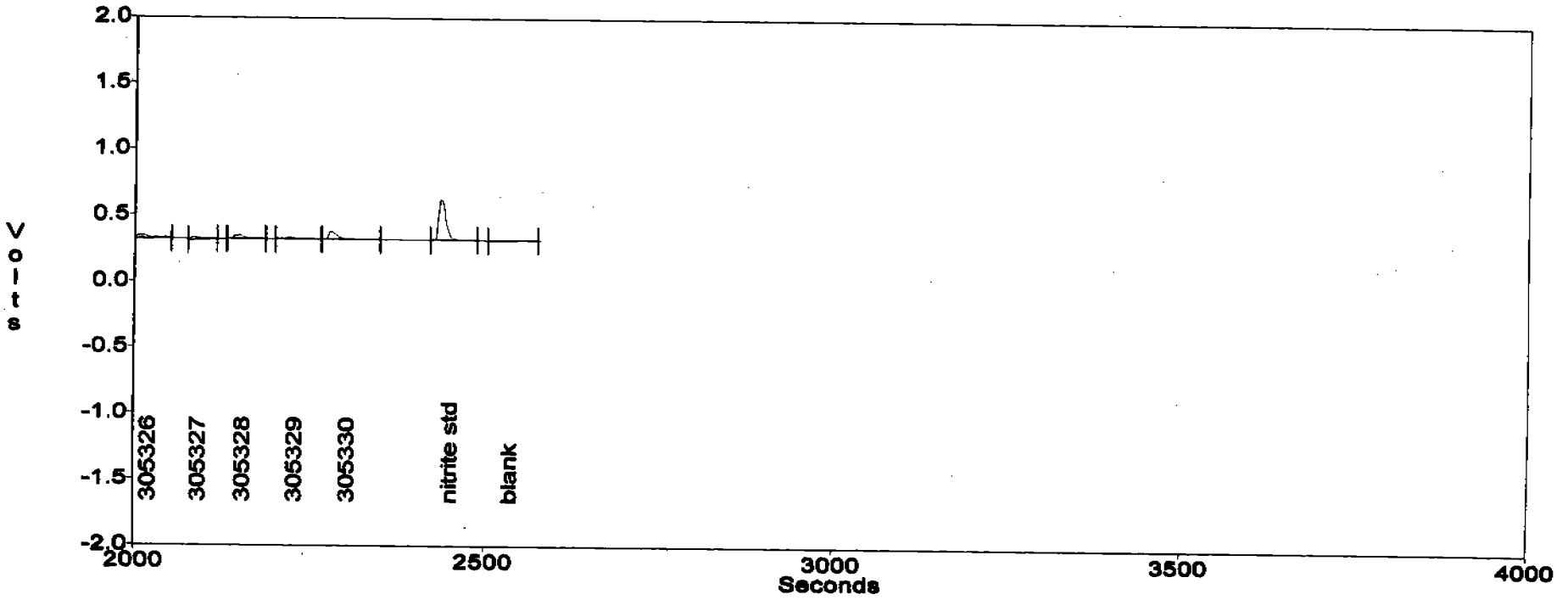
OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\052202CB.FDT
TRAY FILENAME: C:\OMNION\TRAYS\052202CB.TRA

001805

Channel 1 - nitrite



Channel 1 - nitrite



OPERATOR: Jodi Blouw
ACQ. TIME: May 22, 2002 10:54:42
DATA FILENAME: C:\OMNION\DATA\052202CB.FDT

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 28 to 50

Cup	Sample ID	Sampling Date	# of Reps	nitrite (mg/l)	Auto Dil Factor
28	305329	22 May 2002	1	0.029	1.00
29	305330	22 May 2002	1	0.119	1.00

OPERATOR: Jodi Blouw
ACQ. TIME: May 22, 2002 10:54:42
DATA FILENAME: C:\OMNION\DATA\052202CB.FDT

Multi-Channel Table
Type: Calibration Standards
Channel Range: 1 to 8 -- Cup Range: 28 to 50

Cup	Sample ID	Sampling Date	# of Reps	nitrite (uv-s)	Auto Dil Factor

NO SAMPLE INFO FOR THE SELECTED CUP RANGE

OPERATOR: Jodi Blouw
ACQ. TIME: May 22, 2002 10:54:42
DATA FILENAME: C:\OMNION\DATA\052202CB.FDT

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 50

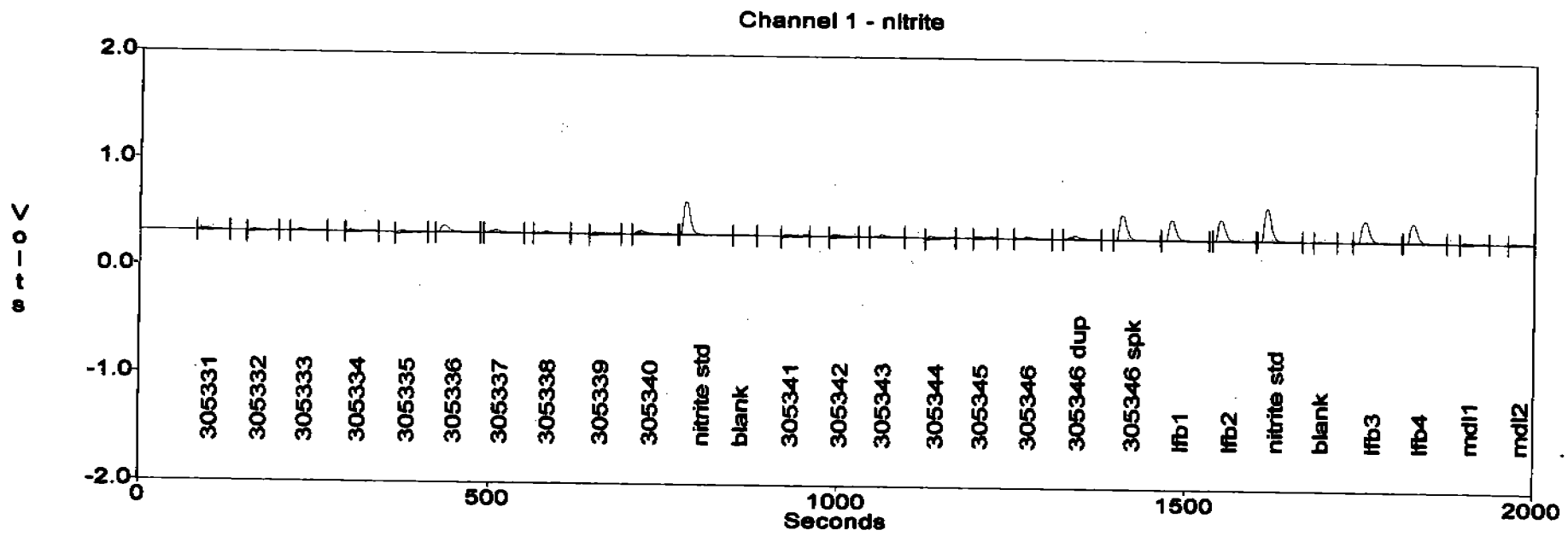
Cup	Sample ID	Sampling Date	Sampling Time	# of Reps	nitrite (mg/l)	Auto Dil Factor
1	305052 sw	22 May 2002	10:54:46	1	0.039	1.00
2	305052 dup	22 May 2002	10:55:56	1	0.037	1.00
3	305052 spk	22 May 2002	10:57:06	1	0.190	1.00
4	305053	22 May 2002	10:58:15	1	0.070	1.00
5	305054	22 May 2002	10:59:25	1	0.075	1.00
6	305055	22 May 2002	11:00:34	1	0.066	1.00
7	305056	22 May 2002	11:01:42	1	0.070	1.00
8	305057	22 May 2002	11:02:51	1	0.069	1.00
9	305058	22 May 2002	11:03:59	1	0.033	1.00
10	305059	22 May 2002	11:05:08	1	0.041	1.00
11	305060	22 May 2002	11:08:32	1	0.037	1.00
12	305061	22 May 2002	11:09:41	1	0.073	1.00
13	305316	22 May 2002	11:10:49	1	0.039	1.00
14	305317	22 May 2002	11:11:57	1	0.181	1.00
15	305318	22 May 2002	11:13:04	1	0.144	1.00
16	305319	22 May 2002	11:14:14	1	0.117	1.00
17	305320	22 May 2002	11:15:24	1	0.097	1.00
18	305321	22 May 2002	11:16:33	1	0.244	1.00
19	305322	22 May 2002	11:17:43	1	0.130	1.00
20	305323	22 May 2002	11:18:52	1	0.093	1.00
21	305324	22 May 2002	11:22:17	1	0.032	1.00
22	305325	22 May 2002	11:23:26	1	0.060	1.00
23	305325 dup	22 May 2002	11:24:34	1	0.037	1.00
24	305325 spk	22 May 2002	11:25:43	1	0.355	1.00
25	305326	22 May 2002	11:26:52	1	0.061	1.00
26	305327	22 May 2002	11:28:00	1	0.041	1.00
27	305328	22 May 2002	11:29:09	1	0.066	1.00
28	305329	[redacted]			0.029	1.00

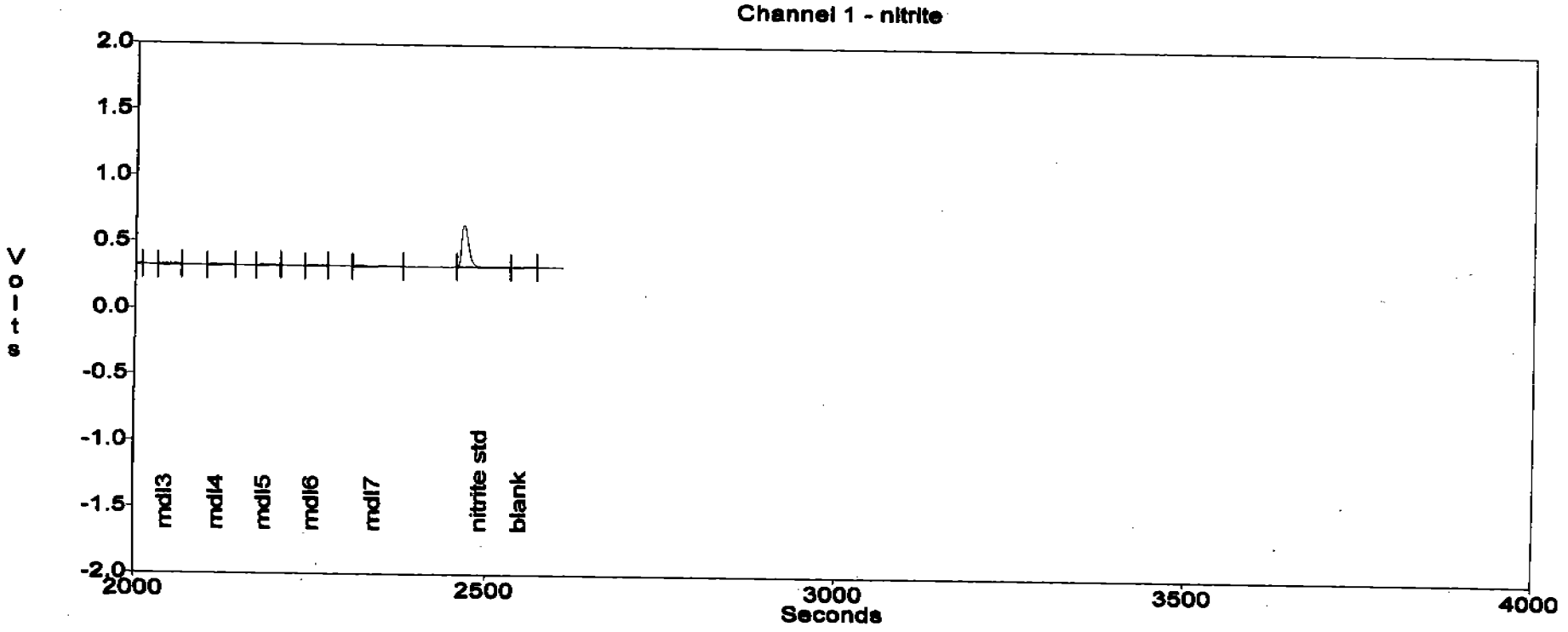
Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 50

Cup	Sample ID	Sample Type	Sampling Date	Sampling Time	# of Reps	nitrite (mg/l)	Auto Dil Factor
2	nitrite std	RelChkStd	22 May 2002	11:06:15	1	0.511	1.00
				Known Concentration:		0.500	
				% Difference:		2.284	
2	nitrite std	RelChkStd	22 May 2002	11:20:00	1	0.518	1.00
				Known Concentration:		0.500	
				% Difference:		3.557	
2	nitrite std	RelChkStd	22 May 2002	11:34:00	1	0.506	1.00
				Known Concentration:		0.500	
				% Difference:		1.178	
6	blank	Blank	22 May 2002	11:07:24	1	0.003	1.00
6	blank	Blank	22 May 2002	11:21:08	1	0.003	1.00
6	blank	Blank	22 May 2002	11:35:10	1	0.008	1.00

OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\052202CC.FDT
TRAY FILENAME: C:\OMNION\TRAYS\052202CC.TRA

001810





OPERATOR: Jodi Blouw
ACQ. TIME: May 22, 2002 13:02:19
DATA FILENAME: C:\OMNION\DATA\052202CC.FDT

Multi-Channel Table
Type: Calibration Standards
Channel Range: 1 to 8 -- Cup Range: 28 to 50

Cup	Sample ID	Sampling Date	# of Reps	nitrite (uv-s)	Auto Dil Factor

NO SAMPLE INFO FOR THE SELECTED CUP RANGE

OPERATOR: Jodi Blouw
ACQ. TIME: May 22, 2002 13:02:19
DATA FILENAME: C:\OMNION\DATA\052202CC.FDT

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 50

Cup	Sample ID	Sampling Date	Sampling Time	# of Reps	nitrite (mg/l)	Auto Dil Factor
1	305331	22 May 2002	13:02:24	1	0.030	1.00
2	305332	22 May 2002	13:03:34	1	0.048	1.00
3	305333	22 May 2002	13:04:45	1	0.032	1.00
4	305334	22 May 2002	13:05:56	1	0.029	1.00
5	305335	22 May 2002	13:07:06	1	0.054	1.00
6	305336	22 May 2002	13:08:16	1	0.130	1.00
7	305337	22 May 2002	13:09:26	1	0.062	1.00
8	305338	22 May 2002	13:10:35	1	0.030	1.00
9	305339	22 May 2002	13:11:45	1	0.041	1.00
10	305340	22 May 2002	13:12:54	1	0.083	1.00
11	305341	22 May 2002	13:16:20	1	0.043	1.00
12	305342	22 May 2002	13:17:30	1	0.050	1.00
13	305343	22 May 2002	13:18:38	1	0.035	1.00
14	305344	22 May 2002	13:19:47	1	0.054	1.00
15	305345	22 May 2002	13:20:56	1	0.031	1.00
16	305346	22 May 2002	13:22:06	1	0.029	1.00
17	305346 dup	22 May 2002	13:23:17	1	0.070	1.00
18	305346 spk	22 May 2002	13:24:28	1	0.393	1.00
19	lfb1	22 May 2002	13:25:38	1	0.317	1.00
20	lfb2	22 May 2002	13:26:49	1	0.331	1.00
21	lfb3	22 May 2002	13:30:16	1	0.357	1.00
22	lfb4	22 May 2002	13:31:25	1	0.309	1.00
23	mdl1	22 May 2002	13:32:35	1	0.019	1.00
24	mdl2	22 May 2002	13:33:45	1	0.023	1.00
25	mdl3	22 May 2002	13:34:54	1	0.017	1.00
26	mdl4	22 May 2002	13:36:04	1	0.021	1.00
27	mdl5	22 May 2002	13:37:13	1	0.018	1.00
28	mdl6	[redacted]			0.017	1.00

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 50

Cup	Sample ID	Sample Type	Sampling Date	Sampling Time	# of Reps	nitrite (mg/l)	Auto Dil Factor
2	nitrite std	RelChkStd	22 May 2002	13:14:02	1	0.512	1.00
					Known Concentration:	0.500	
					% Difference:	2.458	
2	nitrite std	RelChkStd	22 May 2002	13:27:57	1	0.504	1.00
					Known Concentration:	0.500	
					% Difference:	0.755	
2	nitrite std	RelChkStd	22 May 2002	13:42:07	1	0.525	1.00
					Known Concentration:	0.500	
					% Difference:	4.917	
6	blank	Blank	22 May 2002	13:15:11	1	0.002	1.00
6	blank	Blank	22 May 2002	13:29:06	1	0.001	1.00
6	blank	Blank	22 May 2002	13:43:16	1	0.003	1.00

INSTRUMENT: Flow Injection Analysis
TRAY: NO2CALIB.TRA METHOD: NITRITE.MET DATAFILE: 052202NT.FDT
DATE/TIME: Wed May 22 09:56:26 2002 OPERATOR: Jodi Blouw

*** Begin Calibration ***
Cup# 1 Sample: 1.0 Type: CalStd Level: 1 Rep# 1/2
  Ch 1: nitrite Peak Area = 7102444.0 µv-s
Cup# 1 Sample: 1.0 Type: CalStd Level: 1 Rep# 2/2
  Ch 1: nitrite Peak Area = 7135876.0 µv-s
Cup# 1 Sample: 1.0 Type: CalStd Avg 2 Reps
  Ch 1: nitrite Peak Area = 7119160.0 µv-s
Cup# 2 Sample: 0.50 Type: CalStd Level: 2 Rep# 1/2
  Ch 1: nitrite Peak Area = 3888786.0 µv-s
Cup# 2 Sample: 0.50 Type: CalStd Level: 2 Rep# 2/2
  Ch 1: nitrite Peak Area = 3883970.0 µv-s
Cup# 2 Sample: 0.50 Type: CalStd Avg 2 Reps
  Ch 1: nitrite Peak Area = 3886378.0 µv-s
Cup# 3 Sample: 0.25 Type: CalStd Level: 3 Rep# 1/2
  Ch 1: nitrite Peak Area = 1832987.0 µv-s
Cup# 3 Sample: 0.25 Type: CalStd Level: 3 Rep# 2/2
  Ch 1: nitrite Peak Area = 1830522.0 µv-s
Cup# 3 Sample: 0.25 Type: CalStd Avg 2 Reps
  Ch 1: nitrite Peak Area = 1831754.5 µv-s
Cup# 4 Sample: 0.10 Type: CalStd Level: 4 Rep# 1/2
  Ch 1: nitrite Peak Area = 694680.0 µv-s
Cup# 4 Sample: 0.10 Type: CalStd Level: 4 Rep# 2/2
  Ch 1: nitrite Peak Area = 677699.0 µv-s
Cup# 4 Sample: 0.10 Type: CalStd Avg 2 Reps
  Ch 1: nitrite Peak Area = 686189.5 µv-s
Cup# 5 Sample: 0.05 Type: CalStd Level: 5 Rep# 1/2
  Ch 1: nitrite Peak Area = 348221.0 µv-s
Cup# 5 Sample: 0.05 Type: CalStd Level: 5 Rep# 2/2
  Ch 1: nitrite Peak Area = 333509.0 µv-s
Cup# 5 Sample: 0.05 Type: CalStd Avg 2 Reps
  Ch 1: nitrite Peak Area = 340865.0 µv-s
Cup# 6 Sample: 0 Type: CalStd Level: 6 Rep# 1/1
  Ch 1: nitrite Peak Area = 144460.0 µv-s
*** Updated Calibration ***
  Ch 1: nitrite
    ** 1st Order Poly Calibration **
    C[0] = 1.39567e-007
    C[1] = -0.00919517
    r = 0.9988
*** End Calibration Block ***
*** Calibration Passed ***
******* Tray Run Complete *******

INSTRUMENT: Flow Injection Analysis
TRAY: 052202CA.TRA METHOD: NITRITE.MET DATAFILE: 052202CA.FDT
DATE/TIME: Wed May 22 10:11:47 2002 OPERATOR: Jodi Blouw

***** Auto DQM Begin *****
*** Starting DQM Set check std ***
Cup# 2 Sample: nitrite std Type: RelChkStd Rep# 1/1 ICV
Ch 1: nitrite = 0.5478 mg/l
DQM Sample Results: nitrite std
Ch 1: nitrite = 0.5478 mg/l
Known Conc = 0.5000 Conc Units - %Diff from Known = 9.5502%
Test 1: Passed
Cup# 6 Sample: blank Type: Blank Rep# 1/1 ICB
Ch 1: nitrite = 0.0052 mg/l
DQM Sample Results: blank
Ch 1: nitrite
Determined Conc = 0.0052 mg/l
Test 1: Passed
*** End of DQM Set check std - Set Passed ***
Cup# 1 Sample: blk Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0207 mg/l
Cup# 2 Sample: lcs Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.4847 mg/l
Cup# 3 Sample: crdl Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0385 mg/l
Cup# 4 Sample: mpb nc Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0336 mg/l
Cup# 5 Sample: mdl1 nc Type: Unknown Rep# 1/1 LFB reanalyzed on last tray.
Ch 1: nitrite = 0.0615 mg/l
Cup# 6 Sample: mdl2 nc Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0643 mg/l
Cup# 7 Sample: mdl3 nc Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0698 mg/l
Cup# 8 Sample: mdl4 nc Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0690 mg/l
Cup# 9 Sample: mdl5 nc Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0705 mg/l
Cup# 10 Sample: mdl6 nc Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0710 mg/l
***** Auto DQM Begin *****
*** Starting DQM Set check std ***
Cup# 2 Sample: nitrite std Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: nitrite = 0.5097 mg/l
DQM Sample Results: nitrite std CCV1
Ch 1: nitrite = 0.5097 mg/l
Known Conc = 0.5000 Conc Units - %Diff from Known = 1.9472%
Test 1: Passed
Cup# 6 Sample: blank Type: Blank Rep# 1/1 Repeat# 1
Ch 1: nitrite = 0.0034 mg/l CCB1
DQM Sample Results: blank
Ch 1: nitrite
Determined Conc = 0.0034 mg/l
Test 1: Passed
*** End of DQM Set check std - Set Passed ***
Cup# 11 Sample: mdl7 nc Type: Unknown Rep# 1/1
Ch 1: nitrite = 10.3771 mg/l
>>> Autodilution Triggered <<<
Cup# 12 Sample: lfb1 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.3756 mg/l
Cup# 13 Sample: lfb2 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.4084 mg/l
Cup# 14 Sample: lfb3 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.3665 mg/l
Cup# 15 Sample: lfb4 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.2976 mg/l
Cup# 1 Sample: mdl7 Type: Unknown Rep# 1/1

INSTRUMENT: Flow Injection Analysis
TRAY: 052202CB.TRA METHOD: NITRITE.MET DATAFILE: 052202CB.FDT
DATE/TIME: Wed May 22 10:54:42 2002 OPERATOR: Jodi Blouw

Cup# 1 Sample: 305052 sw Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0388 mg/l
Cup# 2 Sample: 305052 dup Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0372 mg/l
Cup# 3 Sample: 305052 spk Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.1900 mg/l
Cup# 4 Sample: 305053 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0701 mg/l
Cup# 5 Sample: 305054 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0754 mg/l
Cup# 6 Sample: 305055 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0656 mg/l
Cup# 7 Sample: 305056 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0696 mg/l
Cup# 8 Sample: 305057 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0694 mg/l
Cup# 9 Sample: 305058 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0327 mg/l
Cup# 10 Sample: 305059 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0407 mg/l
***** Auto DQM Begin *****
*** Starting DQM Set check std ***
Cup# 2 Sample: nitrite std Type: RelChkStd Rep# 1/1
Ch 1: nitrite = 0.5114 mg/l
DQM Sample Results: nitrite std
Ch 1: nitrite = 0.5114 mg/l
Known Conc = 0.5000 Conc Units - %Diff from Known = 2.2843%
Test 1: Passed
Cup# 6 Sample: blank Type: Blank Rep# 1/1
Ch 1: nitrite = 0.0034 mg/l
DQM Sample Results: blank
Ch 1: nitrite
Determined Conc = 0.0034 mg/l
Test 1: Passed
*** End of DQM Set check std - Set Passed ***
Cup# 11 Sample: 305060 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0371 mg/l
Cup# 12 Sample: 305061 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0732 mg/l
Cup# 13 Sample: 305316 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0385 mg/l
Cup# 14 Sample: 305317 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.1812 mg/l
Cup# 15 Sample: 305318 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.1435 mg/l
Cup# 16 Sample: 305319 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.1167 mg/l
Cup# 17 Sample: 305320 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0969 mg/l
Cup# 18 Sample: 305321 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.2441 mg/l
Cup# 19 Sample: 305322 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.1296 mg/l
Cup# 20 Sample: 305323 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0926 mg/l
***** Auto DQM Begin *****
*** Starting DQM Set check std ***
Cup# 2 Sample: nitrite std Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: nitrite = 0.5178 mg/l
DQM Sample Results: nitrite std
Ch 1: nitrite = 0.5178 mg/l
Known Conc = 0.5000 Conc Units - %Diff from Known = 3.5568%

CCV2

CCB2

CCV3

Test 1: Passed
Cup# 6 Sample: blank Type: Blank Rep# 1/1 Repeat# 1
Ch 1: nitrite = 0.0029 mg/l
DQM Sample Results: blank
Ch 1: nitrite
Determined Conc = 0.0029 mg/l
Test 1: Passed
*** End of DQM Set check std - Set Passed ***
Cup# 21 Sample: 305324 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0318 mg/l
Cup# 22 Sample: 305325 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0596 mg/l
Cup# 23 Sample: 305325 dup Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0366 mg/l
Cup# 24 Sample: 305325 spk Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.3546 mg/l
Cup# 25 Sample: 305326 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0607 mg/l
Cup# 26 Sample: 305327 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0409 mg/l
Cup# 27 Sample: 305328 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0656 mg/l
Cup# 28 Sample: 305329 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0288 mg/l
Cup# 29 Sample: 305330 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.1187 mg/l
***** Auto DQM Begin *****
*** Starting DQM Set check std ***
Cup# 2 Sample: nitrite std Type: RelChkStd Rep# 1/1 Repeat# 2
Ch 1: nitrite = 0.5059 mg/l
DQM Sample Results: nitrite std
Ch 1: nitrite = 0.5059 mg/l
Known Conc = 0.5000 Conc Units - %Diff from Known = 1.1781%
Test 1: Passed
Cup# 6 Sample: blank Type: Blank Rep# 1/1 Repeat# 2
Ch 1: nitrite = 0.0081 mg/l
DQM Sample Results: blank
Ch 1: nitrite
Determined Conc = 0.0081 mg/l
Test 1: Passed
*** End of DQM Set check std - Set Passed ***
******* Tray Run Complete *******

INSTRUMENT: Flow Injection Analysis
TRAY: 052202CC.TRA METHOD: NITRITE.MET DATAFILE: 052202CC.FDT
DATE/TIME: Wed May 22 13:02:19 2002 OPERATOR: Jodi Blouw

Cup# 1 Sample: 305331 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0303 mg/l
Cup# 2 Sample: 305332 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0485 mg/l
Cup# 3 Sample: 305333 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0323 mg/l
Cup# 4 Sample: 305334 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0294 mg/l
Cup# 5 Sample: 305335 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0541 mg/l
Cup# 6 Sample: 305336 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.1301 mg/l
Cup# 7 Sample: 305337 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0615 mg/l
Cup# 8 Sample: 305338 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0299 mg/l
Cup# 9 Sample: 305339 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0415 mg/l
Cup# 10 Sample: 305340 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0827 mg/l
***** Auto DQM Begin *****
*** Starting DQM Set check std ***
Cup# 2 Sample: nitrite std Type: RelChkStd Rep# 1/1
Ch 1: nitrite = 0.5123 mg/l
DQM Sample Results: nitrite std
Ch 1: nitrite = 0.5123 mg/l
Known Conc = 0.5000 Conc Units - %Diff from Known = 2.4584%
Test 1: Passed
Cup# 6 Sample: blank Type: Blank Rep# 1/1
Ch 1: nitrite = 0.0024 mg/l
DQM Sample Results: blank
Ch 1: nitrite
Determined Conc = 0.0024 mg/l
Test 1: Passed
*** End of DQM Set check std - Set Passed ***
Cup# 11 Sample: 305341 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0432 mg/l
Cup# 12 Sample: 305342 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0496 mg/l
Cup# 13 Sample: 305343 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0352 mg/l
Cup# 14 Sample: 305344 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0542 mg/l
Cup# 15 Sample: 305345 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0309 mg/l
Cup# 16 Sample: 305346 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0287 mg/l
Cup# 17 Sample: 305346 dup Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.0695 mg/l
Cup# 18 Sample: 305346 spk Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.3934 mg/l
Cup# 19 Sample: lfb1 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.3175 mg/l
Cup# 20 Sample: lfb2 Type: Unknown Rep# 1/1
Ch 1: nitrite = 0.3310 mg/l
***** Auto DQM Begin *****
*** Starting DQM Set check std ***
Cup# 2 Sample: nitrite std Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: nitrite = 0.5038 mg/l
DQM Sample Results: nitrite std
Ch 1: nitrite = 0.5038 mg/l
Known Conc = 0.5000 Conc Units - %Diff from Known = 0.7547%

ccv5

ccb5

ccv6

ccb6 0.00

QC 5mf 5/16/02 185808 cc 5-16-02

TRIMATRIX
TOTAL SOLIDS
RESULTS SUMMARY

due 5/23

5/15/02

TRIMATRIX PERCENT SOLIDS CALCULATIONS EPA 160.3	SAMPLE NUMBER	QC	DISH ID	DISH (g)	SAMPLE SIZE (g)	FINAL DISH + RESIDUE (g)	TS RESULT (%)	TS RESULT (IF <10) (%)	ANALYSIS DUPLICATE %RPD
	TEST NUMBER:		14.1-16.01						
	PARAMETER:		TS						
	MATRIX:		SOIL						
	REFERENCE:		160.3						
	INSTRUMENT:		ME9 177				QUALITY CONTROL LIMITS:		
	ODL:		0.1						
	UNITS:		%				WEIGH	less than or equal to 0.0005	
	ANALYSIS DATE:		5/15/02				RPD	< 20%	
	ANALYST:		GEH				BLANK	less than 0.1%(w/w)	
	SUPERVISOR:		DEK						
						CYCLE 1	CYCLE 2		
					START:	105		deg C	
					END:	105		deg C	

TRIMATRIX PERCENT SOLIDS CALCULATIONS EPA 160.3 (CLIENT)	SAMPLE NUMBER	QC	DISH ID	DISH (g)	SAMPLE SIZE (g)	FINAL DISH + RESIDUE (g)	TS RESULT (%)	TS RESULT (IF <10) (%)	ANALYSIS DUPLICATE %RPD
QC		BLANK	1	1.5641	GEH 5-15-02 10	1.5638	<0.1		
STONE & WEBSTER	305052	SAMPLE	2	1.5531	31.1077	32.5418	100		
STONE & WEBSTER	305053	SAMPLE	3	1.5751	23.6779	24.1866	98		
STONE & WEBSTER	305054	SAMPLE	4	1.5836	29.592	30.0533	98		
STONE & WEBSTER	305055	SAMPLE	5	1.5781	30.0864	30.3820	99		
STONE & WEBSTER	305056	SAMPLE	6	1.5804	31.4328	32.4362	99		
STONE & WEBSTER	305057	SAMPLE	7	1.5955	30.7391	30.7045	99		
STONE & WEBSTER	305058	SAMPLE	8	1.5752	30.9776	30.8088	94		
STONE & WEBSTER	305059	SAMPLE	9	1.584	26.8143	27.5428	97		
STONE & WEBSTER	305060	SAMPLE	10	1.5636	33.0049	33.7221	97		
STONE & WEBSTER	305061	SAMPLE	11	1.5561	29.2268	29.6578	96		
STONE & WEBSTER	305061	DUP	12	1.5653	30.6185	30.8107	96	1	

0515TS1.XLS

001819

JMT 5/16/02

15m7*J66t15m7 J66t

2002-MAY-16 14:08 BATCH DETAIL REPORT -- INORGANIC LABORATORY ANALYTICAL BATCH # 185808

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
185808	15-MAY-02	GEH	2	NO	YES	RESD/TOTAL/SOIL	SOIL	SW-846 3550B	10	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	05/15/02	GEH		SOIL	0.1		<0.1		PERCENT SOLIDS	BLK- 1	0						SW-846 3550B
v	2.000	-	185808-115	05/15/02	GEH	305052	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	3.000	-	185808-115	05/15/02	GEH	305053	SOIL	0.1		95		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	4.000	-	185808-115	05/15/02	GEH	305054	SOIL	0.1		96		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	5.000	-	185808-115	05/15/02	GEH	305055	SOIL	0.1		96		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	6.000	-	185808-115	05/15/02	GEH	305056	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	7.000	-	185808-115	05/15/02	GEH	305057	SOIL	0.1		95		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	8.000	-	185808-115	05/15/02	GEH	305058	SOIL	0.1		94		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	9.000	-	185808-115	05/15/02	GEH	305059	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	10.000	-	185808-115	05/15/02	GEH	305060	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	11.000	-	185808-115	05/15/02	GEH	305061	SOIL	0.1		96		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	12.000	- 11	185808-115	05/15/02	GEH	305061	SOIL	0.1	96	96		PERCENT SOLIDS	DUP- 1	0		20				SW-846 3550B

15-MAY-02

INORGANIC BENCHSHEET -- GRAVIMETRIC

Test #: 14 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL
Ref. cit.: SW-846 3550B

Batch: _____

Comments:

12-12[30]

Instrument #: _____

ODL: 0.1
Unit: %

0515+51

Est anal hrs: 2.5
Act anal hrs: _____
Samples in batch: 10
Stock std #: _____

Benchsheet ID: 288829
Owner: _____
Batch Opened Date: _____
Supervisor: _____

OVEN TEMPS	Cycle 1	Cycle 2
In		
Out		

Client / Submittal Location	Sample	COC	QC	Analyst	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Report. Conc.	ODL	Q#
Stone & Webster Engineering Corp 35988- 1 6807-13 1Z	305052	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6807-13 14	305053	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6807-13 6F	305054	YES	LV5										
Stone & Webster Engineering Corp [illegible]- 1 [illegible]-13 6C	305055	YES	LV5										
[illegible] & Webster Engineering Corp [illegible]- 1 [illegible]-13 3C	305056	YES	LV5										
[illegible] & Webster Engineering Corp [illegible]- 1 [illegible]-13 2B	305057	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6807-13 6B	305058	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6807-13 8E	305059	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6807-13 8E	305060	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6807-13 1D	305061	YES	LV5										

001821

15-MAY-02

INORGANIC BENCHSHEET -- GRAVIMETRIC ** QC **

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL
Ref. cit.: SW-846 3550B
ODL: 0.1
Unit: %

Comments:

Benchsheet ID: 288829
Owner: _____
Batch Opened Date: _____
Supervisor: _____

	Anl.	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:											XXXXXXXX	
LCS: Stk											XXXXXXXX	
SPK1: Stk Smp												
SPK2: Stk Smp												
MSD: Smp		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: Smp											XXXXXXXX	
SPK1: Stk Smp											XXXXXXXX	
SPK2: Stk Smp												
MSD: Smp		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: Smp											XXXXXXXX	
MPB: QCB#											XXXXXXXX	
LFB: Stk QCB#											XXXXXXXX	
CRDL: Stk												

QC Type	Range	Lower	Upper
DUP	1		20
DUP	2		20
LFB - SOIL - 01	1	80	120
MSD	1		20
MSD	2		20
SPK	1	80	120

0018822

Batch #185987 AAR 5-21-02

TRIMATRIX
TOTAL SOLIDS
RESULTS SUMMARY

due 5/23 MDO 5/21

5/17/02

TRIMATRIX PERCENT SOLIDS CALCULATIONS EPA 160.3	SAMPLE NUMBER	QC	DISH ID	DISH (g)	SAMPLE SIZE (g)	FINAL DISH + RESIDUE (g)	TS RESULT (%)	TS RESULT (IF <10) (%)	ANALYSIS DUPLICATE %RPD
	TEST NUMBER:		14.1-16.01						
	PARAMETER:		TS						
	MATRIX:		SOIL						
	REFERENCE:		160.3						
	INSTRUMENT:		~~ME3~~ 177				QUALITY CONTROL LIMITS:		
	ODL:		0.1						
	UNITS:		%				WEIGH	less than or equal to 0.0005	
	ANALYSIS DATE:		5/17/02				RPD	< 20%	
	ANALYST:		GEH				BLANK	less than 0.1%(w/w)	
	SUPERVISOR:		DEK						
						CYCLE 1	CYCLE 2		
					START:	105		deg C	
					END:	105		deg C	

TRIMATRIX PERCENT SOLIDS CALCULATIONS EPA 160.3 (CLIENT)	SAMPLE NUMBER	QC	DISH ID	DISH (g)	SAMPLE SIZE (g)	FINAL DISH + RESIDUE (g)	TS RESULT (%)	TS RESULT (IF <10) (%)	ANALYSIS DUPLICATE %RPD
QC		BLANK	1	1.5527	60% 5-17-02 ~~10~~	1.5521	<0.1		
[redacted]	[redacted]	SAMPLE	2	1.5672	23.6683	21.5994	[redacted]		
[redacted]	[redacted]	DUP	3	1.5664	25.8471	23.8262	[redacted]		2
STONE & WEBSTER	305316	SAMPLE	4	1.5846	24.5442	25.2895	97		
STONE & WEBSTER	305317	SAMPLE	5	1.5559	21.4437	22.4117	97		
STONE & WEBSTER	305318	SAMPLE	6	1.5542	20.8634	22.0408	98		
STONE & WEBSTER	305319	SAMPLE	7	1.5967	20.8289	22.0205	98		
STONE & WEBSTER	305320	SAMPLE	8	1.5863	21.5978	22.6144	97		
STONE & WEBSTER	305321	SAMPLE	9	1.584	22.7459	23.6100	97		
STONE & WEBSTER	305322	SAMPLE	10	1.5861	25.191	24.9905	93		
STONE & WEBSTER	305323	SAMPLE	11	1.5854	23.8597	22.5091	88		
STONE & WEBSTER	305324	SAMPLE	12	1.5758	20.3780	21.8770	100		
STONE & WEBSTER	305325	SAMPLE	13	1.5908	21.1977	22.7217	100		
STONE & WEBSTER	305326	SAMPLE	14	1.5593	20.9369	22.3555	99		
STONE & WEBSTER	305327	SAMPLE	15	1.5683	23.4742	25.0178	100		
STONE & WEBSTER	305328	SAMPLE	16	1.5684	21.6471	23.1240	100		
STONE & WEBSTER	305329	SAMPLE	17	1.568	27.5717	29.0756	100		
STONE & WEBSTER	305330	SAMPLE	18	1.566	20.0699	21.3835	99		
STONE & WEBSTER	305331	SAMPLE	19	1.5689	20.3474	21.8133	99		

0517TS1.XLS

001823

TRIMATRIX
TOTAL SOLIDS
RESULTS SUMMARY

5/17/02

TRIMATRIX PERCENT SOLIDS CALCULATIONS EPA 160.3	SAMPLE NUMBER	QC	DISH ID	DISH (g)	SAMPLE SIZE (g)	FINAL DISH + RESIDUE (g)	TS RESULT (%)	TS RESULT (IF <10) (%)	ANALYSIS DUPLICATE %RPD
STONE & WEBSTER	305332	SAMPLE	20	1.5603	21.5223	23.0260	100		
STONE & WEBSTER	305333	SAMPLE	21	1.5896	20.108	21.6320	100		
STONE & WEBSTER	305334	SAMPLE	22	1.553	22.4776	23.0902	96		
STONE & WEBSTER	305335	SAMPLE	23	1.5586	20.3018	20.5434	94		
STONE & WEBSTER	305336	SAMPLE	24	1.553	21.7184	22.8739	98		
STONE & WEBSTER	305337	SAMPLE	25	1.5629	20.5	21.8038	99		
STONE & WEBSTER	305338	SAMPLE	26	1.5809	20.1986	21.6079	99		
STONE & WEBSTER	305339	SAMPLE	27	1.5659	21.0535	22.2732	98		
STONE & WEBSTER	305340	SAMPLE	28	1.5625	23.6518	25.0023	99		
STONE & WEBSTER	305341	SAMPLE	29	1.5786	20.0391	21.5587	100		
STONE & WEBSTER	305342	SAMPLE	30	1.5829	20.96	22.4949	100		
STONE & WEBSTER	305343	SAMPLE	31	1.5702	20.7339	22.2227	100		
STONE & WEBSTER	305343	DUP	32	1.5538	21.52	22.9050	99		0
STONE & WEBSTER	305344	SAMPLE	33	1.5542	20.3798	21.8711	100		
STONE & WEBSTER	305344	DUP	34	1.5493	20.6654	22.1573	100		0
STONE & WEBSTER	305345	SAMPLE	35	1.5582	20.1131	21.5881	100		
STONE & WEBSTER	305345	DUP	36	1.5569	21.4739	22.9690	100		0
STONE & WEBSTER	305346	SAMPLE	37	1.567	20.6371	22.1546	100		
STONE & WEBSTER	305329	DUP	38	1.5567	20.393	21.9051	100		0

0517TS1.XLS

001824

JWB 5-22-02

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
185987	17-MAY-02	GEH	1	NO	YES	RESD/TOTAL/SOIL	SOIL	SW-846 3550B	31	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	05/17/02	GEH		SOIL	0.1		<0.1		PERCENT SOLIDS	BLK- 1	0						SW-846 3550B
v	2.000	-	185987-117	05/17/02	GEH	305316	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	3.000	-	185987-117	05/17/02	GEH	305317	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	4.000	-	185987-117	05/17/02	GEH	305318	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	5.000	-	185987-117	05/17/02	GEH	305319	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	6.000	-	185987-117	05/17/02	GEH	305320	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	7.000	-	185987-117	05/17/02	GEH	305321	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	8.000	-	185987-117	05/17/02	GEH	305322	SOIL	0.1		93		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	9.000	-	185987-117	05/17/02	GEH	305323	SOIL	0.1		88		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	10.000	-	185987-117	05/17/02	GEH	305324	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	11.000	-	185987-117	05/17/02	GEH	305325	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	12.000	-	185987-117	05/17/02	GEH	305326	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	13.000	-	185987-117	05/17/02	GEH	305327	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	14.000	-	185987-117	05/17/02	GEH	305328	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	15.000	-	185987-117	05/17/02	GEH	305329	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	16.000	-	185987-117	05/17/02	GEH	305330	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	17.000	-	185987-117	05/17/02	GEH	305331	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	18.000	-	185987-117	05/17/02	GEH	305332	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	19.000	-	185987-117	05/17/02	GEH	305333	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	20.000	-	185987-117	05/17/02	GEH	305334	SOIL	0.1		96		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	21.000	-	185987-117	05/17/02	GEH	305335	SOIL	0.1		94		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	22.000	-	185987-117	05/17/02	GEH	305336	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	23.000	-	185987-117	05/17/02	GEH	305337	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	24.000	-	185987-117	05/17/02	GEH	305338	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	25.000	-	185987-117	05/17/02	GEH	305339	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	26.000	-	185987-117	05/17/02	GEH	305340	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	27.000	-	185987-117	05/17/02	GEH	305341	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	28.000	-	185987-117	05/17/02	GEH	305342	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	29.000	-	185987-117	05/17/02	GEH	305343	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	30.000	- 29	185987-117	05/17/02	GEH	305343	SOIL	0.1	100	99		PERCENT SOLIDS	DUP- 1	1		20				SW-846 3550B
v	31.000	-	185987-117	05/17/02	GEH	305344	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	32.000	- 31	185987-117	05/17/02	GEH	305344	SOIL	0.1	100	100		PERCENT SOLIDS	DUP- 1	0		20				SW-846 3550B

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	33.000	-	185987-117	05/17/02	GEH	305345	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	34.000	- 33	185987-117	05/17/02	GEH	305345	SOIL	0.1	100	100		PERCENT SOLIDS	DUP- 1	0		20				SW-846 3550B
v	35.000	-	185987-117	05/17/02	GEH	305346	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	36.000	- 35	185987-117	05/17/02	GEH	305346	SOIL	0.1	100	100		PERCENT SOLIDS	DUP- 1	0		20				SW-846 3550B

17-MAY-02

INORGANIC BENCHSHEET -- GRAVIMETRIC

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL
Ref. cit.: SW-846 3550B
Instrument #: _____
ODL: 0.1
Unit: %
Est anal hrs: 7.75
Act anal hrs: _____
Samples in batch: 31
Stock std #: _____
Benchsheet ID: 289029
Owner: _____
Batch Opened Date: _____
Supervisor: _____
Batch: _____

Comments:

180° / 12°

OVEN TEMPS

Cycle	1	2
In		
Out		

Client Submittal Location	Sample	COC	QC	Analyst	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Report. Conc.	ODL	Q#
Stone & Webster Engineering Corp 35988- 1 6731-2 3AW	305316	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6731-2 4BN	305317	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6731-2 3CW	305318	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6731-2 3CA	305319	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6731-2 2BW	305320	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6731-2 1DW	305321	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6731-2 3DN	305322	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6731-2 5CN	305323	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 2AWP0	305324	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 4AWP0	305325	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 4BNP0	305326	YES	LV5										

17-MAY-02

INORGANIC BENCHSHEET -- GRAVIMETRIC

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL
Ref. cit.: SW-846 3550B
Instrument #: _____
ODL: 0.1
Unit: %
Batch: _____
Comments:

Est anal hrs: 7.75
Act anal hrs: _____
Samples in batch: 31
Stock std #: _____

Benchsheet ID: 289029
Owner: _____
Batch Opened Date: _____
Supervisor: _____

OVEN TEMPS	Cycle	1	2
	In		
	Out		

Client. Submittal Location	Sample	COC	QC	Analyst	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Report. Conc.	ODL	Q#
Stone & Webster Engineering Corp 35988- 1 6739 5CWP0	305327	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 5CAWP	305328	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 6AWP0	305329	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 6BWP0	305330	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 8AWP0	305331	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 9BWP0	305332	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 1ANS0	305333	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 2CNS0	305334	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 2CANS	305335	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 2DNS0	305336	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6739 1ENS0	305337	YES	LV5										

001828

17-MAY-02

INORGANIC BENCHSHEET -- GRAVIMETRIC

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL
Ref. cit.: SW-846 3550B
Instrument #: _____
ODL: 0.1
Unit: %
Batch: _____
Comments:

Est anal hrs: 7.75
Act anal hrs: _____
Samples in batch: 31
Stock std #: _____

Benchsheet ID: 289029
Owner: _____
Batch Opened Date: _____
Supervisor: _____

OVEN TEMPS

	Cycle	1	2
	In		
	Out		

Client. Submittal Location	Sample	COC	QC	Analyst	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Report. Conc.	ODL	QH
Stone & Webster Engineering Corp 35988- 1 6712 1CNP0	305338	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6712 1CANP	305339	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6712 2DNP0	305340	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6712 2ANP0	305341	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6712 4BNP0	305342	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6712 4DNP0	305343	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6712 4ANP0	305344	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6712 7BNP0	305345	YES	LV5										
Stone & Webster Engineering Corp 35988- 1 6712 4DANP	305346	YES	LV5										

0018829

17-MAY-02

INORGANIC BENCHSHEET — GRAVIMETRIC ** QC **

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL ODL: 0.1
Ref. cit.: SW-846 3550B Unit: %

Comments:

Benchsheet ID: 289029
Owner: _____
Batch Opened Date: _____
Supervisor: _____

	Anl.	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:											XXXXXXXX	
											XXXXXXXX	
LCS: Stk												
SPK1: Stk Smp												
SPK2: Stk Smp												
MSD: Smp		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: Smp											XXXXXXXX	
											XXXXXXXX	
SPK1: Stk Smp												
SPK2: Stk Smp												
MSD: Smp		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: Smp											XXXXXXXX	
											XXXXXXXX	
MPB: QCB#											XXXXXXXX	
											XXXXXXXX	
LFB: Stk QCB#												
CRDL: Stk												

QC Type	Range	Lower	Upper
DUP	1		20
DUP	2		20
LFB - SOIL - 01	1	80	120
MSD	1		20
MSD	2		20
SPK	1	80	120

0001830

SECTION - K

ANALYSIS-PRETREATMENT DATE SUMMARY PAGES

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
12FNS01001

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305052

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
14HWP01002

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305053

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
6FNP01003

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305054

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
6CNS01004

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305055

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

001835

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
3CNS01005

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305056

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
2BNS01006

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305057

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
6BNS01007

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305058

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
8ENS01008

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305059

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
8EANS01008

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305060

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6807-13
1DNS01010

Submittal Number 35988- 1
Date Sampled: 05/10/02
Date Received: 05/11/02

Sample No: 305061

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/12/02	05/16/02	11/06/02
Copper, Total	05/22/02	11/12/02	05/16/02	11/06/02
Semi-Volatile Extraction	05/21/02	05/24/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/24/02		
Lead, Total	05/22/02	11/12/02	05/16/02	11/06/02
Metals Digestion-ICP	05/16/02	11/06/02		
Metals Digestion-ICPMS	05/16/02	11/06/02		
Nitrocellulose	05/22/02	05/24/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/24/02
Percent Solids	05/15/02	05/24/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/24/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
5AWP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305316

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Subm: May 2002 Samples
Sample: 6731-2
4BNP01002

Sample No: 305317

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Subm: May 2002 Samples
Sample: 6731-2
3CWP01003

Sample No: 305318

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
3CAWP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305319

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
2BWP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305320

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Subm: May 2002 Samples
Sample: 6731-2
1DWP01005

Sample No: 305321

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6731-2
3DNS01006

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305322

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Subm: May 2002 Samples
Sample: 6731-2
5CNS01007

Sample No: 305323

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
2AWP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305324

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
4AWP01002

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305325

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
4BNP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305326

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
5CWP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305327

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/21/02	06/30/02	05/21/02	05/27/02

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Individual sample results relate only to the sample tested.

ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
5CAWP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305328

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
6AWP01005

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305329

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
6BWP01006

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305330

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
8AWP01007

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305331

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/21/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6739
9BWP01008

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305332

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
1ANS01001

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305333

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
2CNS01002

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305334

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
2CANS01002

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305335

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Subm: May 2002 Samples
Sample: 6736
2DNS01003

Sample No: 305336

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6736
1ENS01004

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305337

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
1CNP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305338

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
1CANP01001

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305339

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
2DNP01002

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305340

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/23/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
2ANP01003

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305341

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
4BNP01004

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305342

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
4DNP01005

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305343

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
4ANP01006

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305344

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: May 2002 Samples
Sample: 6712
7BNP01007

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Sample No: 305345

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Aluminum, Total	05/20/02	11/13/02	05/17/02	11/09/02
Copper, Total	05/22/02	11/16/02	05/20/02	11/09/02
Semi-Volatile Extraction	05/21/02	05/27/02		
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Lead, Total	05/22/02	11/16/02	05/20/02	11/09/02
Metals Digestion-ICP	05/17/02	11/09/02		
Metals Digestion-ICPMS	05/20/02	11/09/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		
TCL Semi-Volatile Organic Compounds in Soil - 8270	05/22/02	06/30/02	05/21/02	05/27/02

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 1
Date Sampled: 05/13/02
Date Received: 05/14/02

Subm: May 2002 Samples
Sample: 6712
4DANP01008

Sample No: 305346

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	05/21/02	05/27/02		
Nitrocellulose	05/22/02	05/27/02		
Nitroglycerine	05/22/02	06/30/02	05/21/02	05/27/02
Percent Solids	05/17/02	05/27/02		

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SECTION - L

METHODS PAGES

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METHODS PAGE

Parameter: Aluminum, Total
Method: Atomic Emission-ICP
Application: SOIL Reference Citation: USEPA-6010B
Analyst: Kari L. Visser (KLVM) Date Analyzed: 05/20/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	185994	75111-116
305053	6807-13	14HWP01002	185994	75111-116
305054	6807-13	6FNP01003	185994	75111-116
305055	6807-13	6CNS01004	185994	75111-116
305056	6807-13	3CNS01005	185994	75111-116
305057	6807-13	2BNS01006	185994	75111-116
305058	6807-13	6BNS01007	185994	75111-116
305059	6807-13	8ENS01008	185994	75111-116
305060	6807-13	8EANS01008	185994	75111-116
305061	6807-13	1DNS01010	185994	75111-116
305316	6731-2	5AWP01001	185994	75110-117
305317	6731-2	4BNP01002	185994	75110-117
305318	6731-2	3CWP01003	185994	75110-117
305319	6731-2	3CAWP01003	185994	75110-117
305320	6731-2	2BWP01004	185994	75110-117
305321	6731-2	1DWP01005	185994	75110-117
305322	6731-2	3DNS01006	185994	75110-117
305323	6731-2	5CNS01007	185994	75110-117
305324	6739	2AWP01001	185994	75110-117
305325	6739	4AWP01002	185994	75110-117
305326	6739	4BNP01003	185994	75110-117
305327	6739	5CWP01004	185994	75110-117
305328	6739	5CAWP01004	185994	75110-117
305329	6739	6AWP01005	185994	75110-117
305330	6739	6BWP01006	185994	75110-117
305331	6739	8AWP01007	185994	75110-117
305332	6739	9BWP01008	185994	75110-117
305333	6736	1ANS01001	185994	75110-117
305334	6736	2CNS01002	185994	75110-117
305335	6736	2CANS01002	185994	75110-117
305336	6736	2DNS01003	185994	75109-117
305337	6736	1ENS01004	185994	75109-117
305338	6712	1CNP01001	185994	75109-117
305339	6712	1CANP01001	185994	75109-117
305340	6712	2DNP01002	185994	75109-117
305341	6712	2ANP01003	185994	75109-117
305342	6712	4BNP01004	185994	75109-117
305343	6712	4DNP01005	185994	75109-117
305344	6712	4ANP01006	185994	75109-117
305345	6712	7BNP01007	185994	75109-117

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METHODS PAGE

Parameter: Copper, Total
Method: ICP Mass Spectrometry (ICP-MS)
Application: SOIL Reference Citation: USEPA-6020
Analyst: Denise S. Coffey (DSC) Date Analyzed: 05/22/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	186133	75197-116
305053	6807-13	14HWP01002	186133	75197-116
305054	6807-13	6FNP01003	186133	75197-116
305055	6807-13	6CNS01004	186133	75197-116
305056	6807-13	3CNS01005	186133	75197-116
305057	6807-13	2BNS01006	186133	75197-116
305058	6807-13	6BNS01007	186133	75197-116
305059	6807-13	8ENS01008	186133	75197-116
305060	6807-13	8EANS01008	186133	75197-116
305061	6807-13	1DNS01010	186133	75197-116
305316	6731-2	5AWP01001	186133	75199-120
305317	6731-2	4BNP01002	186133	75199-120
305318	6731-2	3CWP01003	186133	75199-120
305319	6731-2	3CAWP01003	186133	75199-120
305320	6731-2	2BWP01004	186133	75199-120
305321	6731-2	1DWP01005	186133	75199-120
305322	6731-2	3DNS01006	186133	75199-120
305323	6731-2	5CNS01007	186133	75199-120
305324	6739	2AWP01001	186133	75199-120
305325	6739	4AWP01002	186133	75199-120
305326	6739	4BNP01003	186133	75199-120
305327	6739	5CWP01004	186133	75199-120
305328	6739	5CAWP01004	186133	75199-120
305329	6739	6AWP01005	186133	75199-120
305330	6739	6BWP01006	186133	75199-120
305331	6739	8AWP01007	186133	75199-120
305332	6739	9BWP01008	186133	75199-120
305333	6736	1ANS01001	186133	75199-120
305334	6736	2CNS01002	186133	75199-120
305335	6736	2CANS01002	186133	75199-120
305336	6736	2DNS01003	186133	75200-120
305337	6736	1ENS01004	186133	75200-120
305338	6712	1CNP01001	186133	75200-120
305339	6712	1CANP01001	186133	75200-120
305340	6712	2DNP01002	186133	75200-120
305341	6712	2ANP01003	186133	75200-120
305342	6712	4BNP01004	186133	75200-120
305343	6712	4DNP01005	186133	75200-120
305344	6712	4ANP01006	186133	75200-120
305345	6712	7BNP01007	186133	75200-120

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METHODS PAGE

Parameter: Semi-Volatile Extraction
Method: Sonication Extraction
Application: SOIL Reference Citation: USEPA-3550B
Analyst: Jonathon E. Osborn (JEO) Date Analyzed: 05/21/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	185953	-121
305053	6807-13	14HWP01002	185953	-121
305054	6807-13	6FNP01003	185953	-121
305055	6807-13	6CNS01004	185953	-121
305056	6807-13	3CNS01005	185953	-121
305057	6807-13	2BNS01006	185953	-121
305058	6807-13	6BNS01007	185953	-121
305059	6807-13	8ENS01008	185953	-121
305060	6807-13	8EANS01008	185953	-121
305061	6807-13	1DNS01010	185953	-121
305316	6731-2	5AWP01001	185953	-121
305317	6731-2	4BNP01002	185953	-121
305318	6731-2	3CWP01003	185953	-121
305319	6731-2	3CAWP01003	185953	-121
305320	6731-2	2BWP01004	185953	-121
305321	6731-2	1DWP01005	185953	-121
305322	6731-2	3DNS01006	185953	-121
305323	6731-2	5CNS01007	185953	-121
305324	6739	2AWP01001	185953	-121
305325	6739	4AWP01002	185953	-121
305326	6739	4BNP01003	185954	-121
305327	6739	5CWP01004	185954	-121
305328	6739	5CAWP01004	185954	-121
305329	6739	6AWP01005	185954	-121
305330	6739	6BWP01006	185954	-121
305331	6739	8AWP01007	185954	-121
305332	6739	9BWP01008	185954	-121
305333	6736	1ANS01001	185954	-121
305334	6736	2CNS01002	185954	-121
305335	6736	2CANS01002	185954	-121
305336	6736	2DNS01003	185954	-121
305337	6736	1ENS01004	185954	-121
305338	6712	1CNP01001	185954	-121
305339	6712	1CANP01001	185954	-121
305340	6712	2DNP01002	185954	-121
305341	6712	2ANP01003	185954	-121
305342	6712	4BNP01004	185954	-121
305343	6712	4DNP01005	185954	-121
305344	6712	4ANP01006	185954	-121
305345	6712	7BNP01007	185954	-121

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METHODS PAGE

Parameter: Extraction Procedure- Nitroglycerine
Method: Extraction for Nitroglycerine
Application: SOIL Reference Citation: USEPA-8332
Analyst: Daniel J. Mierendorf (DJM) Date Analyzed: 05/21/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	186025	-121
305053	6807-13	14HWP01002	186025	-121
305054	6807-13	6FNP01003	186025	-121
305055	6807-13	6CNS01004	186025	-121
305056	6807-13	3CNS01005	186025	-121
305057	6807-13	2BNS01006	186025	-121
305058	6807-13	6BNS01007	186025	-121
305059	6807-13	8ENS01008	186025	-121
305060	6807-13	8EANS01008	186025	-121
305061	6807-13	1DNS01010	186025	-121
305316	6731-2	5AWP01001	186025	-121
305317	6731-2	4BNP01002	186025	-121
305318	6731-2	3CWP01003	186025	-121
305319	6731-2	3CAWP01003	186025	-121
305320	6731-2	2BWP01004	186025	-121
305321	6731-2	1DWP01005	186025	-121
305322	6731-2	3DNS01006	186025	-121
305323	6731-2	5CNS01007	186025	-121
305324	6739	2AWP01001	186025	-121
305325	6739	4AWP01002	186026	-121
305326	6739	4BNP01003	186025	-121
305327	6739	5CWP01004	186026	-121
305328	6739	5CAWP01004	186026	-121
305329	6739	6AWP01005	186026	-121
305330	6739	6BWP01006	186026	-121
305331	6739	8AWP01007	186026	-121
305332	6739	9BWP01008	186026	-121
305333	6736	1ANS01001	186026	-121
305334	6736	2CNS01002	186026	-121
305335	6736	2CANS01002	186026	-121
305336	6736	2DNS01003	186026	-121
305337	6736	1ENS01004	186026	-121
305338	6712	1CNP01001	186026	-121
305339	6712	1CANP01001	186026	-121
305340	6712	2DNP01002	186026	-121
305341	6712	2ANP01003	186026	-121
305342	6712	4BNP01004	186026	-121
305343	6712	4DNP01005	186027	-121
305344	6712	4ANP01006	186027	-121
305345	6712	7BNP01007	186027	-121
305346	6712	4DANP01008	186027	-121

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METHODS PAGE

Parameter: Lead, Total
Method: ICP Mass Spectrometry (ICP-MS)
Application: SOIL Reference Citation: USEPA-6020
Analyst: Denise S. Coffey (DSC) Date Analyzed: 05/22/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	186133	75197-116
305053	6807-13	14HWP01002	186133	75197-116
305054	6807-13	6FNP01003	186133	75197-116
305055	6807-13	6CNS01004	186133	75197-116
305056	6807-13	3CNS01005	186133	75197-116
305057	6807-13	2BNS01006	186133	75197-116
305058	6807-13	6BNS01007	186133	75197-116
305059	6807-13	8ENS01008	186133	75197-116
305060	6807-13	8EANS01008	186133	75197-116
305061	6807-13	1DNS01010	186133	75197-116
305316	6731-2	5AWP01001	186133	75199-120
305317	6731-2	4BNP01002	186133	75199-120
305318	6731-2	3CWP01003	186133	75199-120
305319	6731-2	3CAWP01003	186133	75199-120
305320	6731-2	2BWP01004	186133	75199-120
305321	6731-2	1DWP01005	186133	75199-120
305322	6731-2	3DNS01006	186133	75199-120
305323	6731-2	5CNS01007	186133	75199-120
305324	6739	2AWP01001	186133	75199-120
305325	6739	4AWP01002	186133	75199-120
305326	6739	4BNP01003	186133	75199-120
305327	6739	5CWP01004	186133	75199-120
305328	6739	5CAWP01004	186133	75199-120
305329	6739	6AWP01005	186133	75199-120
305330	6739	6BWP01006	186133	75199-120
305331	6739	8AWP01007	186133	75199-120
305332	6739	9BWP01008	186133	75199-120
305333	6736	1ANS01001	186133	75199-120
305334	6736	2CNS01002	186133	75199-120
305335	6736	2CANS01002	186133	75199-120
305336	6736	2DNS01003	186133	75200-120
305337	6736	1ENS01004	186133	75200-120
305338	6712	1CNP01001	186133	75200-120
305339	6712	1CANP01001	186133	75200-120
305340	6712	2DNP01002	186133	75200-120
305341	6712	2ANP01003	186133	75200-120
305342	6712	4BNP01004	186133	75200-120
305343	6712	4DNP01005	186133	75200-120
305344	6712	4ANP01006	186133	75200-120
305345	6712	7BNP01007	186133	75200-120

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METHODS PAGE

Parameter: Metals Digestion-ICP
Method: Acid Digestion of Sediments,Soils,Sludge
Application: SOIL Reference Citation: USEPA-3050B
Analyst: Marge A. Scott (MSS) Date Analyzed: 05/16/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	185802	-116
305053	6807-13	14HWP01002	185802	-116
305054	6807-13	6FNP01003	185802	-116
305055	6807-13	6CNS01004	185802	-116
305056	6807-13	3CNS01005	185802	-116
305057	6807-13	2BNS01006	185802	-116
305058	6807-13	6BNS01007	185802	-116
305059	6807-13	8ENS01008	185802	-116
305060	6807-13	8EANS01008	185802	-116
305061	6807-13	1DNS01010	185802	-116

Parameter: Metals Digestion-ICP
Method: Acid Digestion of Sediments,Soils,Sludge
Application: SOIL Reference Citation: USEPA-3050B
Analyst: Marge A. Scott (MSS) Date Analyzed: 05/17/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305316	6731-2	5AWP01001	185857	-117
305317	6731-2	4BNP01002	185857	-117
305318	6731-2	3CWP01003	185857	-117
305319	6731-2	3CAWP01003	185857	-117
305320	6731-2	2BWP01004	185857	-117
305321	6731-2	1DWP01005	185857	-117
305322	6731-2	3DNS01006	185857	-117
305323	6731-2	5CNS01007	185857	-117
305324	6739	2AWP01001	185857	-117
305325	6739	4AWP01002	185857	-117
305326	6739	4BNP01003	185857	-117
305327	6739	5CWP01004	185857	-117
305328	6739	5CAWP01004	185857	-117
305329	6739	6AWP01005	185857	-117
305330	6739	6BWP01006	185857	-117
305331	6739	8AWP01007	185857	-117
305332	6739	9BWP01008	185857	-117
305333	6736	1ANS01001	185857	-117
305334	6736	2CNS01002	185857	-117
305335	6736	2CANS01002	185857	-117
305336	6736	2DNS01003	185858	-117

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METHODS PAGE

Parameter: Metals Digestion-ICP
Method: Acid Digestion of Sediments,Soils,Sludge
Application:SOIL Reference Citation: USEPA-3050B
Analyst: Marge A. Scott (MSS) Date Analyzed: 05/17/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305337	6736	1ENS01004	185858	-117
305338	6712	1CNP01001	185858	-117
305339	6712	1CANP01001	185858	-117
305340	6712	2DNP01002	185858	-117
305341	6712	2ANP01003	185858	-117
305342	6712	4BNP01004	185858	-117
305343	6712	4DNP01005	185858	-117
305344	6712	4ANP01006	185858	-117
305345	6712	7BNP01007	185858	-117

Parameter: Metals Digestion-ICPMS
Method: Acid Digestion of Sediments,Soils,Sludge
Application:SOIL Reference Citation: USEPA-3050B
Analyst: Marge A. Scott (MSS) Date Analyzed: 05/16/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	185803	-116
305053	6807-13	14HWP01002	185803	-116
305054	6807-13	6FNP01003	185803	-116
305055	6807-13	6CNS01004	185803	-116
305056	6807-13	3CNS01005	185803	-116
305057	6807-13	2BNS01006	185803	-116
305058	6807-13	6BNS01007	185803	-116
305059	6807-13	8ENS01008	185803	-116
305060	6807-13	8EANS01008	185803	-116
305061	6807-13	1DNS01010	185803	-116

Parameter: Metals Digestion-ICPMS
Method: Acid Digestion of Sediments,Soils,Sludge
Application:SOIL Reference Citation: USEPA-3050B
Analyst: Marge A. Scott (MSS) Date Analyzed: 05/20/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305316	6731-2	5AWP01001	185914	-120
305317	6731-2	4BNP01002	185914	-120

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METHODS PAGE

Parameter: Metals Digestion-ICPMS
Method: Acid Digestion of Sediments,Soils,Sludge
Application:SOIL Reference Citation: USEPA-3050B
Analyst: Marge A. Scott (MSS) Date Analyzed: 05/20/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305318	6731-2	3CWP01003	185914	-120
305319	6731-2	3CAWP01003	185914	-120
305320	6731-2	2BWP01004	185914	-120
305321	6731-2	1DWP01005	185914	-120
305322	6731-2	3DNS01006	185914	-120
305323	6731-2	5CNS01007	185914	-120
305324	6739	2AWP01001	185914	-120
305325	6739	4AWP01002	185914	-120
305326	6739	4BNP01003	185914	-120
305327	6739	5CWP01004	185914	-120
305328	6739	5CAWP01004	185914	-120
305329	6739	6AWP01005	185914	-120
305330	6739	6BWP01006	185914	-120
305331	6739	8AWP01007	185914	-120
305332	6739	9BWP01008	185914	-120
305333	6736	1ANS01001	185914	-120
305334	6736	2CNS01002	185914	-120
305335	6736	2CANS01002	185914	-120
305336	6736	2DNS01003	185916	-120
305337	6736	1ENS01004	185916	-120
305338	6712	1CNP01001	185916	-120
305339	6712	1CANP01001	185916	-120
305340	6712	2DNP01002	185916	-120
305341	6712	2ANP01003	185916	-120
305342	6712	4BNP01004	185916	-120
305343	6712	4DNP01005	185916	-120
305344	6712	4ANP01006	185916	-120
305345	6712	7BNP01007	185916	-120

Parameter: Nitrocellulose
Method: Automated Nitrocellulose Analysis
Application:SOIL Reference Citation: USARMY BR&D Lab
Analyst: Jodie L. Blouw (JLB) Date Analyzed: 05/22/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	186284	75293-122
305053	6807-13	14HWP01002	186284	75293-122
305054	6807-13	6FNP01003	186284	75293-122

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METHODS PAGE

Parameter: Nitrocellulose
Method: Automated Nitrocellulose Analysis
Application: SOIL Reference Citation: USARMY BR&D Lab
Analyst: Jodie L. Blouw (JLB) Date Analyzed: 05/22/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305055	6807-13	6CNS01004	186284	75293-122
305056	6807-13	3CNS01005	186284	75293-122
305057	6807-13	2BNS01006	186284	75293-122
305058	6807-13	6BNS01007	186284	75293-122
305059	6807-13	8ENS01008	186284	75293-122
305060	6807-13	8EANS01008	186284	75293-122
305061	6807-13	1DNS01010	186284	75293-122
305316	6731-2	5AWP01001	186284	75293-122
305317	6731-2	4BNP01002	186284	75293-122
305318	6731-2	3CWP01003	186284	75293-122
305319	6731-2	3CAWP01003	186284	75293-122
305320	6731-2	2BWP01004	186284	75293-122
305321	6731-2	1DWP01005	186284	75293-122
305322	6731-2	3DNS01006	186284	75293-122
305323	6731-2	5CNS01007	186284	75293-122
305324	6739	2AWP01001	186284	75293-122
305325	6739	4AWP01002	186284	75293-122
305326	6739	4BNP01003	186284	75293-122
305327	6739	5CWP01004	186284	75293-122
305328	6739	5CAWP01004	186284	75293-122
305329	6739	6AWP01005	186284	75293-122
305330	6739	6BWP01006	186284	75293-122
305331	6739	8AWP01007	186284	75293-122
305332	6739	9BWP01008	186284	75293-122
305333	6736	1ANS01001	186284	75293-122
305334	6736	2CNS01002	186284	75293-122
305335	6736	2CANS01002	186284	75293-122
305336	6736	2DNS01003	186284	75293-122
305337	6736	1ENS01004	186284	75293-122
305338	6712	1CNP01001	186284	75293-122
305339	6712	1CANP01001	186284	75293-122
305340	6712	2DNP01002	186284	75293-122
305341	6712	2ANP01003	186284	75293-122
305342	6712	4BNP01004	186284	75293-122
305343	6712	4DNP01005	186284	75293-122
305344	6712	4ANP01006	186284	75293-122
305345	6712	7BNP01007	186284	75293-122
305346	6712	4DANP01008	186284	75293-122

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METHODS PAGE

Parameter: Nitroglycerine
Method: Nitroglycerine by HPLC
Application: SOIL — Reference Citation: USEPA-8332
Analyst: Janet M. Kudirka (JMK1) — Date Analyzed: 05/21/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	186123	75193-121
305053	6807-13	14HWP01002	186123	75193-121
305054	6807-13	6FNP01003	186123	75193-121
305055	6807-13	6CNS01004	186123	75193-121
305056	6807-13	3CNS01005	186123	75193-121
305057	6807-13	2BNS01006	186123	75193-121
305058	6807-13	6BNS01007	186123	75193-121
305059	6807-13	8ENS01008	186123	75193-121
305060	6807-13	8EANS01008	186123	75193-121
305061	6807-13	1DNS01010	186123	75193-121
305316	6731-2	5AWP01001	186123	75193-121
305317	6731-2	4BNP01002	186123	75193-121
305318	6731-2	3CWP01003	186123	75193-121
305319	6731-2	3CAWP01003	186123	75193-121
305320	6731-2	2BWP01004	186123	75193-121
305321	6731-2	1DWP01005	186123	75193-121
305322	6731-2	3DNS01006	186123	75193-121
305323	6731-2	5CNS01007	186123	75193-121
305324	6739	2AWP01001	186123	75193-121
305325	6739	4AWP01002	186123	75195-121
305326	6739	4BNP01003	186123	75193-121
305327	6739	5CWP01004	186123	75195-121
305328	6739	5CAWP01004	186123	75195-121
305329	6739	6AWP01005	186123	75195-121
305330	6739	6BWP01006	186123	75195-121
305331	6739	8AWP01007	186123	75195-121

Parameter: Nitroglycerine
Method: Nitroglycerine by HPLC
Application: SOIL — Reference Citation: USEPA-8332
Analyst: Janet M. Kudirka (JMK1) — Date Analyzed: 05/22/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305332	6739	9BWP01008	186123	75195-121
305333	6736	1ANS01001	186123	75195-121
305334	6736	2CNS01002	186123	75195-121
305335	6736	2CANS01002	186123	75195-121
305336	6736	2DNS01003	186123	75195-121

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METHODS PAGE

Parameter: Nitroglycerine
Method: Nitroglycerine by HPLC
Application: SOIL Reference Citation: USEPA-8332
Analyst: Janet M. Kudirka (JMK1) Date Analyzed: 05/22/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305337	6736	1ENS01004	186123	75195-121
305338	6712	1CNP01001	186123	75195-121
305339	6712	1CANP01001	186123	75195-121
305340	6712	2DNP01002	186122	75195-121
305341	6712	2ANP01003	186122	75195-121
305342	6712	4BNP01004	186123	75195-121
305343	6712	4DNP01005	186123	75194-121
305344	6712	4ANP01006	186123	75194-121
305345	6712	7BNP01007	186123	75194-121
305346	6712	4DANP01008	186123	75194-121

Parameter: Percent Solids
Method: Determination of Percent Dry Weight
Application: SOIL Reference Citation: SW-846 3550B
Analyst: Gretchen Housekeeper (GEH) Date Analyzed: 05/15/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305052	6807-13	12FNS01001	185808	74984-115
305053	6807-13	14HWP01002	185808	74984-115
305054	6807-13	6FNP01003	185808	74984-115
305055	6807-13	6CNS01004	185808	74984-115
305056	6807-13	3CNS01005	185808	74984-115
305057	6807-13	2BNS01006	185808	74984-115
305058	6807-13	6BNS01007	185808	74984-115
305059	6807-13	8ENS01008	185808	74984-115
305060	6807-13	8EANS01008	185808	74984-115
305061	6807-13	1DNS01010	185808	74984-115

Parameter: Percent Solids
Method: Determination of Percent Dry Weight
Application: SOIL Reference Citation: SW-846 3550B
Analyst: Gretchen Housekeeper (GEH) Date Analyzed: 05/17/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305316	6731-2	5AWP01001	185987	75101-117

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METHODS PAGE

Parameter: Percent Solids
Method: Determination of Percent Dry Weight
Application: SOIL Reference Citation: SW-846 3550B
Analyst: Gretchen Housekeeper (GEH) Date Analyzed: 05/17/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305317	6731-2	4BNP01002	185987	75101-117
305318	6731-2	3CWP01003	185987	75101-117
305319	6731-2	3CAWP01003	185987	75101-117
305320	6731-2	2BWP01004	185987	75101-117
305321	6731-2	1DWP01005	185987	75101-117
305322	6731-2	3DNS01006	185987	75101-117
305323	6731-2	5CNS01007	185987	75101-117
305324	6739	2AWP01001	185987	75101-117
305325	6739	4AWP01002	185987	75101-117
305326	6739	4BNP01003	185987	75101-117
305327	6739	5CWP01004	185987	75101-117
305328	6739	5CAWP01004	185987	75101-117
305329	6739	6AWP01005	185987	75101-117
305330	6739	6BWP01006	185987	75101-117
305331	6739	8AWP01007	185987	75101-117
305332	6739	9BWP01008	185987	75101-117
305333	6736	1ANS01001	185987	75101-117
305334	6736	2CNS01002	185987	75101-117
305335	6736	2CANS01002	185987	75101-117
305336	6736	2DNS01003	185987	75101-117
305337	6736	1ENS01004	185987	75101-117
305338	6712	1CNP01001	185987	75101-117
305339	6712	1CANP01001	185987	75101-117
305340	6712	2DNP01002	185987	75101-117
305341	6712	2ANP01003	185987	75101-117
305342	6712	4BNP01004	185987	75101-117
305343	6712	4DNP01005	185987	75101-117
305344	6712	4ANP01006	185987	75101-117
305345	6712	7BNP01007	185987	75101-117
305346	6712	4DANP01008	185987	75101-117

Parameter: TCL Semi-Volatile Organic Compounds in Soil - 8270
Method: Semi-Volatiles GC/MS
Application: SOIL Reference Citation: USEPA-8270C
Analyst: Dawn M. Carlstrom (DMC) Date Analyzed: 05/21/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305326	6739	4BNP01003	186156	75246-121

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METHODS PAGE

Parameter: TCL Semi-Volatile Organic Compounds in Soil - 8270
Method: Semi-Volatiles GC/MS
Application: SOIL Reference Citation: USEPA-8270C
Analyst: Dawn M. Carlstrom (DMC) Date Analyzed: 05/21/02

Sample Number	Sample Description	Analytical Batch	QC Batch
305327	6739 5CWP01004	186156	75246-121

Parameter: TCL Semi-Volatile Organic Compounds in Soil - 8270
Method: Semi-Volatiles GC/MS
Application: SOIL Reference Citation: USEPA-8270C
Analyst: Janet M. Kudirka (JMK1) Date Analyzed: 05/21/02

Sample Number	Sample Description	Analytical Batch	QC Batch
305052	6807-13 12FNS01001	185980	75188-121
305053	6807-13 14HWP01002	185980	75188-121
305054	6807-13 6FNP01003	185980	75188-121
305055	6807-13 6CNS01004	185980	75188-121
305056	6807-13 3CNS01005	185980	75188-121
305057	6807-13 2BNS01006	185980	75188-121
305058	6807-13 6BNS01007	185980	75188-121
305059	6807-13 8ENS01008	185980	75188-121
305060	6807-13 8EANS01008	186085	75188-121
305061	6807-13 1DNS01010	186085	75188-121

Parameter: TCL Semi-Volatile Organic Compounds in Soil - 8270
Method: Semi-Volatiles GC/MS
Application: SOIL Reference Citation: USEPA-8270C
Analyst: Dawn M. Carlstrom (DMC) Date Analyzed: 05/22/02

Sample Number	Sample Description	Analytical Batch	QC Batch
305328	6739 5CAWP01004	186156	75246-121
305329	6739 6AWP01005	186156	75246-121
305330	6739 6BWP01006	186156	75246-121
305331	6739 8AWP01007	186156	75246-121
305332	6739 9BWP01008	186156	75246-121
305333	6736 1ANS01001	186156	75246-121
305334	6736 2CNS01002	186156	75246-121
305335	6736 2CANS01002	186156	75246-121
305336	6736 2DNS01003	186124	75246-121
305337	6736 1ENS01004	186124	75246-121

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METHODS PAGE

Parameter: TCL Semi-Volatile Organic Compounds in Soil - 8270
Method: Semi-Volatiles GC/MS
Application: SOIL Reference Citation: USEPA-8270C
Analyst: Dawn M. Carlstrom (DMC) Date Analyzed: 05/22/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305338	6712	1CNP01001	186124	75246-121
305339	6712	1CANP01001	186124	75246-121
305341	6712	2ANP01003	186124	75246-121
305342	6712	4BNP01004	186124	75246-121
305343	6712	4DNP01005	186124	75246-121
305344	6712	4ANP01006	186124	75246-121
305345	6712	7BNP01007	186124	75246-121

Parameter: TCL Semi-Volatile Organic Compounds in Soil - 8270
Method: Semi-Volatiles GC/MS
Application: SOIL Reference Citation: USEPA-8270C
Analyst: Janet M. Kudirka (JMK1) Date Analyzed: 05/22/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305316	6731-2	5AWP01001	186085	75188-121
305317	6731-2	4BNP01002	186085	75188-121
305318	6731-2	3CWP01003	186085	75188-121
305319	6731-2	3CAWP01003	186085	75188-121
305320	6731-2	2BWP01004	186085	75188-121
305321	6731-2	1DWP01005	186085	75188-121
305322	6731-2	3DNS01006	186085	75188-121
305323	6731-2	5CNS01007	186142	75188-121
305324	6739	2AWP01001	186142	75188-121
305325	6739	4AWP01002	186142	75188-121

Parameter: TCL Semi-Volatile Organic Compounds in Soil - 8270
Method: Semi-Volatiles GC/MS
Application: SOIL Reference Citation: USEPA-8270C
Analyst: Dawn M. Carlstrom (DMC) Date Analyzed: 05/23/02

Sample Number	Sample Description		Analytical Batch	QC Batch
305340	6712	2DNP01002	186138	75246-121

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SECTION - M

METHOD DETECTION LIMIT (MDL) STUDIES

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TriMatrix Laboratories, Inc.

SEMIVOLATILE ORGANIC LABORATORY
INSTRUMENT 151 - 2002 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Nitrglycerin	5/21/02	8332	mg/kg	5.00	4.874	5.456	5.474	6.273	5.714	5.354	4.250	5.342	107%	0.639	2.007

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TriMatrix Laboratories, Inc.

SEMIVOLATILE ORGANIC LABORATORY
INSTRUMENT 133 - 2001 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Phenol	11/5/01	8270C	ug/kg	6.67	6.300	5.930	6.730	5.670	5.430	5.870	6.230	6.023	90%	0.434	1.363
Aniline	11/5/01	8270C	ug/kg	6.67	3.900	1.870	2.730	2.300	1.930	1.230	1.130	2.156	32%	0.952	2.991
Bis(2-Chloroethyl)Ether	11/5/01	8270C	ug/kg	6.67	5.970	5.900	7.270	6.600	7.000	6.430	6.500	6.524	98%	0.499	1.569
2-Chlorophenol	11/5/01	8270C	ug/kg	6.67	5.770	4.830	5.800	5.570	5.730	5.570	5.370	5.520	83%	0.339	1.065
1,3-Dichlorobenzene	11/5/01	8270C	ug/kg	6.67	5.400	4.770	5.570	5.570	5.470	5.230	5.130	5.306	80%	0.288	0.907
1,4-Dichlorobenzene	11/5/01	8270C	ug/kg	6.67	5.430	5.130	5.900	5.530	5.830	5.370	5.300	5.499	82%	0.279	0.878
Benzyl Alcohol	11/5/01	8270C	ug/kg	6.67	4.830	4.000	5.530	5.100	5.030	4.670	4.570	4.819	72%	0.480	1.510
1,2-Dichlorobenzene	11/5/01	8270C	ug/kg	6.67	5.500	5.230	6.030	5.730	5.670	5.530	5.570	5.609	84%	0.245	0.769
2-Methylphenol	11/5/01	8270C	ug/kg	6.67	5.530	5.200	4.800	4.830	5.900	4.700	4.830	5.113	77%	0.453	1.423
Bis(2-Chloroisopropyl)Ether	11/5/01	8270C	ug/kg	6.67	7.170	7.630	8.270	6.800	7.600	7.900	7.600	7.567	113%	0.476	1.495
4-Methylphenol	11/5/01	8270C	ug/kg	6.67	7.430	7.530	7.870	7.330	8.500	7.830	7.170	7.666	115%	0.447	1.404
N-Nitrosodi-N-Propylamine	11/5/01	8270C	ug/kg	6.67	6.600	6.170	7.570	6.270	7.700	6.600	6.970	6.840	103%	0.603	1.894
Hexachloroethane	11/5/01	8270C	ug/kg	6.67	6.000	5.170	7.230	7.000	6.200	6.800	6.970	6.481	97%	0.730	2.295
Nitrobenzene	11/5/01	8270C	ug/kg	6.67	6.730	6.970	6.070	6.600	6.570	6.630	8.870	6.920	104%	0.901	2.832
Isophorone	11/5/01	8270C	ug/kg	6.67	6.800	6.370	6.570	6.230	6.370	6.900	6.970	6.601	99%	0.292	0.917
2-Nitrophenol	11/5/01	8270C	ug/kg	6.67	8.330	7.230	8.730	7.370	7.670	7.770	8.470	7.939	119%	0.576	1.809
2,4-Dimethylphenol	11/5/01	8270C	ug/kg	6.67	3.830	5.830	2.530	3.370	3.830	1.900	2.300	3.370	51%	1.322	4.155
Benzoic Acid	11/5/01	8270C	ug/kg	6.67	1.800	1.770	1.530	1.430	1.800	1.700	2.270	1.757	26%	0.267	0.840
Bis(2-Chloroethoxy)Methane	11/5/01	8270C	ug/kg	6.67	6.430	6.170	6.030	5.800	6.100	5.930	6.030	6.070	91%	0.198	0.624
2,4-Dichlorophenol	11/5/01	8270C	ug/kg	6.67	5.830	5.600	5.530	5.430	5.470	5.400	5.370	5.519	83%	0.158	0.497
1,2,4-Trichlorobenzene	11/5/01	8270C	ug/kg	6.67	5.230	4.730	5.500	5.430	5.500	5.600	5.600	5.370	81%	0.309	0.971
Naphthalene	11/5/01	8270C	ug/kg	6.67	6.730	6.600	7.000	6.430	6.570	6.700	6.700	6.676	100%	0.176	0.554
4-Chloroaniline	11/5/01	8270C	ug/kg	6.67	4.070	2.530	3.100	3.000	2.570	1.670	2.070	2.716	41%	0.778	2.444
2,6-Dichlorophenol	11/5/01	8270C	ug/kg	6.67	6.130	5.730	5.400	5.770	5.430	5.570	5.600	5.661	85%	0.248	0.781

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TriMatrix Laboratories, Inc.

SEMIVOLATILE ORGANIC LABORATORY
INSTRUMENT 133 - 2001 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Hexachlorobutadiene	11/5/01	8270C	ug/kg	6.67	5.700	5.100	5.030	4.900	5.170	4.970	5.130	5.143	77%	0.263	0.826
4-Chloro-3-Methylphenol	11/5/01	8270C	ug/kg	6.67	5.830	5.830	5.830	5.770	5.830	5.970	6.330	5.913	89%	0.194	0.609
2-Methylnaphthalene	11/5/01	8270C	ug/kg	6.67	5.470	5.330	5.700	5.700	5.570	5.400	5.600	5.539	83%	0.144	0.452
Hexachlorocyclopentadiene	11/5/01	8270C	ug/kg	6.67	6.300	5.170	6.100	5.030	4.830	5.470	5.330	5.461	82%	0.547	1.721
2,4,6-Trichlorophenol	11/5/01	8270C	ug/kg	6.67	5.630	5.070	5.330	4.500	5.030	4.270	4.500	4.904	74%	0.497	1.561
2,4,5-Trichlorophenol	11/5/01	8270C	ug/kg	6.67	5.430	5.170	5.330	4.770	4.700	4.570	4.570	4.934	74%	0.366	1.151
2-Chloronapthalene	11/5/01	8270C	ug/kg	6.67	5.200	5.200	5.700	5.300	5.570	5.370	5.230	5.367	80%	0.196	0.617
2-Nitroaniline	11/5/01	8270C	ug/kg	6.67	6.070	5.300	5.800	5.270	5.370	5.430	5.500	5.534	83%	0.295	0.926
Dimethyl Phthalate	11/5/01	8270C	ug/kg	6.67	6.430	6.030	7.000	6.300	6.170	6.700	6.470	6.443	97%	0.327	1.029
2,6-Dinitrotoluene	11/5/01	8270C	ug/kg	6.67	7.470	6.370	7.400	6.170	7.300	6.530	6.670	6.844	103%	0.535	1.681
Acenaphthylene	11/5/01	8270C	ug/kg	6.67	5.800	5.130	5.730	5.700	5.600	5.230	5.100	5.470	82%	0.305	0.957
3-Nitroaniline	11/5/01	8270C	ug/kg	6.67	5.570	4.930	4.830	5.000	5.000	4.530	4.700	4.937	74%	0.327	1.028
Acenaphthene	11/5/01	8270C	ug/kg	6.67	5.300	5.300	5.230	5.370	5.470	5.430	5.030	5.304	80%	0.146	0.460
2,4-Dinitrophenol	11/5/01	8270C	ug/kg	6.67	0.930	1.370	1.200	0.800	0.870	0.370	0.470	0.859	13%	0.360	1.131
4-Nitrophenol	11/5/01	8270C	ug/kg	6.67	5.900	5.400	5.630	5.200	4.430	7.370	5.330	5.609	84%	0.900	2.830
Dibenzofuran	11/5/01	8270C	ug/kg	6.67	5.700	5.970	6.170	5.430	5.670	5.870	5.670	5.783	87%	0.241	0.758
2,4-Dinitrotoluene	11/5/01	8270C	ug/kg	6.67	6.370	6.330	7.030	6.030	5.500	6.330	6.330	6.274	94%	0.456	1.434
Benzo(b)Fluoranthene	11/5/01	8270C	ug/kg	6.67	8.200	7.170	9.430	8.430	9.800	8.470	7.830	8.476	127%	0.900	2.830
Diethyl Phthalate	11/5/01	8270C	ug/kg	6.67	6.600	6.370	7.200	6.030	6.730	6.430	6.130	6.499	97%	0.394	1.239
Fluorene	11/5/01	8270C	ug/kg	6.67	5.330	5.070	5.470	5.000	4.900	4.900	4.800	5.067	76%	0.246	0.773
4-Chlorophenyl Phenyl Ether	11/5/01	8270C	ug/kg	6.67	6.700	5.830	7.000	6.370	6.030	6.130	6.530	6.370	96%	0.407	1.281
4-Nitroaniline	11/5/01	8270C	ug/kg	6.67	7.230	6.630	6.670	6.300	6.030	6.370	6.600	6.547	98%	0.377	1.184
4,6-Dinitro-2-Methylphenol	11/5/01	8270C	ug/kg	6.67	4.700	3.900	4.300	3.630	3.930	3.900	3.870	4.033	60%	0.354	1.112
N-Nitrosodiphenylamine	11/5/01	8270C	ug/kg	6.67	5.030	4.600	4.330	4.630	4.400	4.470	4.770	4.604	69%	0.240	0.753

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TriMatrix Laboratories, Inc.

SEMIVOLATILE ORGANIC LABORATORY
INSTRUMENT 133 - 2001 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
1,2-Diphenylhydrazine	11/5/01	8270C	ug/kg	6.67	6.970	6.300	6.330	6.900	7.270	6.600	7.070	6.777	102%	0.374	1.176
4-Bromophenyl Phenyl Ether	11/5/01	8270C	ug/kg	6.67	5.300	5.200	5.370	4.900	5.400	5.130	5.370	5.239	79%	0.179	0.563
Hexachlorobenzene	11/5/01	8270C	ug/kg	6.67	6.070	5.300	5.700	5.800	5.530	5.730	5.630	5.680	85%	0.238	0.747
Pentachlorophenol	11/5/01	8270C	ug/kg	6.67	5.200	3.900	3.470	2.730	3.200	2.900	3.270	3.524	53%	0.831	2.612
Phenanthrene	11/5/01	8270C	ug/kg	6.67	5.470	6.130	5.770	5.800	5.800	6.570	5.700	5.891	88%	0.357	1.121
Anthracene	11/5/01	8270C	ug/kg	6.67	5.470	5.070	5.030	5.670	5.630	5.700	5.670	5.463	82%	0.292	0.918
Carbazole	11/5/01	8270C	ug/kg	6.67	5.670	7.730	5.500	5.370	6.000	5.730	6.200	6.029	90%	0.802	2.520
Di-n-Butyl Phthalate	11/5/01	8270C	ug/kg	6.67	10.230	9.570	10.230	9.500	10.070	10.300	11.070	10.139	152%	0.524	1.646
Fluoranthene	11/5/01	8270C	ug/kg	6.67	6.270	5.700	6.300	6.370	6.800	6.600	6.470	6.359	95%	0.344	1.082
Benzidine	11/5/01	8270C	ug/kg	6.67	9.500	6.470	4.670	2.870	2.100	1.330	2.230	4.167	62%	2.937	9.231
Pyrene	11/5/01	8270C	ug/kg	6.67	4.970	4.270	4.700	4.200	4.430	4.100	4.270	4.420	66%	0.310	0.974
Butyl Benzyl Phthalate	11/5/01	8270C	ug/kg	6.67	7.530	6.800	6.430	7.170	6.670	6.570	6.670	6.834	102%	0.384	1.207
3,3'-Dichlorobenzidine	11/5/01	8270C	ug/kg	6.67	0.370	0.230	0.130	0.200	0.200	0.200	0.300	0.233	3%	0.079	0.247
Bis(2-Ethylhexyl)Phthalate	11/5/01	8270C	ug/kg	6.67	7.600	6.270	7.330	8.630	6.600	8.930	8.500	7.694	115%	1.034	3.251
Benzo(a)Anthracene	11/5/01	8270C	ug/kg	6.67	3.870	4.030	5.400	5.000	4.800	3.870	4.030	4.429	66%	0.626	1.967
Chrysene	11/5/01	8270C	ug/kg	6.67	5.000	3.970	4.570	4.730	4.300	4.800	4.370	4.534	68%	0.348	1.094
Di-n-Octylphthalate	11/5/01	8270C	ug/kg	6.67	6.000	5.330	6.000	5.530	4.770	5.370	4.970	5.424	81%	0.469	1.474
Benzo(k)Fluoranthene	11/5/01	8270C	ug/kg	6.67	6.000	7.600	6.700	6.630	6.170	6.830	6.600	6.647	100%	0.515	1.620
Benzo(a)Pyrene	11/5/01	8270C	ug/kg	6.67	6.970	5.970	6.230	6.900	7.200	7.370	5.970	6.659	100%	0.590	1.853
Indeno(1,2,3-cd)Pyrene	11/5/01	8270C	ug/kg	6.67	3.600	3.230	3.400	3.000	3.370	3.930	3.730	3.466	52%	0.313	0.985
Dibenzo(a,h)Anthracene	11/5/01	8270C	ug/kg	6.67	6.600	6.130	7.870	8.330	7.570	8.800	7.400	7.529	113%	0.932	2.929
Benzo(g,h,i)Perylene	11/5/01	8270C	ug/kg	6.67	5.970	6.300	6.330	6.570	6.330	8.100	7.230	6.690	100%	0.733	2.304
N-Nitrosodimethylamine	11/5/01	8270C	ug/kg	6.67	14.200	14.370	14.030	11.670	12.830	6.630	7.930	11.666	175%	3.162	9.939
2,3,4,6-tetrachlorophenol	11/5/01	8270C	ug/kg	6.67	5.270	4.770	4.700	3.470	3.500	3.530	3.570	4.116	62%	0.768	2.414
2,3-Dinitrotoluene	11/5/01	8270C	ug/kg	3.33	2.870	2.830	3.630	3.200	2.930	2.870	3.100	3.061	92%	0.285	0.896

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TriMatrix Laboratories, Inc.

METALS LABORATORY
INSTRUMENT 101 - 2002 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Silver	1/17/02	6010/200.7	mg/Kg	0.20	0.553	0.643	0.702	0.717	0.676	0.653	0.677	0.660	330%	0.054	0.169
Aluminum	1/24/02	6010/200.7	mg/Kg	10.00	7.457	7.412	6.709	8.783	6.922	6.563	7.119	7.281	73%	0.742	2.332
Arsenic	1/24/02	6010/200.7	mg/Kg	10.00	11.010	9.656	9.913	8.199	4.593	6.309	7.811	8.213	82%	2.224	6.991
Boron	1/17/02	6010/200.7	mg/Kg	2.00	2.623	2.444	2.206	2.379	2.179	2.138	2.168	2.305	115%	0.182	0.571
Barium	2/14/02	6010/200.7	mg/Kg	0.50	0.420	0.526	0.502	0.499	0.482	0.465	0.488	0.483	97%	0.034	0.106
Beryllium	1/17/02	6010/200.7	mg/Kg	0.05	0.075	0.042	0.037	0.045	0.041	0.040	0.033	0.045	89%	0.014	0.044
Calcium	1/24/02	6010/200.7	mg/Kg	20.00	19.840	14.170	13.440	14.710	14.290	13.310	13.250	14.716	74%	2.327	7.314
Cadmium	1/17/02	6010/200.7	mg/Kg	0.50	0.861	0.713	0.723	0.812	0.751	0.787	0.798	0.778	156%	0.052	0.165
Cobalt	1/17/02	6010/200.7	mg/Kg	1.00	1.227	1.142	1.557	1.281	1.594	1.378	1.321	1.357	136%	0.167	0.524
Chromium	1/17/02	6010/200.7	mg/Kg	1.00	0.950	0.498	0.744	1.295	0.809	0.584	0.902	0.826	83%	0.263	0.826
Copper	1/17/02	6010/200.7	mg/Kg	0.50	0.379	0.364	0.334	0.343	0.366	0.465	0.383	0.376	75%	0.043	0.135
Iron	1/24/02	6010/200.7	mg/Kg	1.00	0.654	0.266	0.321	0.354	0.238	0.271	0.225	0.333	33%	0.149	0.467
Potassium	1/17/02	6010/200.7	mg/Kg	10.00	11.560	10.210	8.902	11.210	7.523	10.910	9.013	9.904	99%	1.473	4.630
Lithium	1/30/02	6010/200.7	mg/Kg	0.50	0.339	0.403	0.292	0.309	0.324	0.348	0.343	0.337	67%	0.035	0.111
Magnesium	2/14/02	6010/200.7	mg/Kg	20.00	14.100	14.180	14.740	14.510	11.920	13.850	11.390	13.527	68%	1.319	4.147
Manganese	1/17/02	6010/200.7	mg/Kg	0.20	0.089	0.041	0.045	0.006	0.047	0.040	0.037	0.044	22%	0.024	0.077
Molybdenum	1/17/02	6010/200.7	mg/Kg	2.00	2.018	1.750	2.060	1.459	1.576	2.221	1.943	1.861	93%	0.276	0.866
Sodium	1/17/02	6010/200.7	mg/Kg	10.00	21.900	23.310	20.390	27.430	26.580	24.310	22.030	23.707	237%	2.573	8.086
Nickel	1/17/02	6010/200.7	mg/Kg	1.00	0.886	1.227	0.411	1.004	0.789	1.119	1.070	0.929	93%	0.271	0.851
Phosphorus	1/24/02	6010/200.7	mg/Kg	20.00	22.280	22.510	27.350	21.610	18.980	24.020	30.650	23.914	120%	3.905	12.273
Lead	1/17/02	6010/200.7	mg/Kg	4.00	3.955	5.103	5.230	6.748	4.723	5.755	3.201	4.959	124%	1.161	3.648
Antimony		6010/200.7	mg/Kg	5.00								#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Selenium	1/17/02	6010/200.7	mg/Kg	10.00	16.790	12.750	16.440	10.120	9.885	12.100	13.550	13.091	131%	2.748	8.637
Silicon	1/24/02	6010/200.7	mg/Kg	20.00	21.270	16.900	16.730	17.890	16.910	15.980	16.310	17.427	87%	1.796	5.645

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revision: 2002.00

TriMatrix Laboratories, Inc.

METALS LABORATORY
INSTRUMENT 101 - 2002 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Tin	1/17/02	6010/200.7	mg/Kg	10.00	13.930	16.890	14.480	16.600	14.530	14.850	15.720	15.286	153%	1.136	**3.569**
Strontium	1/24/02	6010/200.7	mg/Kg	0.50	0.336	0.246	0.255	0.291	0.244	0.268	0.270	0.273	55%	0.032	**0.101**
Titanium	1/17/02	6010/200.7	mg/Kg	0.20	0.251	0.171	0.169	0.210	0.128	0.175	0.144	0.178	89%	0.041	**0.129**
Thallium	1/24/02	6010/200.7	mg/Kg	10.00	9.733	9.696	11.620	8.101	7.331	7.731	6.808	8.717	87%	1.700	**5.342**
Vanadium	1/17/02	6010/200.7	mg/Kg	1.00	1.093	0.935	0.760	1.023	0.969	0.976	0.902	0.951	95%	0.104	**0.328**
Zinc	1/24/02	6010/200.7	mg/Kg	1.00	0.827	0.891	0.775	0.804	0.666	0.825	0.480	0.753	75%	0.138	**0.435**

TriMatrix Laboratories, Inc.

METALS LABORATORY
INSTRUMENT 114 - 2002 HOTBLOCK SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Beryllium	1/14/02	200.8/6020	mg/kg	0.02	0.026	0.023	0.018	0.022	0.022	0.022	0.020	0.022	109%	0.002	**0.007**
Boron 10	2/4/02	200.8/6020	mg/kg	0.10	0.051	0.059	0.129	0.089	0.070	0.068	0.071	0.077	77%	0.026	**0.081**
Boron 11	2/4/02	200.8/6020	mg/kg	0.10	0.056	0.070	0.077	0.072	0.091	0.066	0.051	0.069	69%	0.013	**0.041**
Aluminum		200.8/6020	mg/kg	0.10											
Vanadium	1/14/02	200.8/6020	mg/kg	0.02	0.022	0.021	0.019	0.020	0.021	0.018	0.021	0.020	102%	0.001	**0.004**
Chromium 52	1/14/02	200.8/6020	mg/kg	0.02	0.029	0.029	0.027	0.033	0.032	0.029	0.032	0.030	151%	0.002	**0.007**
Chromium 53	1/14/02	200.8/6020	mg/kg	0.02	0.023	0.023	0.020	0.025	0.024	0.021	0.023	0.023	113%	0.002	**0.006**
Manganese	1/17/02	200.8/6020	mg/kg	0.02	0.011	0.014	0.015	0.008	0.012	0.005	0.016	0.011	57%	0.004	**0.013**
Nickel 58	1/14/02	200.8/6020	mg/kg	0.02	0.022	0.022	0.019	0.020	0.021	0.023	0.016	0.020	102%	0.002	**0.007**
Nickel 60	1/14/02	200.8/6020	mg/kg	0.02	0.023	0.023	0.022	0.021	0.021	0.021	0.020	0.022	108%	0.001	**0.004**
Cobalt	5/2/02	200.8/6020	mg/kg	0.02	0.035	0.025	0.022	0.024	0.019	0.021	0.022	0.024	120%	0.005	**0.016**
Copper 63	1/14/02	200.8/6020	mg/kg	0.02	0.042	0.044	0.042	0.050	0.040	0.038	0.040	0.042	212%	0.004	**0.013**
Copper 65	1/14/02	200.8/6020	mg/kg	0.02	0.043	0.041	0.039	0.049	0.038	0.038	0.038	0.041	204%	0.004	**0.012**
Zinc 66	2/1/02	200.8/6020	mg/kg	0.10	0.096	0.076	0.082	0.091	0.136	0.090	0.083	0.093	93%	0.020	**0.062**
Zinc 68	2/1/02	200.8/6020	mg/kg	0.10	0.097	0.085	0.080	0.113	0.140	0.079	0.081	0.096	96%	0.023	**0.072**
Arsenic	1/14/02	200.8/6020	mg/kg	0.02	0.017	0.017	0.017	0.018	0.018	0.019	0.013	0.017	85%	0.002	**0.006**
Selenium 77	1/14/02	200.8/6020	mg/kg	0.02	0.042	0.027	0.036	0.036	0.042	0.033	0.027	0.035	173%	0.006	**0.020**
Selenium 82	1/15/02	200.8/6020	mg/kg	0.02	0.017	0.018	0.014	0.014	0.013	0.018	0.001	0.014	68%	0.006	**0.019**
Molybdenum 95	5/2/02	200.8/6020	mg/kg	0.02	0.030	0.029	0.026	0.025	0.023	0.029	0.024	0.026	132%	0.003	**0.009**
Molybdenum 98	1/14/02	200.8/6020	mg/kg	0.02	0.021	0.020	0.018	0.018	0.018	0.017	0.017	0.019	93%	0.001	**0.004**
Silver 107	1/17/02	200.8/6020	mg/kg	0.00	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	81%	0.000	**0.001**
Silver 109	1/17/02	200.8/6020	mg/kg	0.00	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	81%	0.000	**0.001**
Cadmium 111	1/17/02	200.8/6020	mg/kg	0.00	0.003	0.003	0.003	0.003	0.004	0.003	0.003	0.003	79%	0.000	**0.001**
Cadmium114	1/17/02	200.8/6020	mg/kg	0.00	0.001	0.001	0.000	0.000	0.001	0.001	0.001	0.001	24%	0.001	**0.002**

TriMatrix Laboratories, Inc.

INORGANIC LABORATORY
2002 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Instrument Number	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Hexavalent Chromium	1/4/02	120	3060/7196A	mg/kg	2.00	0.540	0.980	0.090	1.870	0.530	1.500	1.240	0.964	48%	0.621	**1.953**
Oil & Grease	1/9/02	177	1664	mg/kg	100.00	110.000	100.000	70.000	120.000	90.000	80.000	90.000	94.286	94%	17.182	**54.005**
Cyanide(macro)	1/11/02	161	USEPA9012	mg/kg	0.05	0.030	0.040	0.050	0.040	0.060	0.010	0.040	0.039	77%	0.016	**0.049**
TOC	1/26/02	176	MSA 29-3.5.2	%	0.01	0.006	0.008	0.014	0.010	0.012	0.014	0.010	0.010	104%	0.003	**0.009**
Nitrocellulose	5/23/02	189	USEPA353.2	mg/kg	3.94	3.939	3.136	3.861	4.436	3.183	4.459	3.191	3.744	95%	0.582	**1.829**

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TriMatrix Laboratories, Inc.

INORGANIC LABORATORY
2002 WATER
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Instrument Number	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Sulfate	1/3/02	161	USEPA375.2	mg/L	2.00	0.669	1.812	1.572	1.344	1.048	1.398	1.882	1.389	69%	0.427	1.341
Nitrogen, Nitrite	1/2/02	189	USEPA 353.2	mg/L	0.01	0.012	0.012	0.011	0.012	0.013	0.013	0.015	0.013	126%	0.001	0.004
Nitrogen,Nitrate(+Nitrite)	1/2/02*	189	USEPA 353.2	mg/L	0.03	0.041	0.035	0.034	0.035	0.035	0.036	0.034	0.036	143%	0.002	0.008
Chemical Oxgen Demand	1/2/02	120	USEPA410.4	mg/L	3.00	4.390	4.880	3.980	3.440	3.980	4.310	4.460	4.206	140%	0.457	1.436
Alkalinity	1/10/02	187	USEPA 310.1	mg/L	2.38	1.730	2.110	2.500	3.260	2.300	2.690	2.500	2.441	103%	0.479	1.504
Fluoride	1/11/02	100	USEPA 340.2	mg/L	0.10	0.106	0.102	0.121	0.107	0.102	0.104	0.110	0.107	107%	0.007	0.021
Nitrogen, nitrite spec	1/4/02	120	USEPA 354.1	mg/L	0.010	0.0043	0.0038	0.0038	0.0042	0.0066	0.0056	0.0056	0.0048	48%	0.0011	0.0034
Orthophos (spec)	1/3/02*	120	USEPA 365.2	mg/L	0.005	0.0062	0.0046	0.0049	0.0047	0.0067	0.0049	0.0059	0.0054	108%	0.0008	0.0026
Hardness	1/4/02	176	USEPA 130.2	mg/L	2.00	2.000	3.000	2.000	3.000	2.000	2.000	3.000	2.429	121%	0.535	1.680
oil & grease	1/4/02	177	USEPA 1664	mg/L	4.00	2.900	3.000	4.000	3.600	2.800	3.300	4.300	3.414	85%	0.576	1.809
Chloride (Lachat)	1/7/02	189	USEPA 325.2	mg/L	0.50	0.472	0.416	0.479	0.345	0.465	0.414	0.462	0.436	87%	0.048	0.151
Phenol-low	1/7/02	161	USEPA 420.2	mg/L	0.01	0.011	0.010	0.012	0.013	0.012	0.010	0.014	0.012	117%	0.001	0.005
Phenol-high	1/7/02	161	USEPA 420.2	mg/L	0.02	0.027	0.019	0.020	0.019	0.017	0.018	0.021	0.020	101%	0.003	0.010
Nitrogen,TKN	1/8/02*	161	USEPA 351.2	mg/L	0.10	0.097	0.057	0.038	0.019	0.021	0.033	0.017	0.040	40%	0.029	0.090
Sulfate(manual)	1/15/01	120	USEPA 375.4	mg/L	1.00	0.894	0.751	0.857	0.844	0.894	0.981	0.863	0.869	87%	0.069	0.216
Nitrogen, Ammonia(wtr)	1/9/02	161	USEPA 350.1	mg/L	0.01	0.002	0.003	0.006	0.007	0.004	0.004	0.003	0.004	41%	0.002	0.006
Nitrogen,Ammonia(ww)	1/9/02	161	USEPA 350.1	mg/L	0.05	0.066	0.064	0.063	0.067	0.068	0.067	0.073	0.067	134%	0.003	0.010
Fluoride (IC)	1/11/02*	196	USEPA 300.0	mg/L	0.05	0.080	0.066	0.069	0.074	0.068	0.069	0.066	0.070	141%	0.005	0.016
Chloride (IC)	1/11/02	196	USEPA 300.0	mg/L	0.50	0.514	0.442	0.427	0.451	0.422	0.416	0.357	0.433	87%	0.047	0.147
Nitrite (IC)	1/11/02	196	USEPA 300.0	mg/L	0.05	0.062	0.054	0.065	0.052	0.067	0.053	0.055	0.058	117%	0.006	0.020
Orthophos (IC)	1/11/02	196	USEPA 300.0	mg/L	0.05	0.084	0.045	0.058	0.091	0.070	0.074	0.079	0.072	143%	0.016	0.049
Sulfate (IC)	1/11/02	196	USEPA 300.0	mg/L	1.00	1.370	1.325	1.150	1.170	1.170	1.120	1.214	1.217	122%	0.094	0.297
Hexavalent chromium	1/11/02	120	USEPA7196a	ug/L	1.00	1.300	1.500	1.100	1.000	0.800	0.700	0.700	1.014	101%	0.308	0.968
TOC (WATER)	1/10/02	198	USEPA415.1	mg/L	0.20	0.220	0.260	0.210	0.230	0.290	0.260	0.310	0.254	127%	0.037	0.116
file: Inorganic Water MDL2002.XLS														revision: 2002.10		

001897

TriMatrix Laboratories, Inc.

INORGANIC LABORATORY
2002 WATER
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Instrument Number	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Nitrate (IC)	1/14/02	196	USEPA 300.0	mg/L	0.05	0.065	0.052	0.066	0.076	0.075	0.053	0.050	0.062	125%	0.011	0.034
Hexavalent Chromium	1/15/02	120	USEPA7196a	ug/L	1.00	1.100	1.200	1.600	1.200	1.200	1.400	1.100	1.257	126%	0.181	0.570
Sulfate-low	1/16/02	161	USEPA 375.2	mg/L	1.00	0.952	0.713	0.790	0.131	0.378	0.400	0.703	0.581	58%	0.286	0.898
Formaldehyde	1/17/02	171	USEPA 8411	ug/L	100.00	101.000	79.030	93.340	98.070	93.210	88.240	97.830	92.960	93%	7.427	23.344
Cyanide (Total)	1/18/02	161	USEPA335.2	ug/L	5.00	2.000	2.000	3.000	2.000	2.000	4.000	3.000	2.571	51%	0.787	2.473
Hexavalent Chromium(100mm)	1/22/02	120	USEPA7196a	ug/L	1.00	1.500	0.900	0.900	0.600	0.800	0.800	0.700	0.886	89%	0.291	0.915
Cyanide (Weak Acid Diss.)	2/13/02	161	USEPA4500	ug/L	5.00	1.000	4.000	4.000	3.000	4.000	4.000	4.000	3.429	69%	1.134	3.564
TOX	3/5/02*	194	USEPA 9020B	ug/L	10.00	7.730	7.140	11.440	11.660	11.630	13.580	11.430	10.659	107%	2.333	7.331
Sulfide(mtb)	4/20/02	120	376.2/SDM45	mg/L	0.05	0.056	0.049	0.061	0.059	0.059	0.059	0.060	0.058	115%	0.004	0.013
Total Phos. (autoclave)	4/24/02	161	USEPA 365.1	mg/L	0.01	0.005	0.004	0.005	0.004	0.005	0.004	0.004	0.004	89%	0.001	0.002
Total Phos. (hotplate)	4/24/02	161	USEPA 365.1	mg/L	0.01	0.007	0.007	0.006	0.007	0.006	0.006	0.006	0.006	129%	0.001	0.002
TPH	5/16/02	177	USEPA 1664	mg/L	4.00	3.800	3.900	4.000	3.700	4.100	3.600	3.600	3.814	95%	0.195	0.613

file: Inorganic Water MDL2002.XLS

revision: 2002.10

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court, SE •PO Box 888692
Grand Rapids, MI 49512 (616) 975-4500

TRANSMITTAL FORM

Date: August 16, 2002

Attention: Doug Rubingh
To: Stone & Webster Engineering Corp.
7677 East Berry Avenue
Englewood, CO 80111-2137
303-741-7370

Project No.: 35988-2
Client: Stone & Webster
Project Name: ESTCP
Site Name: Badger Army Base
Location: Wisconsin

WE ARE SENDING YOU:

BY: ____ U.S. Mail ____ RPS __X__ Federal Express ____ Other: ____

ENCLOSED WITH THIS TRANSMITTAL: *X* *UNDER SEPARATE COVER:* ____

____ Work Plan(s)	____ Report(s) (DRAFT)(FINAL)	____ Contract Documents
____ Specifications	____ Design Plans	__X__ Data Package
____ Shop Drawings	____ Proposal(s)	____ Other

QUANTITY	*DESCRIPTION / DOCUMENT NAME*
1	Copy of the data validation package
1	CD

THESE ARE TRANSMITTED AS CHECKED BELOW:

____ For Approval	____ For Your Information	____ For Your Use
____ For File	__X__ Furnished As Requested	____ As Corrected
____ For Review and Comment	____ Revise and Resubmit	____ For Field Use
____ Rejected	____ ____	____ For Submittal To: ____

REMARKS:

cc:

BY: Lisa M. Harvey
Project Chemist

DATA VALIDATION PACKAGE

PREPARED FOR:
Stone & Webster Engineering Corporation
7677 East Berry Avenue
Englewood, Colorado 80111-2137

FOR THE SITE:
BAAP-ESTCP DEMONSTRATION
SDG-35988-2

AUGUST 16, 2002

Submitted by:

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court
Grand Rapids, Michigan 49512

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Modified Level 5 Analysis

STONE & WEBSTER ENGINEERING CORPORATION

BAAP-ESTCP DEMONSTRATION

SDG-35988-2

AUGUST 16, 2002

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SAMPLE DELIVERY GROUP CASE NARRATIVE

Modified Level 5 Analysis

STONE & WEBSTER ENGINEERING CORPORATION
BAAP-ESTCP DEMONSTRATION

SDG-35988-2

AUGUST 16, 2002

This case narrative is applicable to all samples received July 26, 2002. Laboratory sample numbers were assigned as follows:

Submittal Number: 35988-2 **Submittal Description:** July 23, 2002 Samples

Laboratory Sample Numbers	Sample Identification	Requested Analysis	Date Sampled
311131	Badger A Spike	Nitroglycerine, %Solids	7/23/02
311132	Badger B Spike	Nitroglycerine, %Solids	7/23/02
311133	Badger C Spike	Nitroglycerine, %Solids	7/23/02
311134	Badger D Spike	Nitroglycerine, %Solids	7/23/02
311135	Badger E Spike	Nitroglycerine, %Solids	7/23/02
311136	Badger Blank	Nitroglycerine, %Solids	7/23/02

Sample Receipt

On July 26, 2002 at 8:45 AM, a sample delivery group (SDG) containing six (6) soil samples was received at our Grand Rapids, Michigan Laboratory. These samples were scheduled for the analyses requested on the chain-of-custody.

One cooler was received with this shipment. The receipt temperature of the samples were determined by recording the temperature of three (3) random samples of varying container types, using an infra-red thermometer. The average temperature of the three (3) temperatures measured from the cooler received was 22.1°C.

All samples and containers were sent via Federal Express and were received intact and in good condition. Custody seals were present and intact upon receipt. Shipping documents included a field chain-of custody form and Federal Express air bill.

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Analytical Methods

The analytical methods used are as follows.

Parameter	Analytical Method
Nitroglycerine	USEPA Method 8332
% Solids	USEPA Method 3550B

These methods are presented in detail in Section L-Methods Pages.

Holding Times

All samples were prepared and analyzed within EPA approved hold times. The hold time date, pre-treatment date, and analysis date are presented in Section K, Analysis-Pretreatment Date Summary Pages.

Administrative Issues/Problems

No administrative issues were associated with these samples.

Technical Issues/Problems

No technical problems or issues were encountered during the analysis of this SDG.

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In addition to the location of information, the following is a list of QA/QC types utilized by TriMatrix Laboratories, and our in-house type designations.

Method QC:

MPB Method Preparation Blank
BLK Daily Instrument Blank
LFB Laboratory Fortified Blank
LCS Laboratory Control Sample
IEC ICP Interference Check Sample
CRL Contract Required Detection Limit Standard
ICB Initial Calibration Blank
ICV Initial Calibration Verification
CCB Continuing Calibration Blank
CCV Continuing Calibration Verification

Matrix QC:

SPK Sample Matrix Spike
MSD Sample Matrix Spike Duplicate
DUP Sample Duplicate Analysis
SUR Surrogate
PDS Post Digestion Spike

Lisa M. Harvey, Project Chemist

10/16/02
Date

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SECTION - A

FIELD and INTERNAL

CHAIN-OF-CUSTODY (COC) RECORDS

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SECTION - A

FIELD
CHAIN-OF-CUSTODY (COC) RECORDS

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TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 85201

Project Manager	Project Name: ESTCP Project 13341.0720 Applied Research Associates	No's Correspond to Bottle Packing List	For Lab Use Only
Project No.	Sampler (Print)		Rack/Tray No:
	Sampler Signature		Lab Project # 35988-2

Date Sampled	Time Sampled	Matrix* (WTR/WW/SOIL/SLG/Air/Oil/Waste)	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7/23/02		SOIL			Badger A Spike	1	16	Nitroglycerine	311131	02
					Badger B Spike	1	16	"	311132	
					Badger C Spike	1	16	"	311133	
					Badger D Spike	1	16	"	311134	
					Badger E Spike	1	16	"	311135	
					Badger Blank	1	16	"	311136	

Relinquished By:	Date/Time	Received By:	Received by Lab By:	Date/Time	Logged in By:	Date/Time
				7/26/02 8:45		7/26/02 9:30

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

56-1

DO NOT LIFT USING THIS TAG

FedEx® USA Airbill FedEx Tracking Number 8197 3525 067

RECIPIENT: PEEL HERE

1 From This portion can be removed for Recipient's records.

Date 7-25-00 FedEx Tracking Number 819735250677

Sender's Name Sherry Rogers Phone

Company [illegible]

Address [illegible] Dept./Floor/Suite/Ro

City SOUTH BURLINGTON State VT ZIP 05403

2 Your Internal Billing Reference

3 To

Recipient's Name [illegible] Phone [illegible]

Company [illegible]

Address [illegible] We cannot deliver to P.O. boxes or P.O. ZIP

To "HOLD" at FedEx location, print FedEx address.

Dept./Floor/Su

City [illegible] State MI ZIP [illegible]

8197 3525 0677

000010

7/25/02
MW

Samples for Nitroglycerine Analyses

ESTCP Project 13341.0720 / BAAP

Store & Webster

000011

TriMatrix Laboratories, Inc.

SAMPLE RECEIVING / LOG-IN CHECKLIST

Client	Applied Research SW	Project-Submittal No.	35588.2
Receipt Log No.	56-1	Sample Nos.	311131-6
		Project Chemist	LKP

Coolers Received ☑ Cooler ☐ Box ☐ Other _____ | Qty Received: 1 | ☐ IR Gun | Thermometer Used ☐ Digital Thermometer ☐ Other | ☐ See Additional Cooler Information Form

Recorded by (initials/date/time): LKP 7/31/02 8:45

Cooler No.	Custody Seals	Coolant	Temperature Taken Via:	Recorded °C	Correction Factor °C	Actual °C	Average °C	Cooler ID on COC?	VOA trip blank received?
N/A	☑ none	☐ none	☐ temperature blank	1 22.1	0	22.1	22.1	☐	☐
	☐ present / intact	☐ bagged ice	☐ melt water	2 22.4	0	22.4			
	☐ present / not intact	☐ loose ice	☐ 1 container	3 21.7	0	21.9			
		☑ ice packs	☑ average of 2-3 containers						

Cooler No.	Custody Seals	Coolant	Temperature Taken Via:	Recorded °C	Correction Factor °C	Actual °C	Average °C	Cooler ID on COC?	VOA trip blank received?
	☐ none	☐ none	☐ temperature blank	1				☐	☐
	☐ present / intact	☐ bagged ice	☐ melt water	2					
	☐ present / not intact	☐ loose ice	☐ 1 container	3					
		☐ ice packs	☐ average of 2-3 containers						

Cooler No.	Custody Seals	Coolant	Temperature Taken Via:	Recorded °C	Correction Factor °C	Actual °C	Average °C	Cooler ID on COC?	VOA trip blank received?
	☐ none	☐ none	☐ temperature blank	1				☐	☐
	☐ present / intact	☐ bagged ice	☐ melt water	2					
	☐ present / not intact	☐ loose ice	☐ 1 container	3					
		☐ ice packs	☐ average of 2-3 containers						

Cooler No.	Custody Seals	Coolant	Temperature Taken Via:	Recorded °C	Correction Factor °C	Actual °C	Average °C	Cooler ID on COC?	VOA trip blank received?
	☐ none	☐ none	☐ temperature blank	1				☐	☐
	☐ present / intact	☐ bagged ice	☐ melt water	2					
	☐ present / not intact	☐ loose ice	☐ 1 container	3					
		☐ ice packs	☐ average of 2-3 containers						

Complete Problem Submittal Form

Paperwork Received

☐ No COC received

N/A	Yes	No	
	☐	☑	Chain of Custody Record(s)?
	☐		If No, COC initiated by LKP
	☐		Rec'd for Lab signed/date/time?
☐	☑		Shipping Document?
☐	☐		Other _____

COC ID Nos. 85201

☑ TriMatrix
☐ Other _____

Check COC for Accuracy

☐ No analysis requested

Yes	No	
☐	☑	Sample ID matches COC?
☐	☑	Sample date and time matches COC?
☐		Container type completed on COC?
☐	☑	All container types indicated are received?

Sample Condition Summary

☑ Non-TriMatrix containers, see Notes

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☐	Missing or incomplete labels?
	☐	☐	Illegible information on labels?
	☐	☐	Low volume received?
	☐	☐	Inappropriate containers received?
☐	☐	☐	VOC vials have headspace?
☐	☐	☐	TOC vials have headspace?

Check Sample Preservation

N/A	Yes	No	
☐	☐	☐	Completed Sample Preservation Verification Form?
☐	☐	☐	Samples preserved correctly?
☐	☐		Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☑ NONE ☐ TO LAB

☐ Inorganics: *Cr^{+6} (24 hours); Bacteria (6-24 hours); Fe^{+2} / BOD / NO_2 / NO_3 / o-Phos / MBAs / Turbidity (48 hours)*

☐ Volatile Organics: *Encore soils (48 hour prep)*
☐ 5g ☐ Michigan/Wisconsin site?
☐ 25g ☐ non-Michigan/Wisconsin site?

☐ Organic Prep: *Formaldehyde / Aldehydes (72 hours)*

☐ Semi-Volatile Organics: *Air Bags (24 hours)*

Notes W/m 250 mL glass

☐ No COC received, Proj. Chemist reviewed (init./date) _____

☐ No analysis requested, Proj. Chemist completed (init./date) _____

Preliminary paperwork to Project Chemist (date/time)	Preliminary paperwork returned to Log-In (date/time)
LKP 7/26/02 9:15	7/26/02

000012

SECTION - A

INTERNAL
CHAIN-OF-CUSTODY (COC) RECORDS

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TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: July 23, 2002 Soils PROJECT: 35988-2

Parameter: NITROGLYCERINE Method: GC/HPLC/NG/SOIL Ref Cit: USEPA-8332 Matrix: SOIL

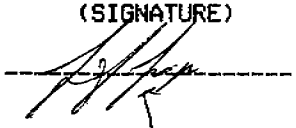
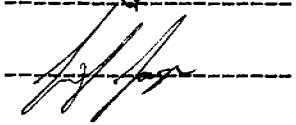
SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
311131	[signature]	7/31/2 12PM			7/31/2 7PM
311132					
311133					
311134					
311135					
311136					

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: July 23, 2002 Soils PROJECT: 35988-2

Parameter: PERCENT SOLIDS Method: RESD/TOTAL/SOIL Ref Cit: SW-846 3550B Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
311131		7/31/02 11:50am			7/31/02 2:00p
311132					
311133					
311134					
311135					
311136		7/31/02 11:50a			7/31/02 2:00p

SECTION - C

NITROGLYCERINE DATA

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SECTION - C

QUALITY CONTROL (QC) SUMMARY

NITROGLYCERINE DATA

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No.	35988 -2	Matrix	SOIL
		Lab Sample No.	311136
Sample ID.	BadgerBlank	Units	mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitroglycerine	70 - 130	49.5	<6.68	U	51	97	
Nitroglycerine	70 - 130	64.6	<6.68	U	51	127	

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -2	Matrix	SOIL
		Lab Sample No.	311136
Sample ID.	BadgerBlank	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Nitroglycerine	0 - 40	49.5	64.6	26	

000019

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QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No. 35988 -2 Units mg/kg dry

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitroglycerine	77286	50	50.4	70 - 130	101

000020

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TRIMATRIX LABORATORIES, INC. FORM 4

8332 METHOD BLANK SUMMARY

Lab ID:	MPB131-188951	Matrix:	SOIL
Lab File Name:	A35_110	Extraction(SepF/Cont/Sonc):	Sonc.
Date Analyzed:	7/31/02	Sulfur Cleanup (Y/N):	N
Time Analyzed:	12:32	Date Extracted:	7/31/02
Instrument ID:	151		

This Method Blank applies to the Following Samples, MS and MSD:

EPA Sample #	Lab Sample #	Date Analyzed
LFB131-188951	LFB131-188951	7/31/02
Badger A Spike	311131	7/31/02
Badger B Spike	311132	7/31/02
Badger C Spike	311133	7/31/02
Badger D Spike	311134	7/31/02
Badger E Spike	311135	7/31/02
Badger Blank	311136	7/31/02
Badger Blank	311136MS	7/31/02
Badger Blank	311136MSD	7/31/02

SECTION - C

SAMPLE DATA

NITROGLYCERINE DATA

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger A Spike	LOD	LOQ	Units
	Lab Sample No:	311131			
E-1047	Percent Solids	96	NA	0.1	%
55-63-0	Nitroglycerine	30	2.0	6.68	mg/kg dry
Sampled by:		ARA			
Date Sampled:		07/23/02			
Time Sampled:		00:00			
Date Received:		07/26/02			
Time Received:		08:45			

000023

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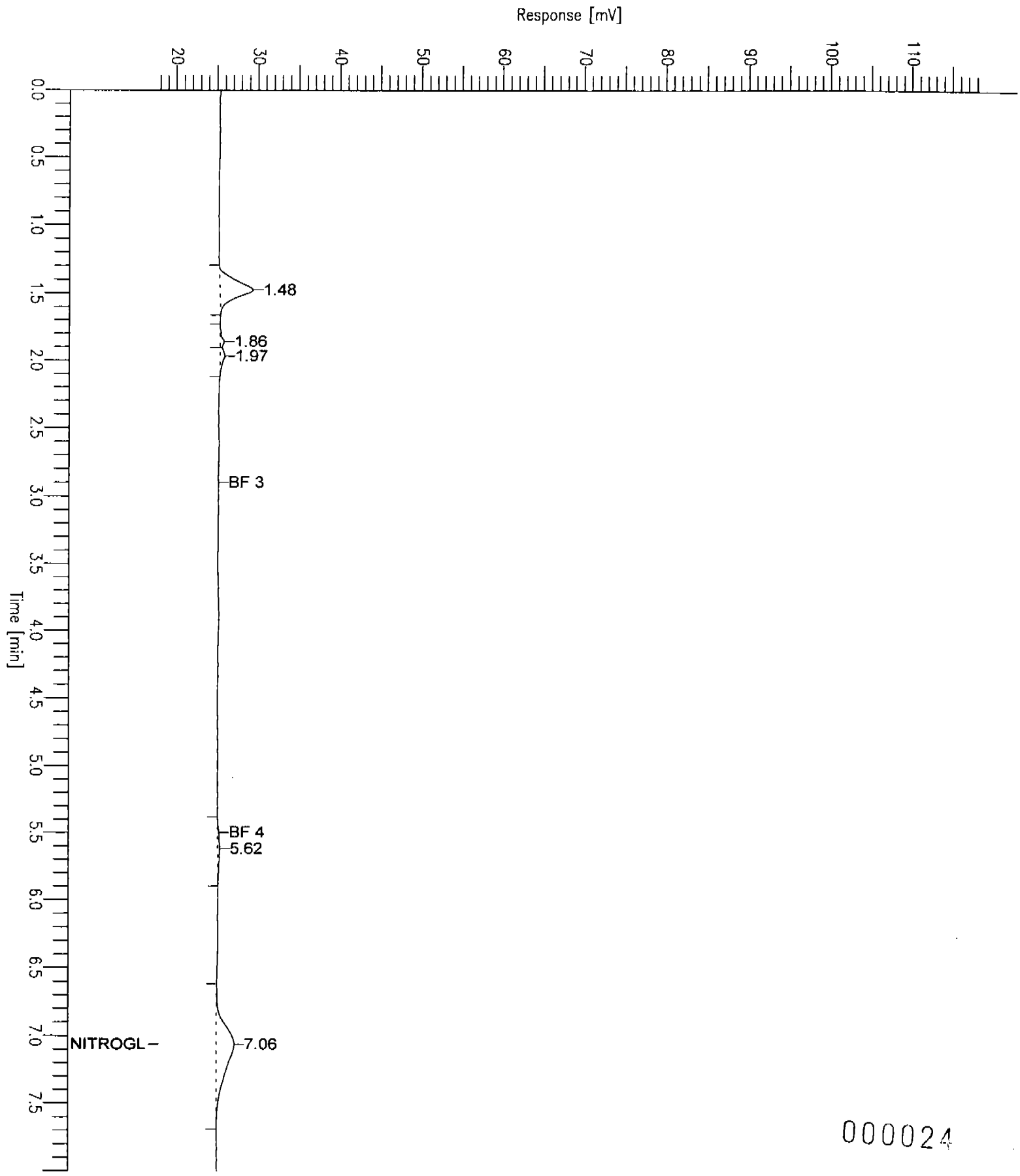
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 311131
FileName : C:\TC4\LC151\A35_112.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 112 Page 1 of 1
Date : 7/31/02 13:24
Time of Injection: 7/31/02 12:55
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000024

Software Version: 4.1<2F12>
Sample Name : 311131 Time : 7/31/02 13:24
Sample Number: 112 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 12:55
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_112.RAW
Result File : C:\WINDOWS\TEMP\~RST2418.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST2418.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

2.1g → 10 ml
96.2 solids

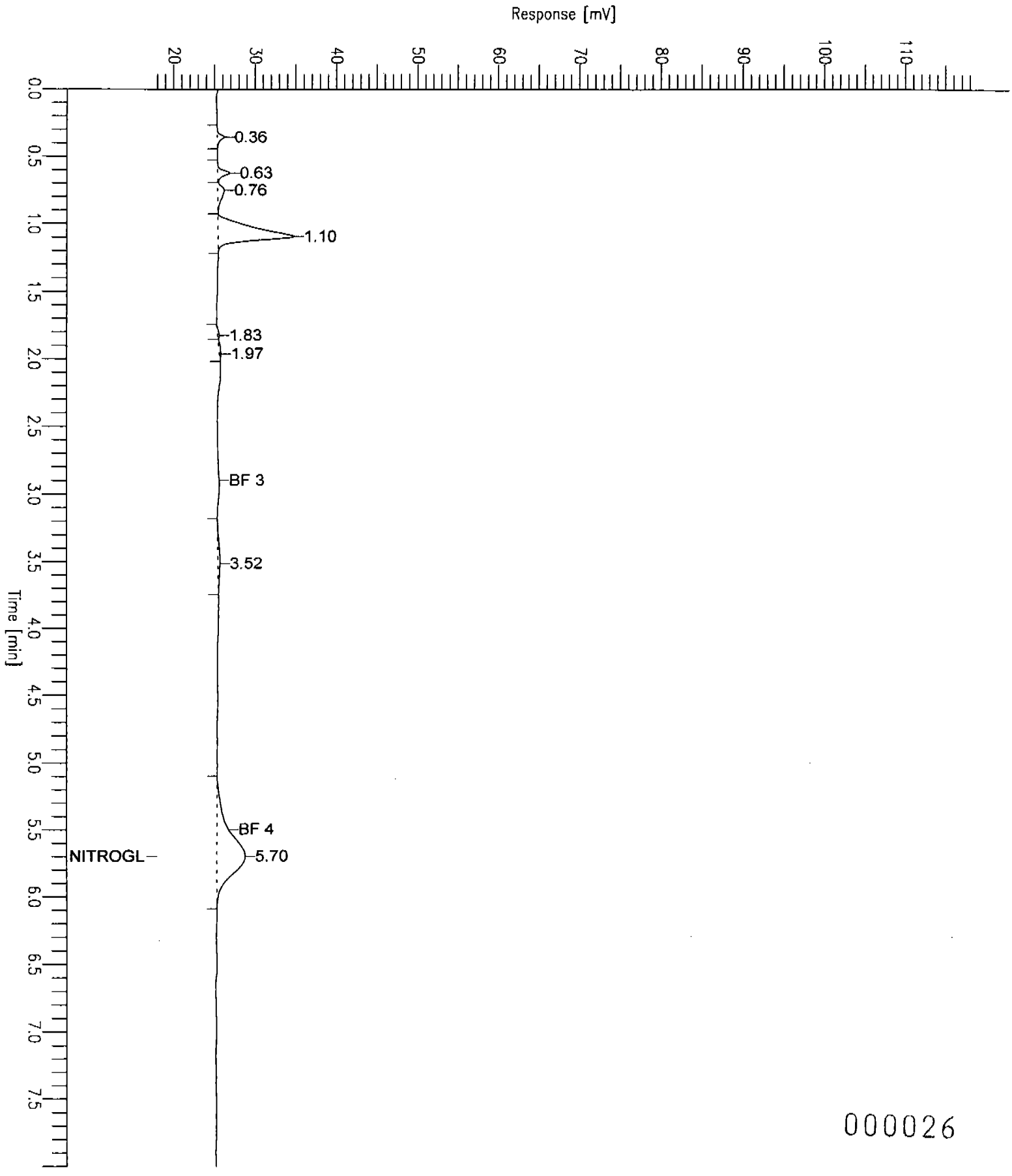
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)		
7.063	NITROGLYCERIN	5.9659	49696.75	2181.48	1.00	1.0	5.9659		
		5.9659	49696.75	2181.48	1.00	1.0	5.9659	28.41	(29.59)

Chromatogram

Sample Name : 311131cc
FileName : C:\TC4\LC151\A35_131.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 131 Page 1 of 1
Date : 8/1/02 05:06
Time of Injection: 7/31/02 17:44
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311131cc
Sample Number: 131
Operator :

Time : 8/1/02 05:06
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 17:44
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_131.RAW
Result File : C:\WINDOWS\TEMP\~RST120B.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST120B.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

2.15 → 10~1

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
5.702	NITROGLYCERIN	5.3438	75495.75	3493.37	1.00	1.0	5.3438	
		5.3438	75495.75	3493.37	1.00	1.0	5.3438	25.45

/.96 = 26.51

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger B Spike	LOD	LOQ	Units
	Lab Sample No:	311132			
E-1047	Percent Solids	97	NA	0.1	%
55-63-0	Nitroglycerine	12	2.0	6.68	mg/kg dry
Sampled by:		ARA			
Date Sampled:		07/23/02			
Time Sampled:		00:00			
Date Received:		07/26/02			
Time Received:		08:45			

000028

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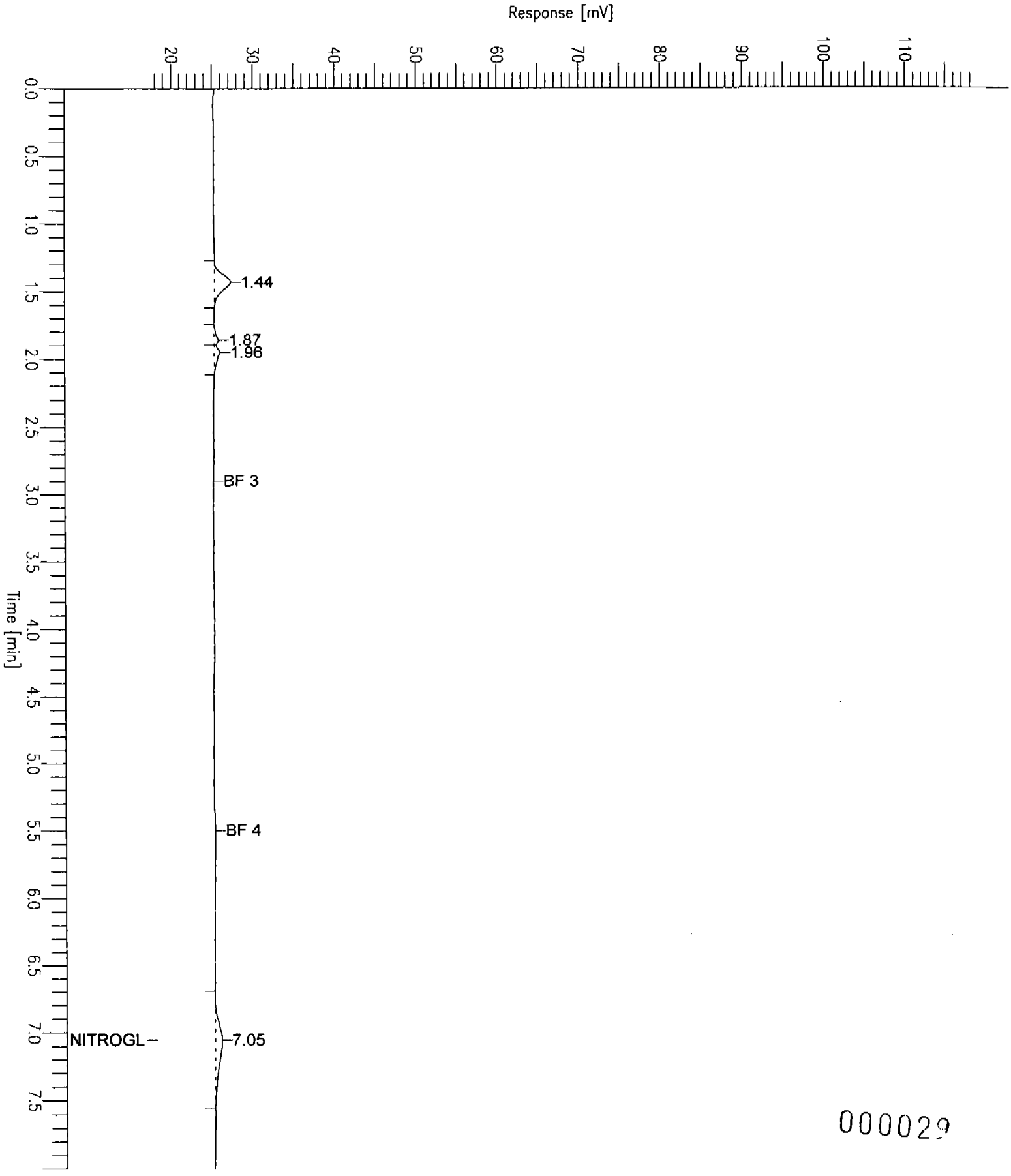
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 311132
FileName : C:\TC4\LC151\A35_113.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 113 Page 1 of 1
Date : 7/31/02 13:24
Time of Injection: 7/31/02 13:06
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000029

Software Version: 4.1<2F12>
Sample Name : 311132 Time : 7/31/02 13:24
Sample Number: 113 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 13:06
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_113.RAW
Result File : C:\WINDOWS\TEMP\~RST2418.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST2418.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

2.05 → 10ml
97% solids

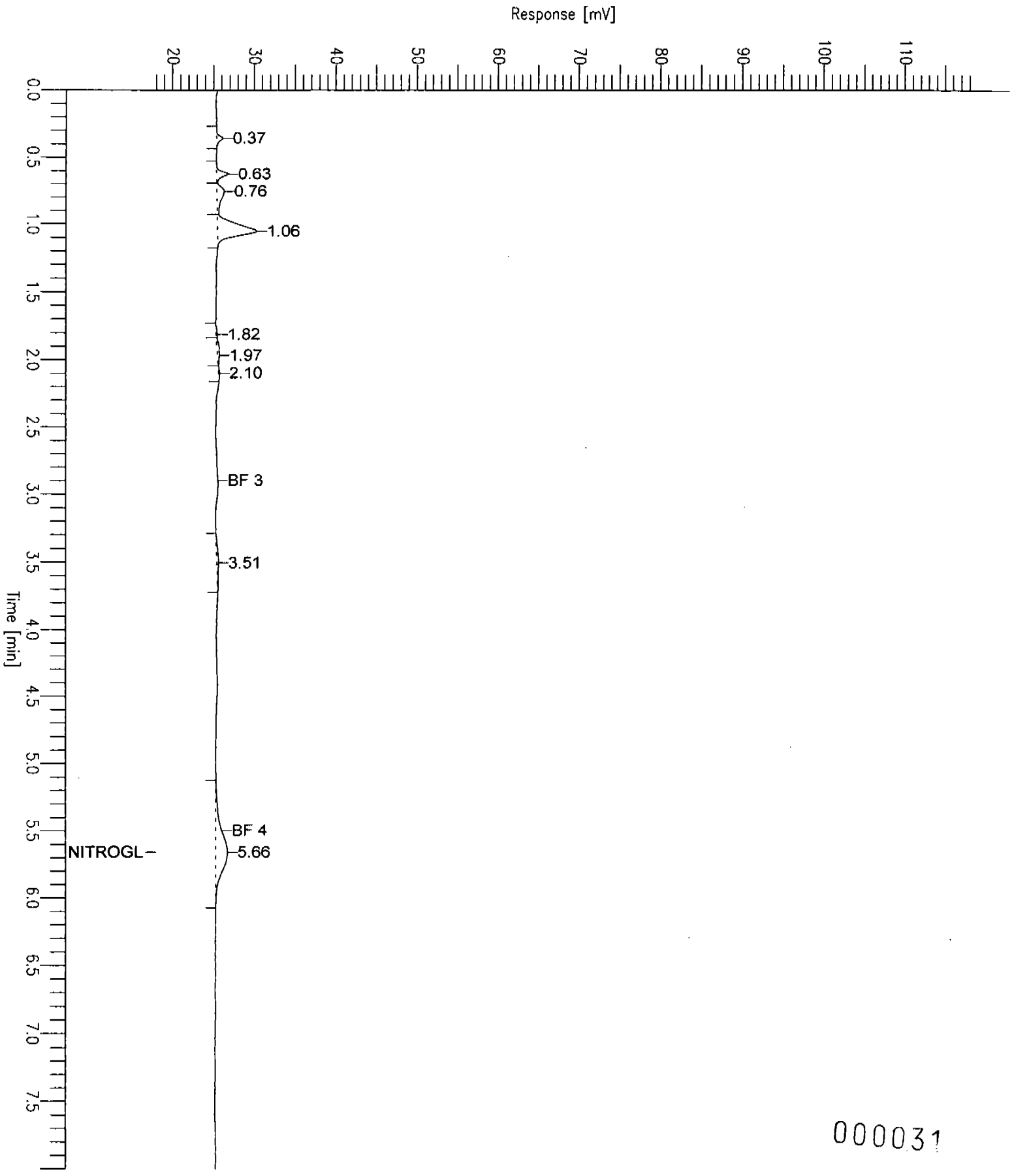
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
7.054	NITROGLYCERIN	2.2855	18236.50	835.70	1.00	1.0	2.2855	
		2.2855	18236.50	835.70	1.00	1.0	2.2855	11.43 (11.78)

Chromatogram

Sample Name : 311132cc
FileName : C:\TC4\LC151\A35_132.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 132 Page 1 of 1
Date : 8/1/02 05:05
Time of Injection: 7/31/02 18:00
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311132cc
Sample Number: 132
Operator :

Time : 8/1/02 05:05
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 18:00
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_132.RAW
Result File : C:\WINDOWS\TEMP\~RST120B.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST120B.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

2,5-->10ml

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
5.661	NITROGLYCERIN	2.2227	30499.50	1453.02	1.00	1.0	2.2227
		2.2227	30499.50	1453.02	1.00	1.0	2.2227

11.11/.97
=11.46

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger C Spike	LOD	LOQ	Units
	Lab Sample No:	311133			
E-1047	Percent Solids	98	NA	0.1	%
55-63-0	Nitroglycerine	7.7	2.0	6.68	mg/kg dry
Sampled by:		ARA			
Date Sampled:		07/23/02			
Time Sampled:		00:00			
Date Received:		07/26/02			
Time Received:		08:45			

000033

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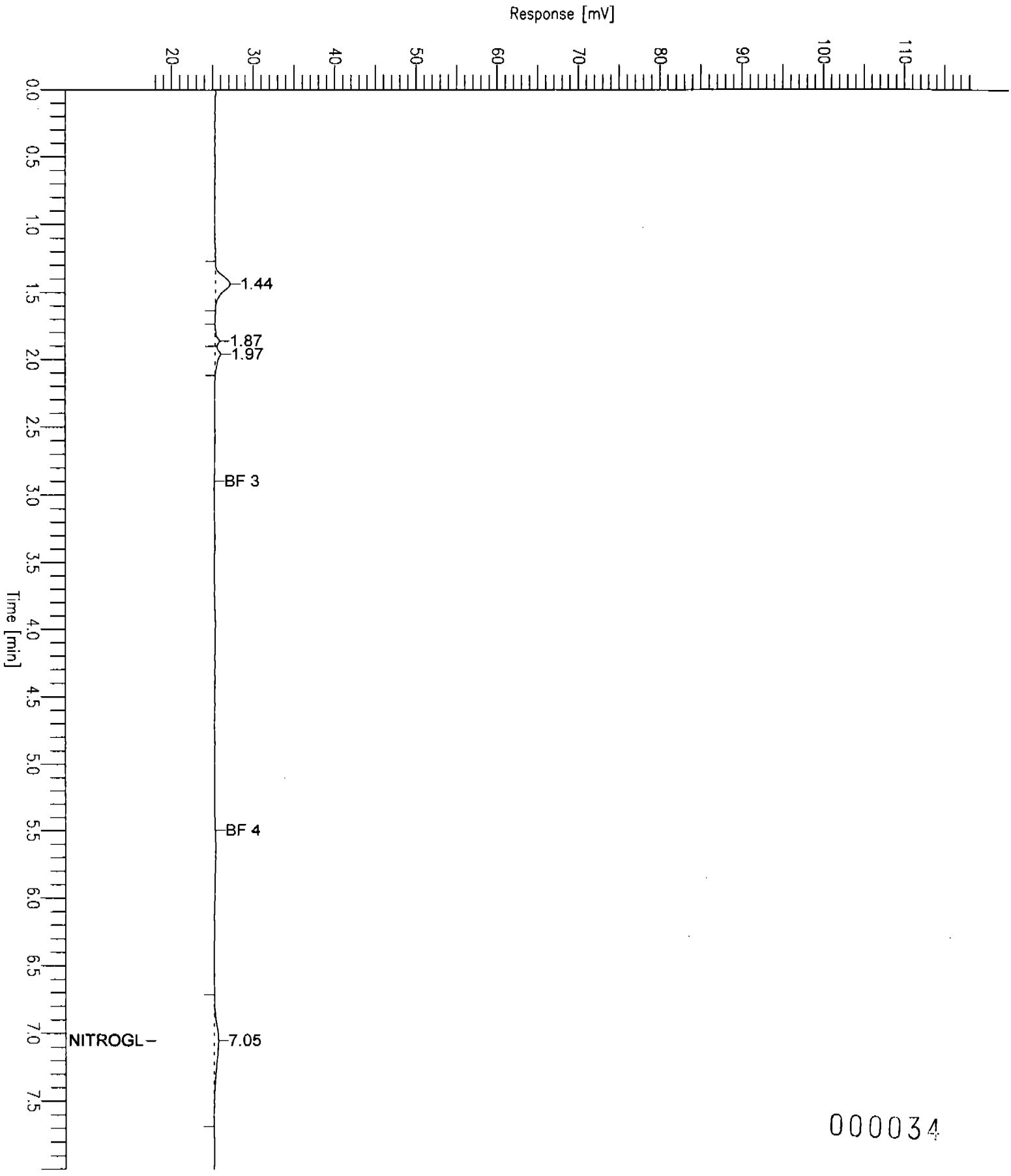
Chromatogram

Sample Name : 311133
FileName : C:\TC4\LC151\A35_114.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 114 Page 1 of 1
Date : 7/31/02 13:42
Time of Injection: 7/31/02 13:18
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000034

Software Version: 4.1<2F12>
Sample Name : 311133 Time : 7/31/02 13:42
Sample Number: 114 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 13:18
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_114.RAW
Result File : C:\WINDOWS\TEMP\~RST2418.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST2418.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

2.05 → 10ml
9 [illegible]

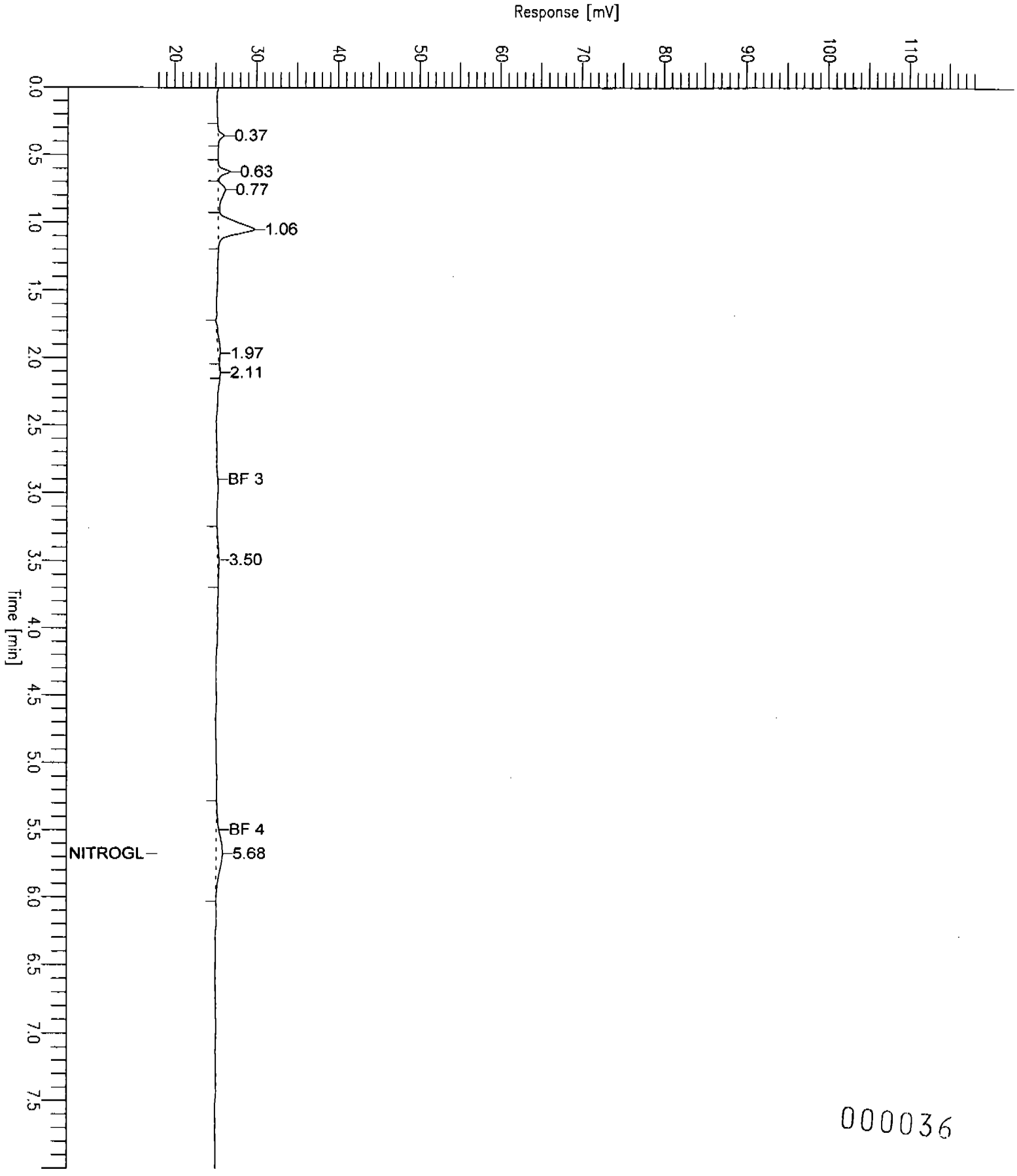
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
7.053	NITROGLYCERIN	1.5020	12052.00	549.22	1.00	1.0	1.5020	
		1.5020	12052.00	549.22	1.00	1.0	1.5020	7.51 (7.66)

Chromatogram

Sample Name : 311133cc
FileName : C:\TC4\LC151\A35_133.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 133 Page 1 of 1
Date : 8/1/02 05:05
Time of Injection: 7/31/02 18:16
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000036

Software Version: 4.1<2F12>
Sample Name : 311133cc
Sample Number: 133
Operator :

Time : 8/1/02 05:05
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 18:16
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_133.RAW
Result File : C:\WINDOWS\TEMP\~RST120B.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST120B.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

2.93-10.01

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
5.680	NITROGLYCERIN	1.1785	15143.50	770.38	1.00	1.0	1.1785
		1.1785	15143.50	770.38	1.00	1.0	1.1785

5.89 / .98 = 6.01

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger D Spike		LOD	LOQ	Units
	Lab Sample No:	311134				
E-1047	Percent Solids	97		NA	0.1	%
55-63-0	Nitroglycerine	3.3	J	2.0	6.68	mg/kg dry

Sampled by: ARA
Date Sampled: 07/23/02
Time Sampled: 00:00
Date Received: 07/26/02
Time Received: 08:45

000038

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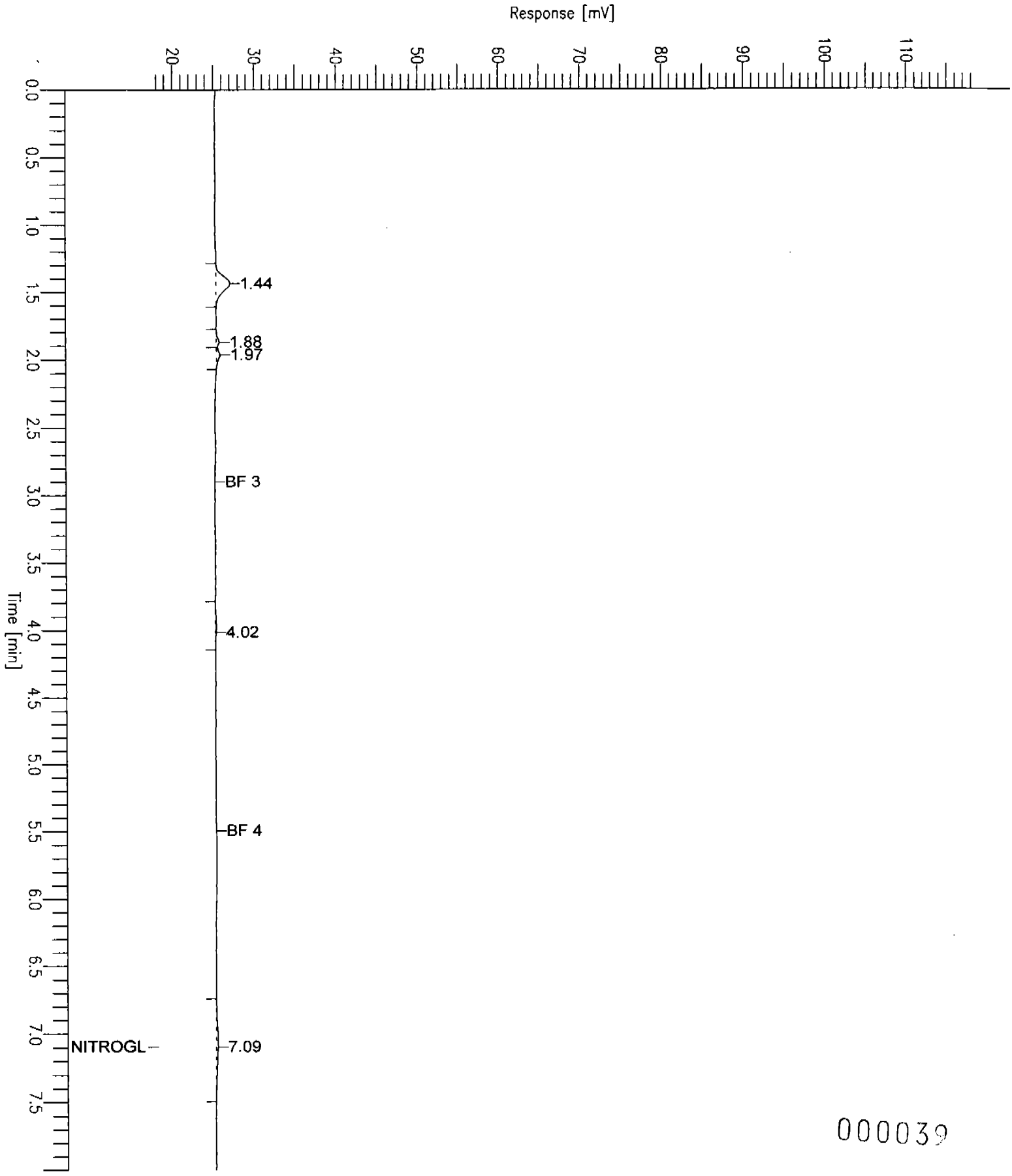
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 311134
FileName : C:\TC4\LC151\A35_115.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 115 Page 1 of 1
Date : 7/31/02 13:43
Time of Injection: 7/31/02 13:29
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000039

Software Version: 4.1<2F12>
Sample Name : 311134 Time : 7/31/02 13:43
Sample Number: 115 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 13:29
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_115.RAW
Result File : C:\WINDOWS\TEMP\~RST2418.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST2418.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

2.0g → 10ml
97% solids

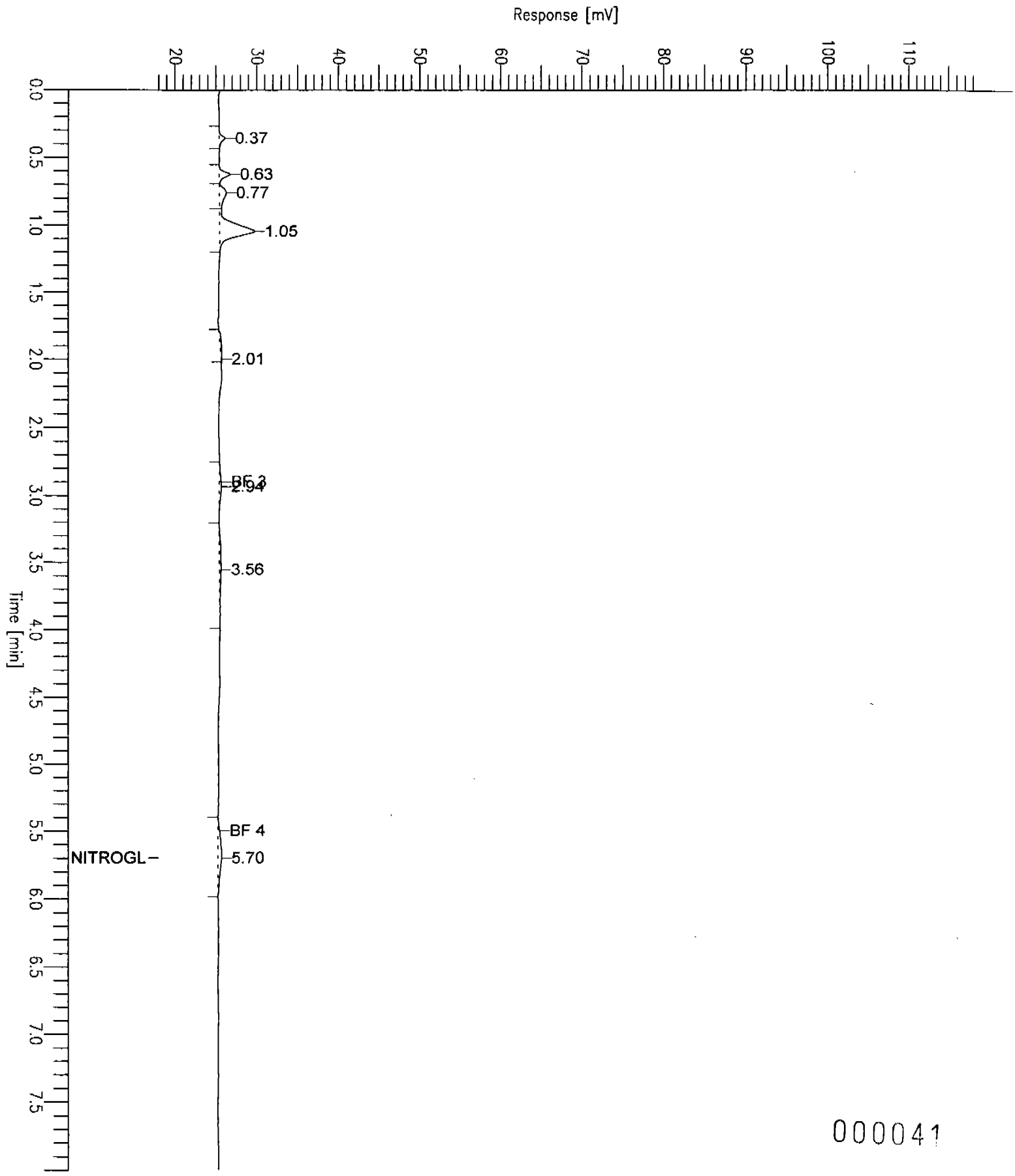
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)		
7.093	NITROGLYCERIN	0.6453	4816.00	235.96	1.00	1.0	0.6453		
		0.6453	4816.00	235.96	1.00	1.0	0.6453	3.23	3.33

Chromatogram

Sample Name : 311134cc
FileName : C:\TC4\LC151\A35_134.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 134 Page 1 of 1
Date : 8/1/02 05:05
Time of Injection: 7/31/02 18:33
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311134cc Time : 8/1/02 05:05
Sample Number: 134 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 18:33
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_134.RAW
Result File : C:\WINDOWS\TEMP\~RST120B.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST120B.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

$2.25 \rightarrow 10^{-1}$

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
5.701	NITROGLYCERIN	0.6771	8387.00	442.66	1.00	1.0	0.6771
		0.6771	8387.00	442.66	1.00	1.0	0.6771

$3.356 / .97 = 3.49$

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger E Spike		LOD	LOQ	Units
	Lab Sample No:	311135				
E-1047	Percent Solids	92		NA	0.1	%
55-63-0	Nitroglycerine	ND	U	2.0	6.68	mg/kg dry
Sampled by:		ARA				
Date Sampled:		07/23/02				
Time Sampled:		00:00				
Date Received:		07/26/02				
Time Received:		08:45				

000043

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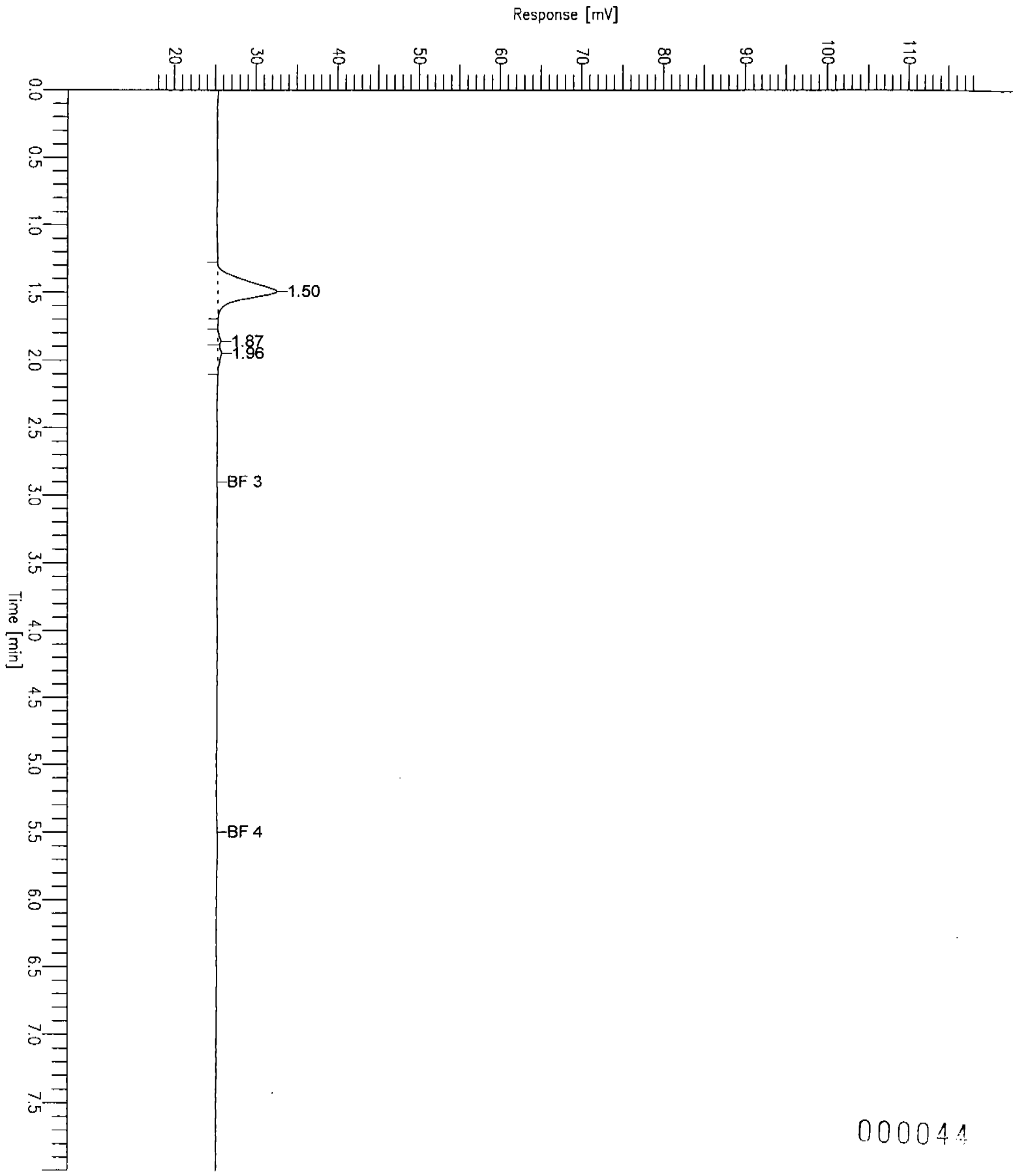
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 311135
FileName : C:\TC4\LC151\A35_116.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 116 Page 1 of 1
Date : 7/31/02 14:09
Time of Injection: 7/31/02 13:40
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311135 Time : 7/31/02 14:09
Sample Number: 116 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 13:40
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_116.RAW
Result File : C:\WINDOWS\TEMP\~RST0B31.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0B31.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

2.15 → 10-1
9225[illegible]

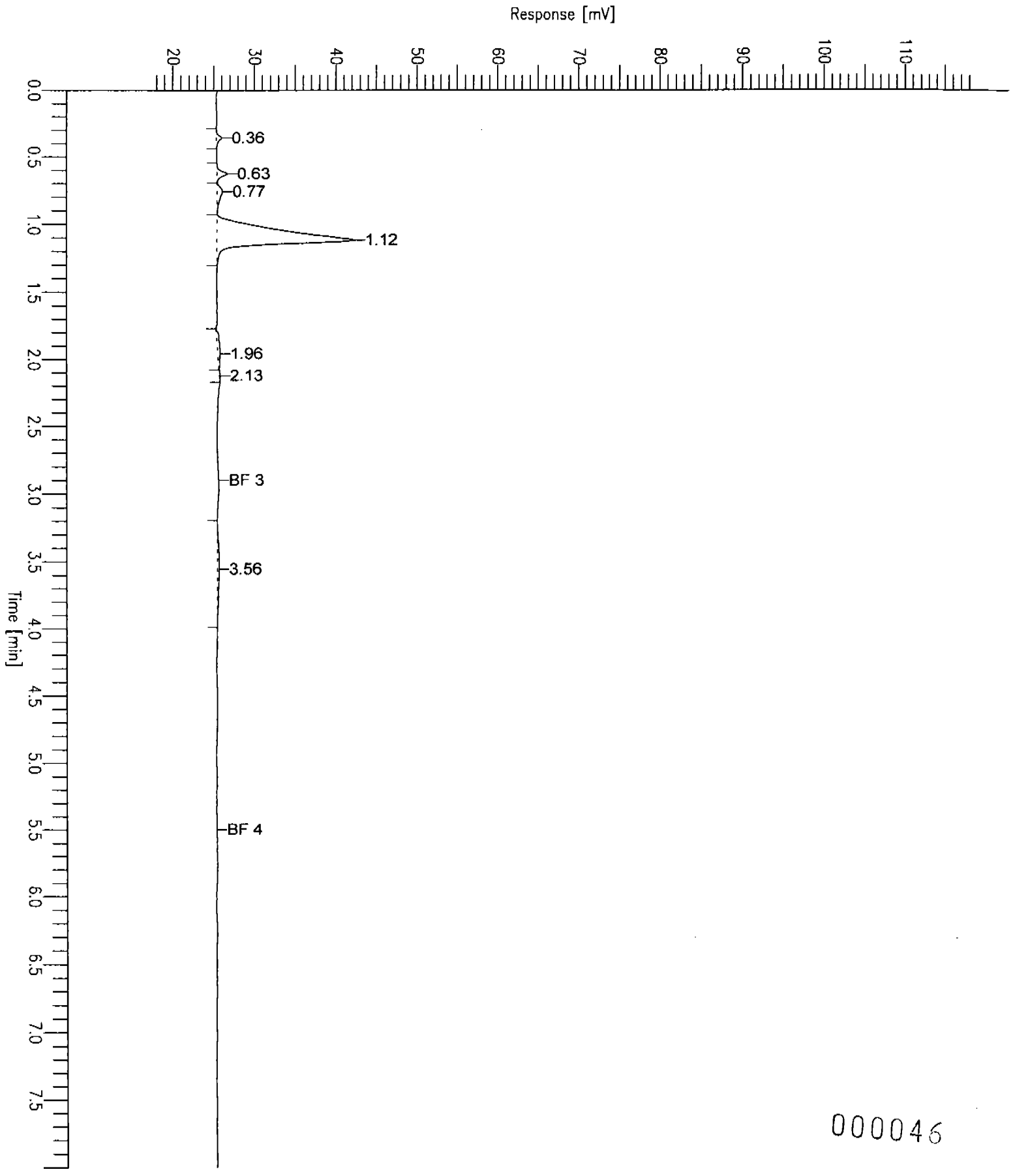
Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
7.068	NITROGLYCERIN	0.0000	0.00	0.00	0.0000
			0.00	0.00	

Chromatogram

Sample Name : 311135cc
FileName : C:\TC4\LC151\A35_135.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 135 Page 1 of 1
Date : 8/1/02 05:04
Time of Injection: 7/31/02 18:49
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000046

Software Version: 4.1<2F12>
Sample Name : 311135cc Time : 8/1/02 05:04
Sample Number: 135 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 18:49
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_135.RAW
Result File : C:\WINDOWS\TEMP\~RST120B.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST120B.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger Blank		LOD	LOQ	Units
	Lab Sample No:	311136				
E-1047	Percent Solids	98		NA	0.1	%
55-63-0	Nitroglycerine	ND	U	2.0	6.68	mg/kg dry
Sampled by:		ARA				
Date Sampled:		07/23/02				
Time Sampled:		00:00				
Date Received:		07/26/02				
Time Received:		08:45				

000048

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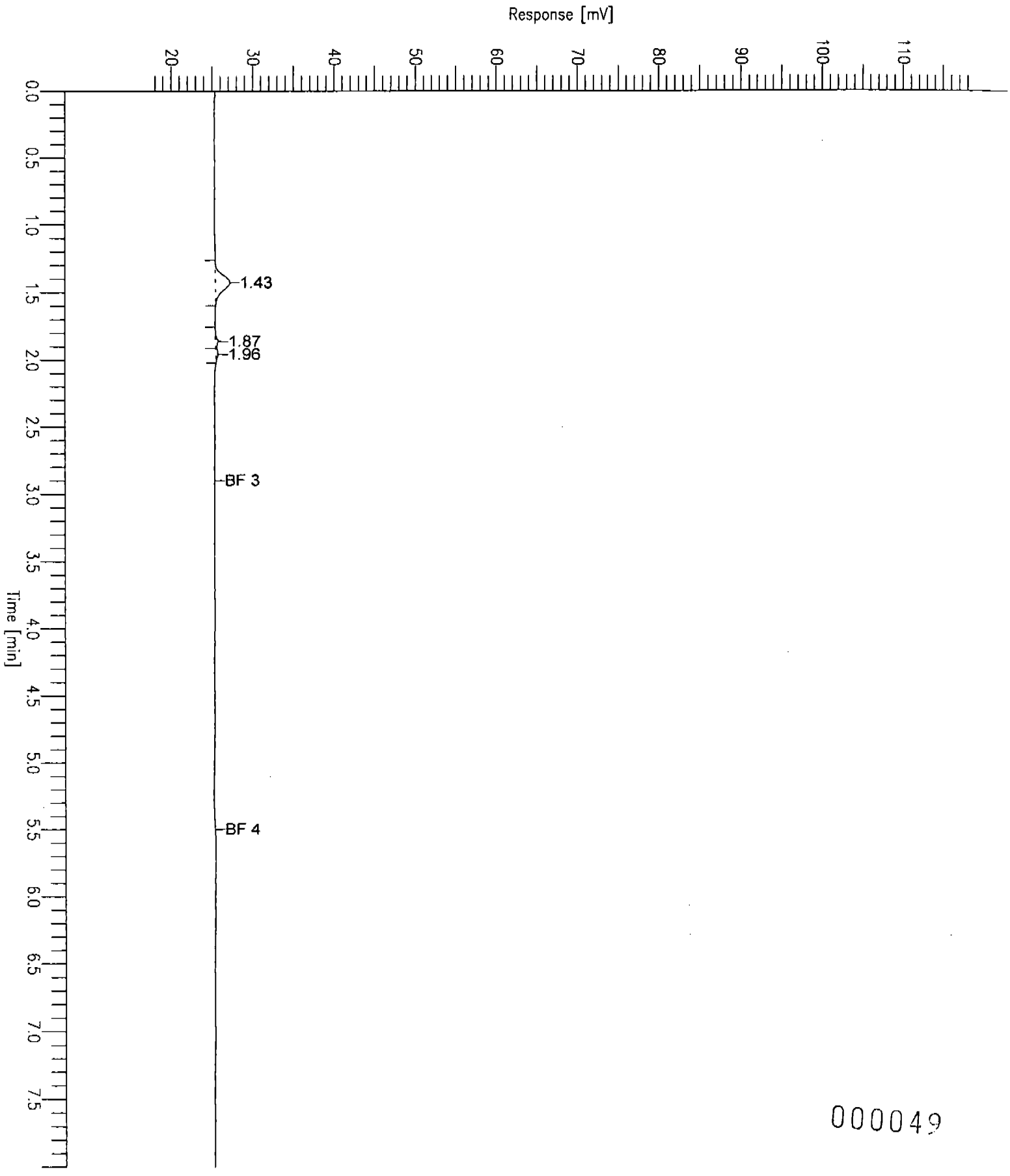
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 311136
FileName : C:\TC4\LC151\A35_117.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 117 Page 1 of 1
Date : 7/31/02 14:09
Time of Injection: 7/31/02 13:52
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311136 Time : 7/31/02 14:09
Sample Number: 117 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 13:52
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_117.RAW
Result File : C:\WINDOWS\TEMP\~RST0B31.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0B31.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

2.05 → 10-1

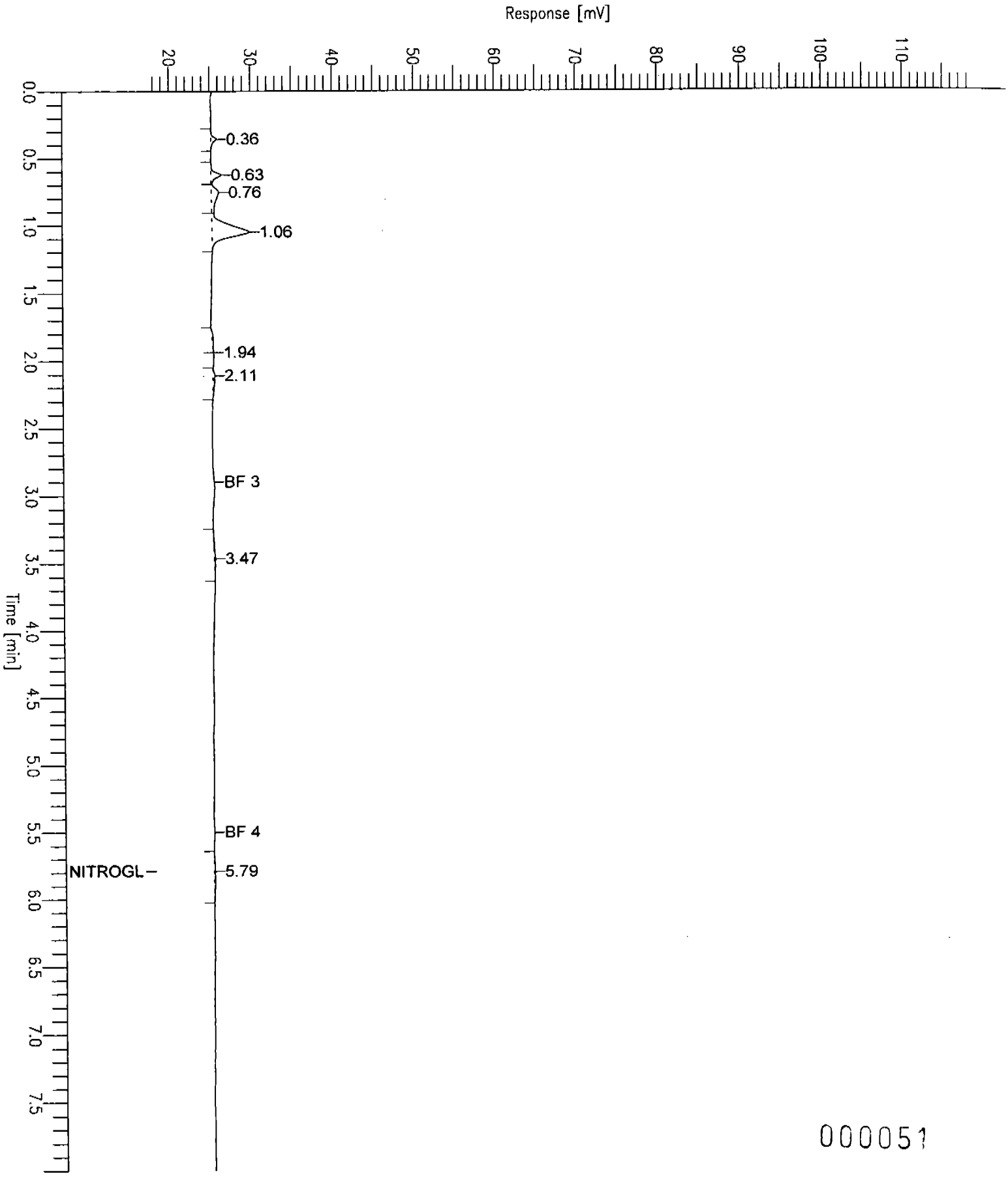
Trimatrix Labs. LC151 Sample Quant. Report - Water

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Sample Amount (UG/L)
7.068	NITROGLYCERIN	0.0000	0.00	0.00	0.0000
			0.00	0.00	

Chromatogram

Sample Name : 311136cc
FileName : C:\TC4\LC151\A35_136.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 136 Page 1 of 1
Date : 8/1/02 05:04
Time of Injection: 7/31/02 19:05
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311136cc
Sample Number: 136
Operator :

Time : 8/1/02 05:04
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 19:05
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_136.RAW
Result File : C:\WINDOWS\TEMP\~RST120B.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST120B.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
5.791	NITROGLYCERIN	0.1600	1438.50	104.57	1.00	1.0	0.1600	
		0.1600	1438.50	104.57	1.00	1.0	0.1600	O.K

SECTION - C

STANDARDS DATA

NITROGLYCERINE DATA

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5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

INITIAL CALIBRATION OF SINGLE-COMPONENT ANALYTES

Inst. ID: LC 151 Column: C-18 Date(s) Analyzed: 07/31/02 Curve: 8332_07.mth

STD. AMT. (ug)	1.0	2.5	5.0	10	20	50	MEAN	RT WINDOW	
COMPOUND	RT OF STANDARDS						RT	FROM	TO
Nitroglycerine	7.051	7.061	7.068	7.075	7.074	7.080	7.068	**6.868**	**7.268**

Note: used default RT Windows of +/- 0.05 minutes.

STD. AMT. (ug)	1.0	2.5	5.0	10	20	50	MEAN	%
COMPOUND	CALIBRATION FACTORS						CF	RSD
Nitroglycerine	384.04	309.42	375.45	383.38	371.85	369.80	365.66	**7.70**

CF= Peak Height/Amount
Note: %RSD should be <20% for an acceptable curve

Turbochrom Method File : C:\TC4\LC151\8332_07.MTH <Modified>
Created by : DLV on : 7/31/02 13:22
Edited by : JMK1 on : 7/31/02 13:22
Description :

Number of Times Edited : 0
Number of Times Calibrated : 132

Instrument Conditions :

Liquid Chromatography -

Instrument	: 151
Column	: C18
Column Length	: 250
Particle Size	: 5
Column Diameter:	
Mobile Phase	:60:40 AcCN:H2O
Flow Rate	: 1.0 ML/MIN
Back Pressure	: 2500
Temperature	: AMBIENT
Detector 1	: 214
Detector 2	:
Notes	: 20 UL INJECTION

Instrument Control Method:

Instrument name : LC151

Interface Parameters :

Delay Time	: 0.00 min.
Run Time	: 8.00 min.
Sampling Rate	: 2.0000 pts/s
Interface Type	: 900
Analog Voltage Input	: 1000 mV

Data will be collected from channel A

Timed Events:

There are no timed events in the method

Real Time Plot Parameters :

Channel A -- Pages: 1 Offset: 20.000 mV Scale: 40.000 mV
Channel B -- Pages: 1 Offset: 0.000 mV Scale: 1000.000 mV

Processing Parameters :

Bunch Factor	: 1 points
Noise Threshold	: 20 µV
Area Threshold	: 100.00 µV

Peak Separation Criteria

Width Ratio	: 0.200
Valley-to-Peak Ratio	: 0.010

Exponential Skim Criteria

Peak Height Ratio : 5.000
Adjusted Height Ratio : 4.000
Valley Height Ratio : 3.000

Baseline Timed Events :
Event #1 - BF 3.000 at 2.904
Event #2 - BF 4.000 at 5.500

Annotated Replot Parameters :
Offset & Scale set to absolute values
Plot Offset : 18.000 mV
Plot Scale : 100.000 mV

Number of Pages : 1
Plot Title : Chromatogram
X-Axis Label : Time [min]
Y-Axis Label : Response [mV]
Orientation : Landscape
Retention Labels : Peak Crests
Component Labels : Actual Time
Start Time : 0.00
End Time : 8.00

Report Format files :
No report format files given

User Programs :
No user programs will be executed

Global Information :
Default Sample Volume : 1.000 UG
Quantitation Units : ML
Void Time : 0.000 min
Correct amounts during calibration : YES
Reject outliers during calibration : NO
An External Standard calibration will be used
Unknown peaks will be quantitated using a response factor of 1.000000e+06

Component Information :
NITROGLYCERIN
Component Type : Single Peak Component
Retention Time : 7.068 min Search Window: 10.00 s, 0.00 %
Reference Component:
Find peak closest to expected RT in window
Use Average Calibration Factor (Height / Amount)
User Values:
Label :
Value 1: 0.000000
Value 2: 0.000000
Value 3: 0.000000
Value 4: 0.000000
Value 5: 0.000000
Calibration Levels:

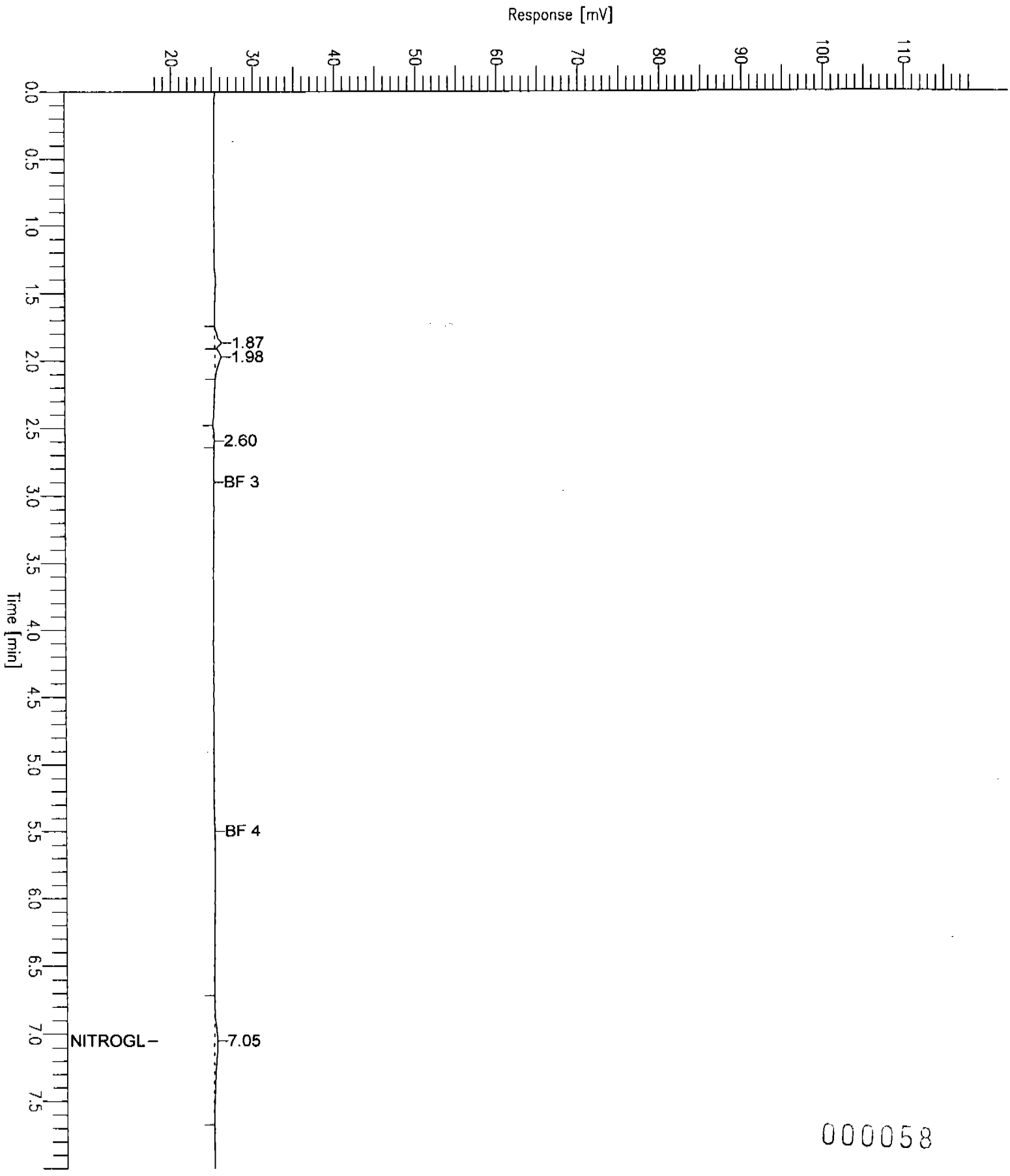
Level Name	Amount	Area	Height	ISTD Resp.	ISTD Amt.	# Replicates
1	1.0000	8820.50	384.04	----------	----------	1
2	2.5000	19013.00	773.55	----------	----------	1
3	5.0000	44681.75	1877.25	----------	----------	1
4	10.0000	93767.00	3833.79	----------	----------	1
5	20.0000	176749.00	7436.96	----------	----------	1
6	50.0000	431316.00	18490.14	----------	----------	1

Average Calibration Factor = 365.656529 (%RSD = 7.70)

Chromatogram

Sample Name : 1PPMSTD
FileName : C:\TC4\LC151\A35_104.RAW
Method : 8332_06.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 104 Page 1 of 1
Date : 7/31/02 13:19
Time of Injection: 7/31/02 11:24
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000058

Software Version: 4.1<2F12>
Sample Name : 1PPMSTD
Sample Number: 104
Operator :

Time : 7/31/02 13:19
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 11:24
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_104.RAW
Result File : C:\TC4\GC144\GEDIT.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\TC4\GC144\GEDIT.RST
Proc Method : C:\TC4\LC151\8332_06.MTH
Calib Method : C:\TC4\LC151\8332_06.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

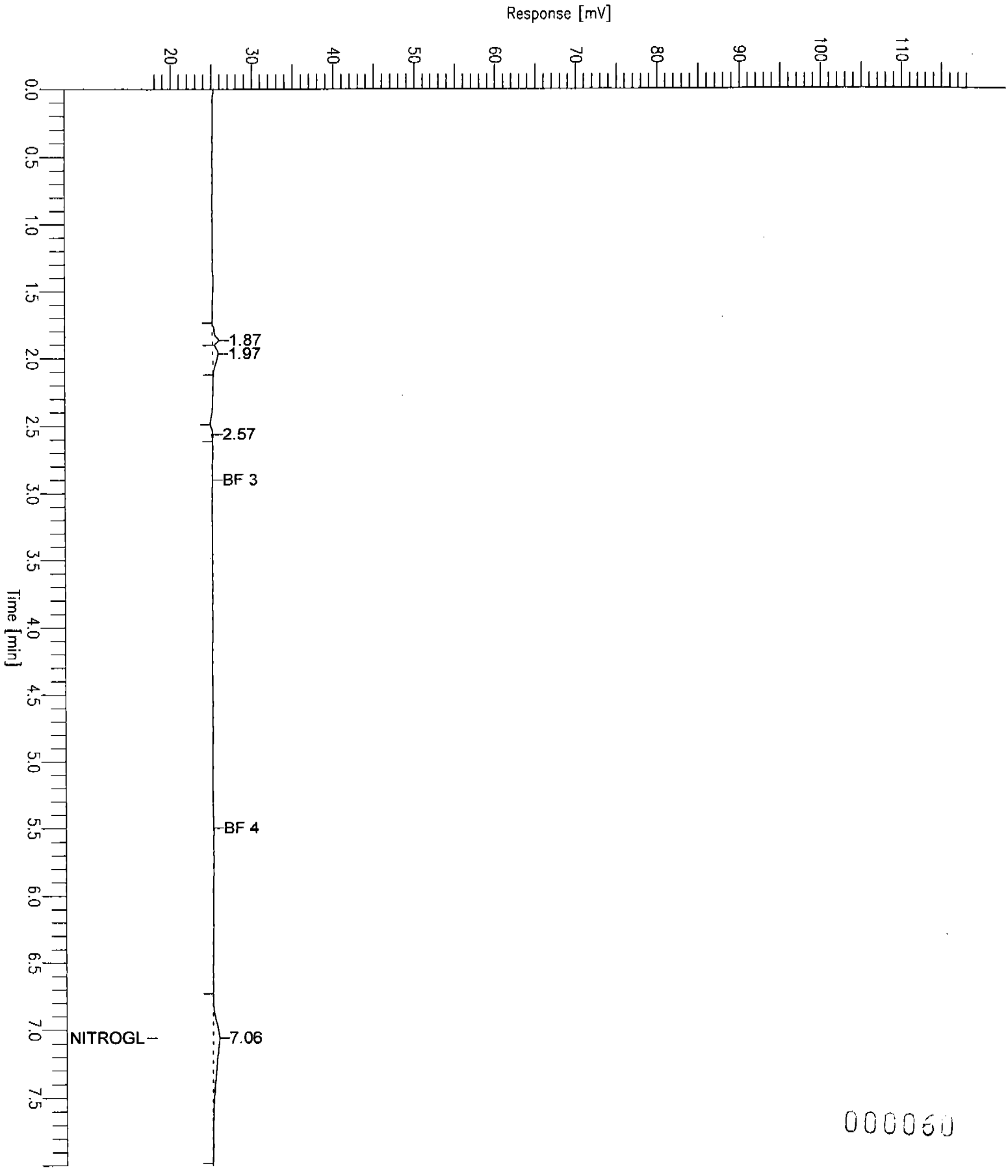
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.051	NITROGLYCERIN	0.9281	8820.50	384.04	1.00	92.81
			8820.50	384.04	1.00	

Report stored in ASCII file: C:\TC4\GC144\GEDIT.TX0

Chromatogram

Sample Name : 2PPMSTD
FileName : C:\TC4\LC151\A35_105.RAW
Method : 8332_06.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 105 Page 1 of 1
Date : 7/31/02 13:20
Time of Injection: 7/31/02 11:35
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000060

Software Version: 4.1<2F12>
Sample Name : 2PPMSTD
Sample Number: 105
Operator :

Time : 7/31/02 13:20
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 11:35
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_105.RAW
Result File : C:\TC4\GC144\GEDIT.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\TC4\GC144\GEDIT.RST
Proc Method : C:\TC4\LC151\8332_06.MTH
Calib Method : C:\TC4\LC151\8332_06.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

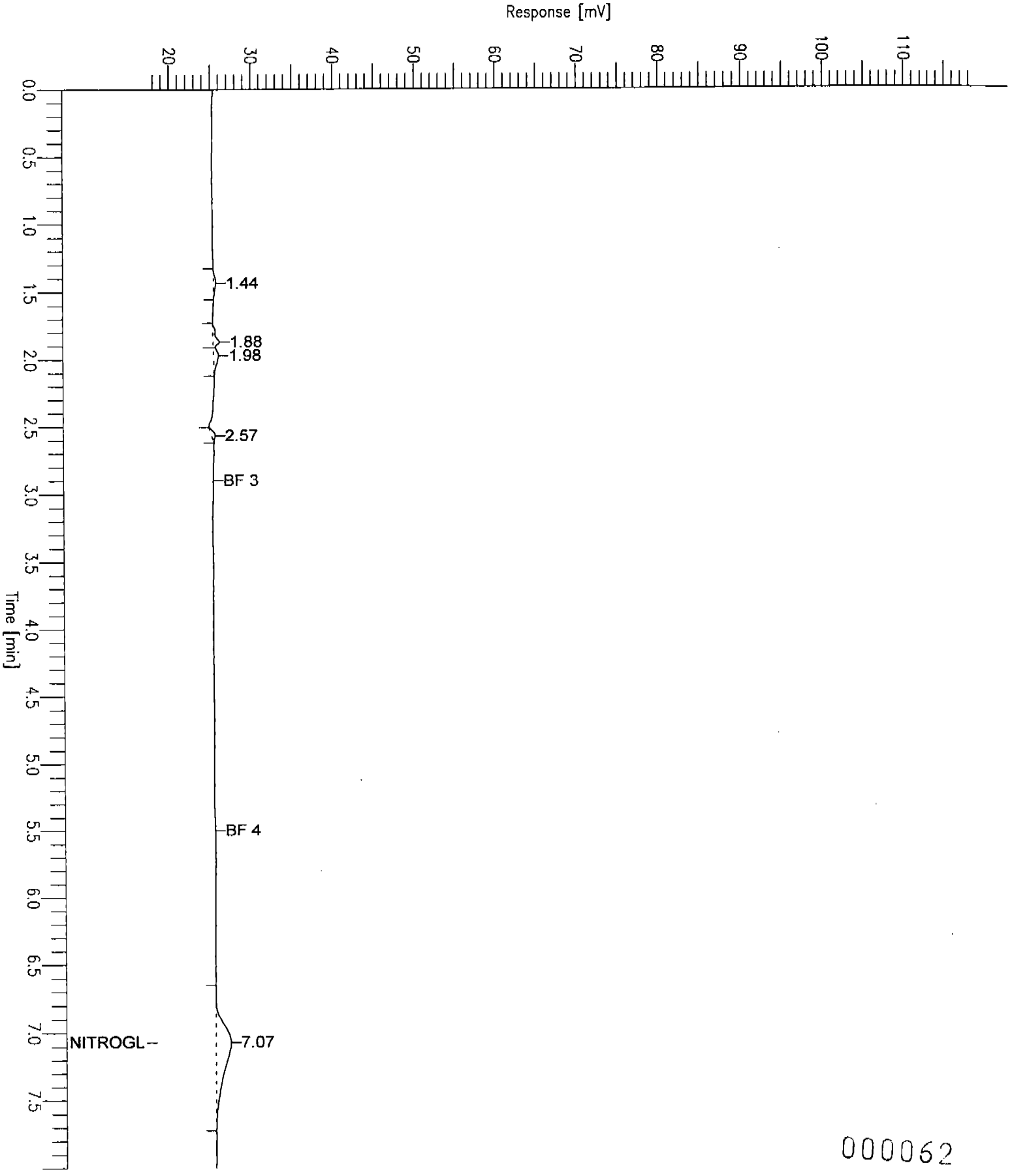
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.061	NITROGLYCERIN	1.9737	19013.00	773.55	2.00	98.68
			19013.00	773.55	2.00	

Report stored in ASCII file: C:\TC4\GC144\GEDIT.TX0

Chromatogram

Sample Name : 5PPMSTD
FileName : C:\TC4\LC151\A35_106.RAW
Method : 8332_06.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 106
Date : 7/31/02 13:20
Time of Injection: 7/31/02 11:46
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000062

Software Version: 4.1<2F12>
Sample Name : 5PPMSTD Time : 7/31/02 13:20
Sample Number: 106 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 11:46
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_106.RAW
Result File : C:\TC4\GC144\GEDIT.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\TC4\GC144\GEDIT.RST
Proc Method : C:\TC4\LC151\8332_06.MTH
Calib Method : C:\TC4\LC151\8332_06.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

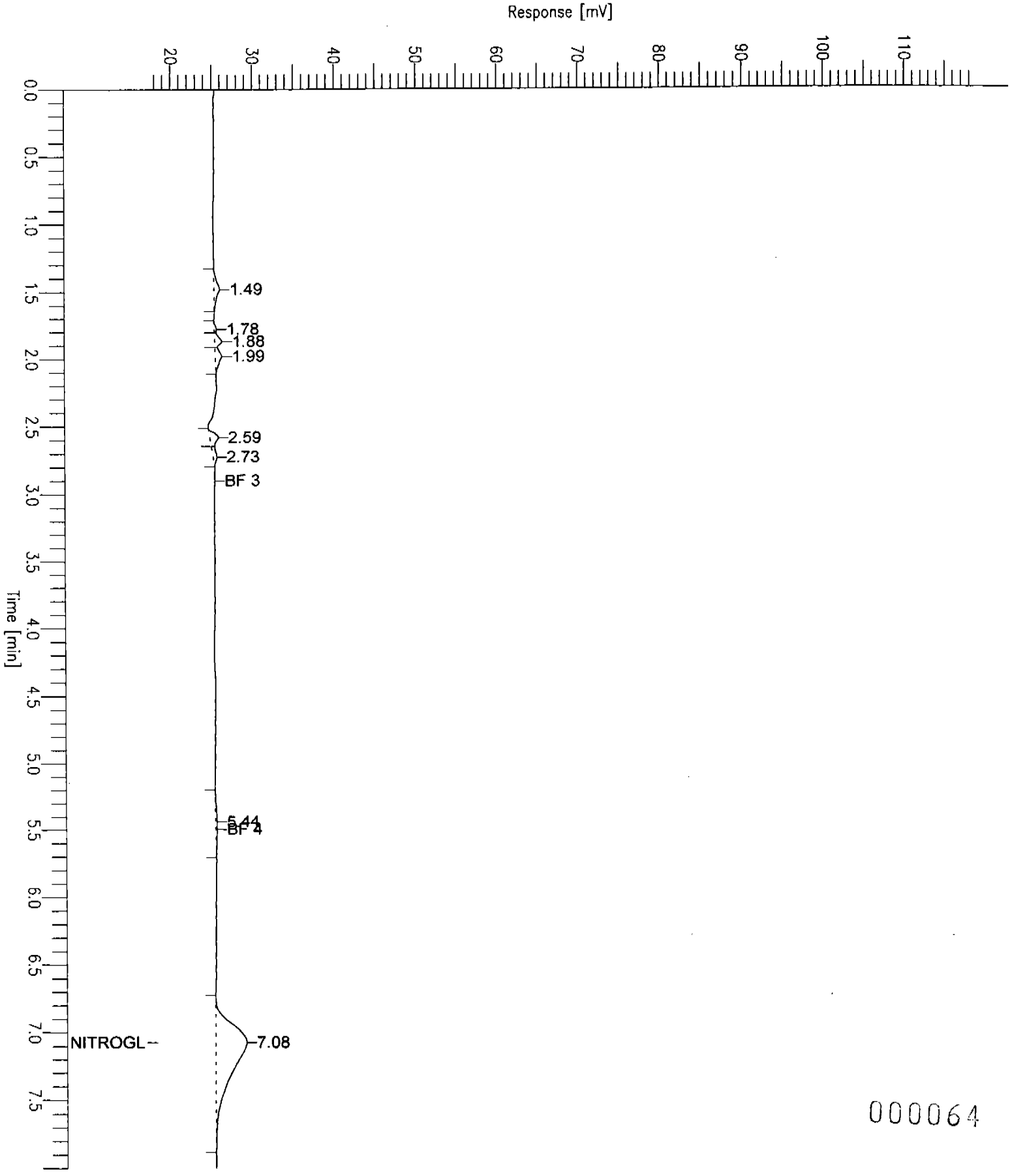
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.068	NITROGLYCERIN	4.7180	44681.75	1877.25	5.00	94.36
			44681.75	1877.25	5.00	

Report stored in ASCII file: C:\TC4\GC144\GEDIT.TX0

Chromatogram

Sample Name : 10PPMSTD
FileName : C:\TC4\LC151\A35_107.RAW
Method : 8332_06.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 107 Page 1 of 1
Date : 7/31/02 13:21
Time of Injection: 7/31/02 11:58
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000064

Software Version: 4.1<2F12>
Sample Name : 10PPMSTD
Sample Number: 107
Operator :

Time : 7/31/02 13:21
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 11:58
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_107.RAW
Result File : C:\TC4\GC144\GEDIT.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\TC4\GC144\GEDIT.RST
Proc Method : C:\TC4\LC151\8332_06.MTH
Calib Method : C:\TC4\LC151\8332_06.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

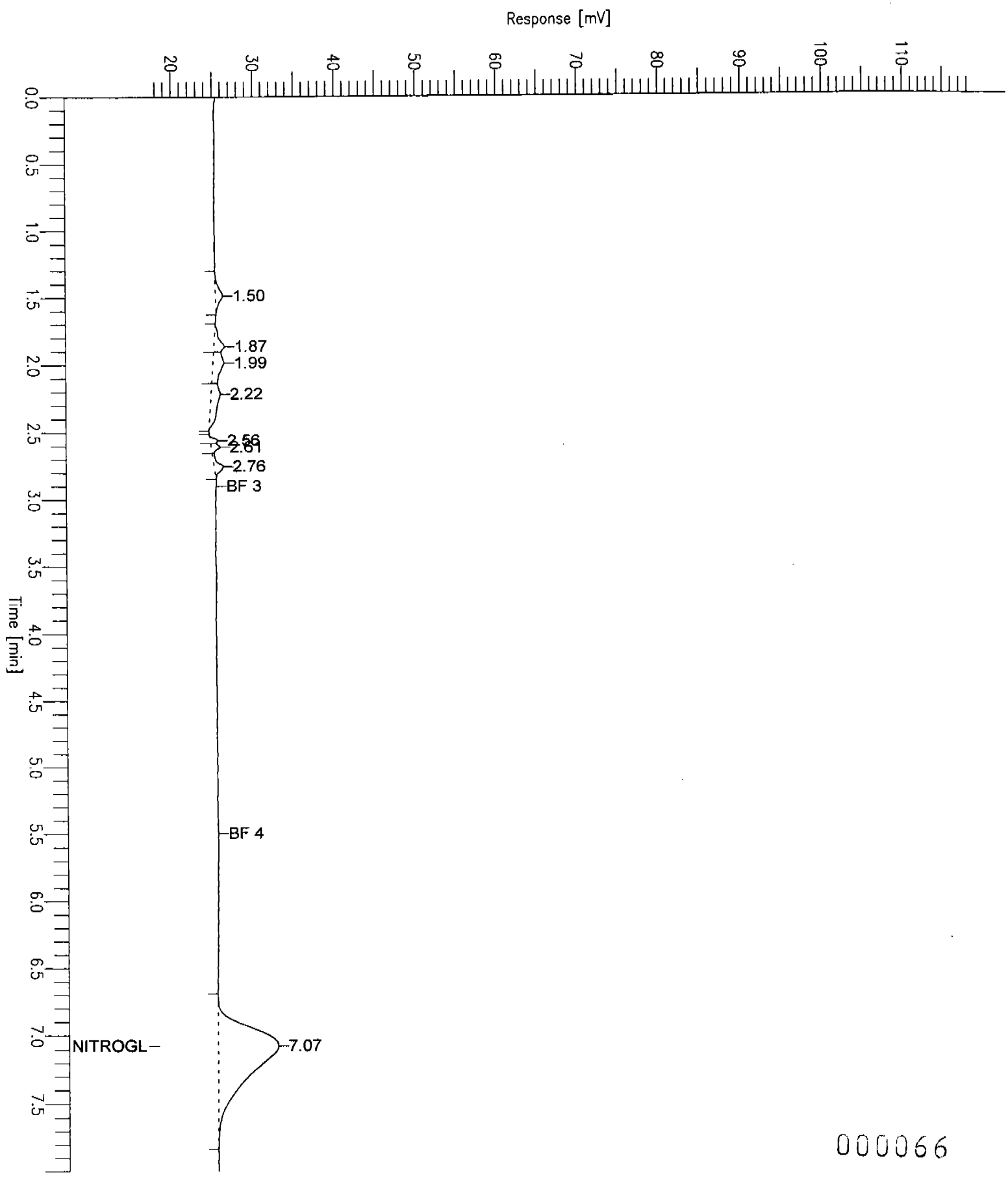
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.075	NITROGLYCERIN	9.6352	93767.00	3833.79	10.00	96.35
			93767.00	3833.79	10.00	

Report stored in ASCII file: C:\TC4\GC144\GEDIT.TX0

Chromatogram

Sample Name : 20PPMSTD
FileName : C:\TC4\LC151\A35_108.RAW
Method : 8332_06.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 108 Page 1 of 1
Date : 7/31/02 13:21
Time of Injection: 7/31/02 12:09
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 20PPMSTD
Sample Number: 108
Operator :

Time : 7/31/02 13:21
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 12:09
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_108.RAW
Result File : C:\TC4\GC144\GEDIT.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\TC4\GC144\GEDIT.RST
Proc Method : C:\TC4\LC151\8332_06.MTH
Calib Method : C:\TC4\LC151\8332_06.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

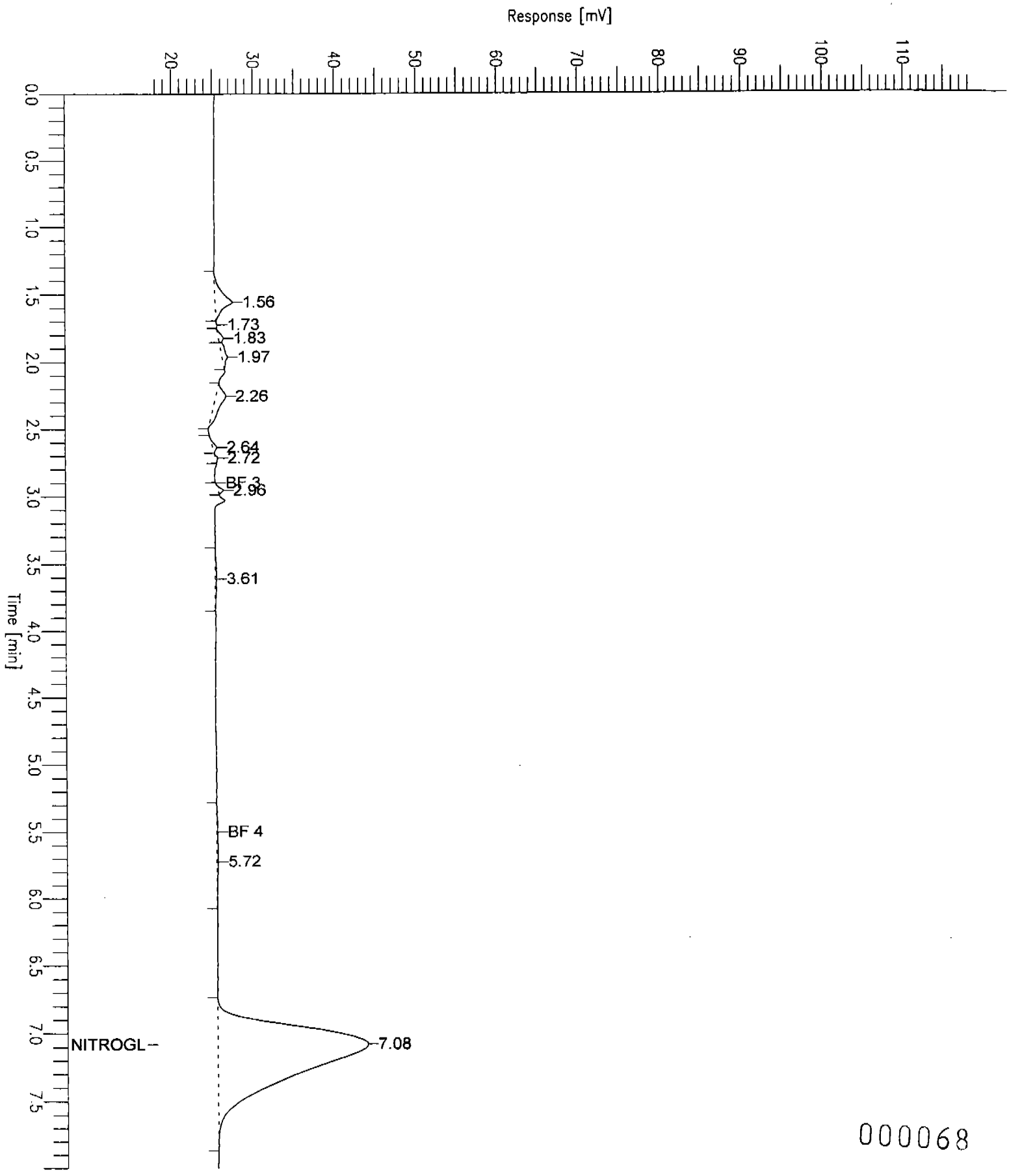
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.074	NITROGLYCERIN	19.3744	176749.00	7436.96	20.00	96.87
			176749.00	7436.96	20.00	

Report stored in ASCII file: C:\TC4\GC144\GEDIT.TX0

Chromatogram

Sample Name : 50PPMSTD
FileName : C:\TC4\LC151\A35_109.RAW
Method : 8332_06.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 109
Date : 7/31/02 13:21
Time of Injection: 7/31/02 12:21
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000068

Software Version: 4.1<2F12>
Sample Name : 50PPMSTD
Sample Number: 109
Operator :

Time : 7/31/02 13:21
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 12:21
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_109.RAW
Result File : C:\TC4\GC144\GEDIT.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\TC4\GC144\GEDIT.RST
Proc Method : C:\TC4\LC151\8332_06.MTH
Calib Method : C:\TC4\LC151\8332_06.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.080	NITROGLYCERIN	50.5670	431316.00	18490.14	50.00	101.13
			431316.00	18490.14	50.00	

Report stored in ASCII file: C:\TC4\GC144\GEDIT.TX0

INITIAL CALIBRATION OF SINGLE-COMPONENT ANALYTES

Inst. ID: LC 151 Column: CN Date(s) Analyzed: 07/31/02 Curve: 8332_08.mth

STD. AMT. (ug)	1.0	2.0	5.0	10	20	50	MEAN	RT WINDOW	
COMPOUND	RT OF STANDARDS						RT	FROM	TO
Nitroglycerine	5.753	5.773	5.747	5.766	5.751	5.724	5.758	**5.558**	**5.958**

Note: used default RT Windows of +/- 0.05 minutes.

STD. AMT. (ug)	1.0	2.0	5.0	10	20	50	MEAN	%
COMPOUND	CALIBRATION FACTORS						CF	RSD
Nitroglycerine	738.58	591.11	655.43	629.17	642.91	665.13	653.72	**7.49**

CF= Peak Height/Amount
Note: %RSD should be <20% for an acceptable curve

Turbochrom Method File : C:\TC4\LC151\8332_08.MTH
Created by : DLV on : 7/31/02 16:13
Edited by : JMK1 on : 8/1/02 05:15
Description :

Number of Times Edited : 3
Number of Times Calibrated : 132

Instrument Conditions :

Liquid Chromatography -

Instrument	: 151
Column	: CN
Column Length	: 250
Particle Size	: 5
Column Diameter:	
Mobile Phase	:50:50 AcCN:H2O
Flow Rate	: 1.5 ML/MIN
Back Pressure	: 2500
Temperature	: AMBIENT
Detector 1	: 214
Detector 2	:
Notes	: 50 UL INJECTION

Instrument Control Method:

Instrument name : LC151

Interface Parameters :

Delay Time	: 0.00 min.
Run Time	: 8.00 min.
Sampling Rate	: 2.0000 pts/s
Interface Type	: 900
Analog Voltage Input	: 1000 mV

Data will be collected from channel A

Timed Events:

There are no timed events in the method

Real Time Plot Parameters :

Channel A -- Pages: 1 Offset: 20.000 mV Scale: 40.000 mV
Channel B -- Pages: 1 Offset: 0.000 mV Scale: 1000.000 mV

Processing Parameters :

Bunch Factor	: 1 points
Noise Threshold	: 20 µV
Area Threshold	: 100.00 µV

Peak Separation Criteria

Width Ratio	: 0.200
Valley-to-Peak Ratio	: 0.010

Exponential Skim Criteria

Peak Height Ratio : 5.000
Adjusted Height Ratio : 4.000
Valley Height Ratio : 3.000

Baseline Timed Events :
Event #1 - BF 3.000 at 2.904
Event #2 - BF 4.000 at 5.500

Annotated Replot Parameters :
Offset & Scale set to absolute values
Plot Offset : 18.000 mV
Plot Scale : 100.000 mV

Number of Pages : 1
Plot Title : Chromatogram
X-Axis Label : Time [min]
Y-Axis Label : Response [mV]
Orientation : Landscape
Retention Labels : Peak Crests
Component Labels : Actual Time
Start Time : 0.00
End Time : 8.00

Report Format files :
No report format files given

User Programs :
No user programs will be executed

Global Information :
Default Sample Volume : 1.000 UG
Quantitation Units : ML
Void Time : 0.000 min
Correct amounts during calibration : YES
Reject outliers during calibration : NO
An External Standard calibration will be used
Unknown peaks will be quantitated using a response factor of 1.000000e+06

Component Information :
NITROGLYCERIN
Component Type : Single Peak Component
Retention Time : 5.748 min Search Window: 10.00 s, 0.00 %
Reference Component:
Find peak closest to expected RT in window
Use Average Calibration Factor (Height / Amount)
User Values:
Label :
Value 1: 0.000000
Value 2: 0.000000
Value 3: 0.000000
Value 4: 0.000000
Value 5: 0.000000
Calibration Levels:

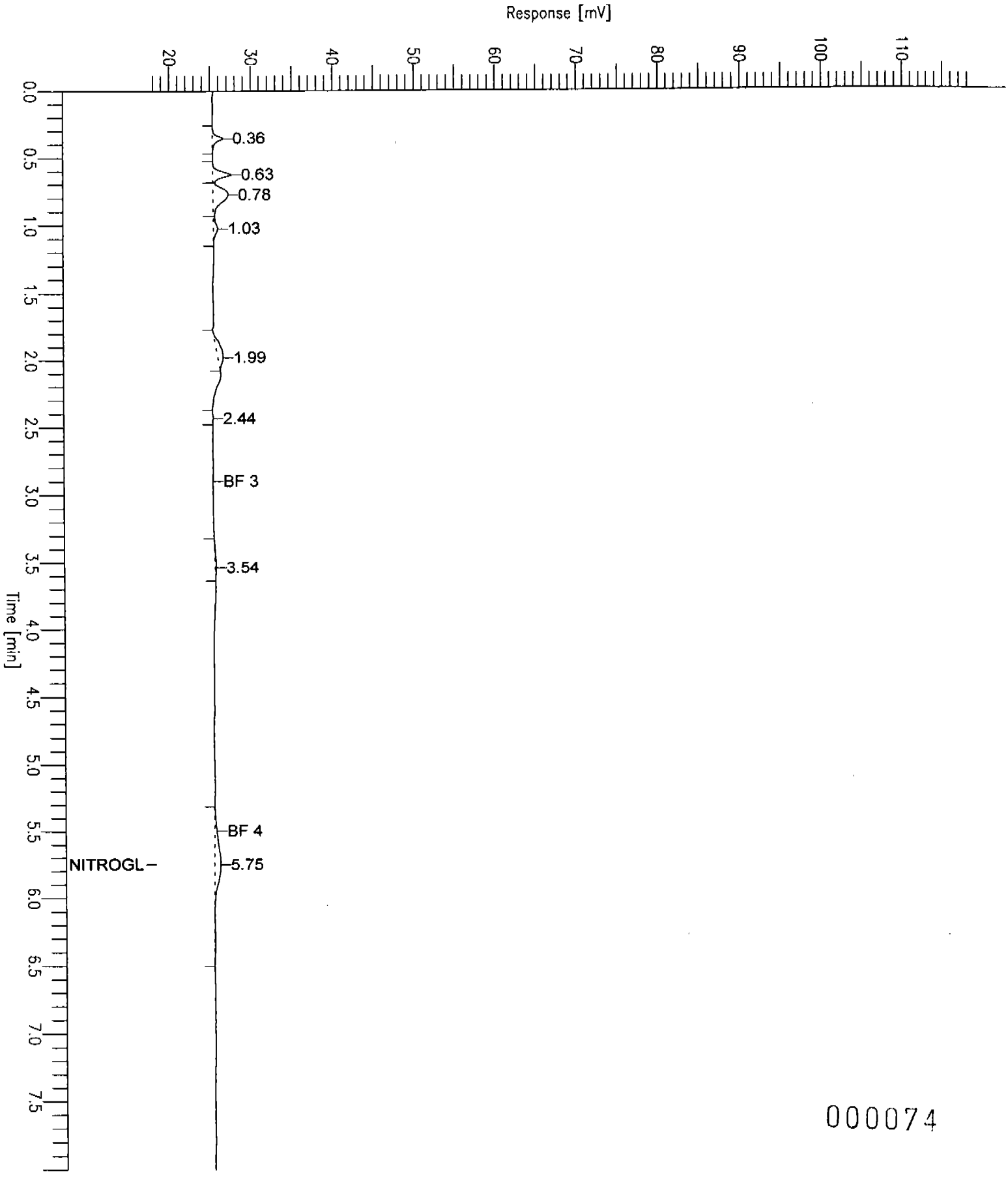
Level Name	Amount	Area	Height	ISTD Resp.	ISTD Amt.	# Replicates
1	1.0000	17282.00	738.58	----------	----------	1
2	2.0000	25237.00	1182.22	----------	----------	0
3	5.0000	74824.75	3277.13	----------	----------	1
4	10.0000	140377.50	6291.71	----------	----------	1
5	20.0000	290824.00	12858.20	----------	----------	1
6	50.0000	719284.50	33256.51	----------	----------	1

Average Calibration Factor = 653.721689 (%RSD = 7.49)

Chromatogram

Sample Name : 1ppm std
FileName : C:\TC4\LC151\A35_123.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 123 Page 1 of 1
Date : 7/31/02 17:43
Time of Injection: 7/31/02 15:33
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000074

Software Version: 4.1<2F12>
Sample Name : 1ppm std
Sample Number: 123
Operator :

Time : 7/31/02 17:43
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 15:33
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_123.RAW
Result File : C:\WINDOWS\TEMP\~RST0039.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0039.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

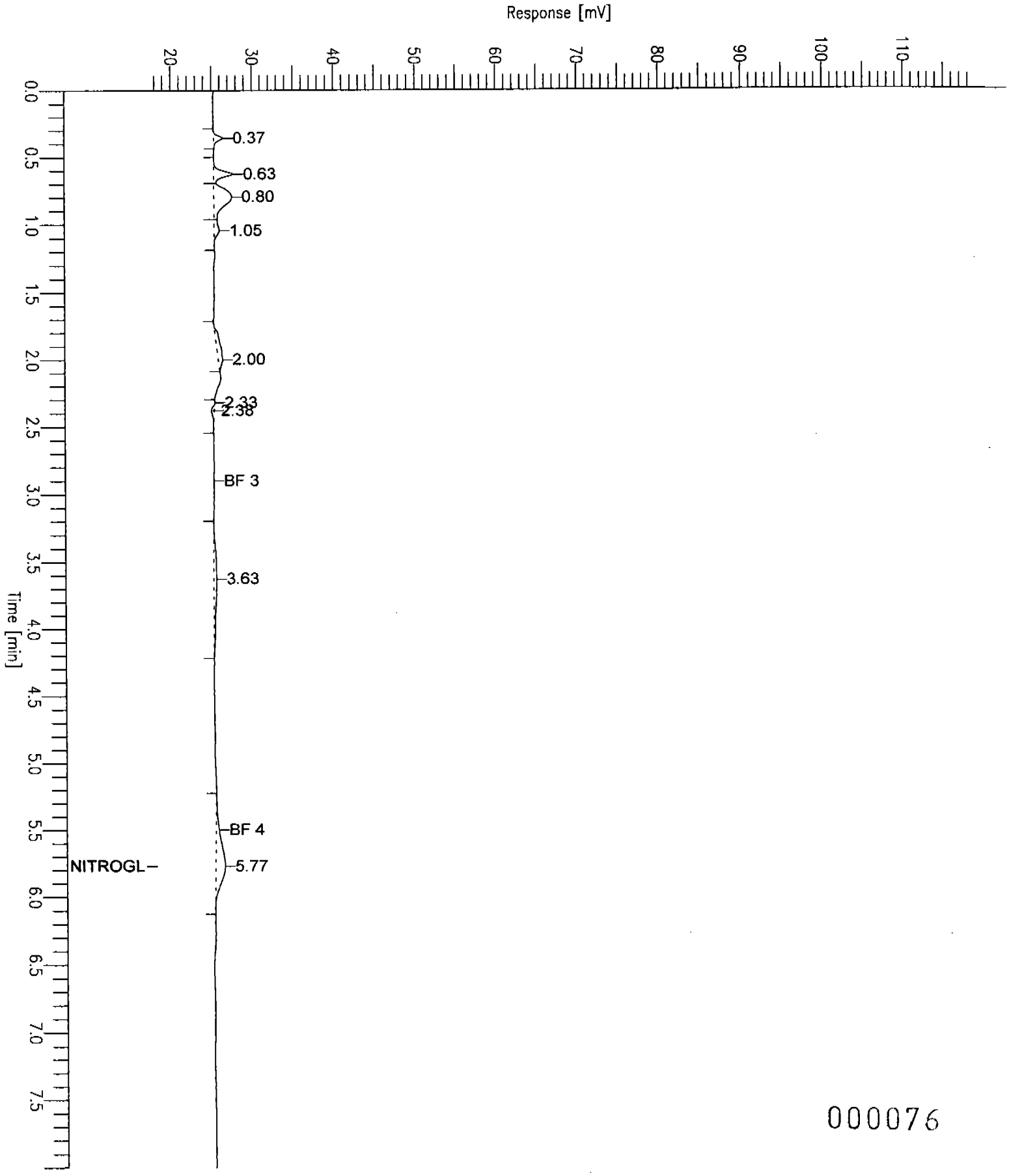
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
5.753	NITROGLYCERIN	1.1298	17282.00	738.58	0.00	----------
			17282.00	738.58	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0039.TX0

Chromatogram

Sample Name : 2ppm std
FileName : C:\TC4\LC151\A35_124.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 124 Page 1 of 1
Date : 7/31/02 17:43
Time of Injection: 7/31/02 15:50
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000076

Software Version: 4.1<2F12>
Sample Name : 2ppm std
Sample Number: 124
Operator :

Time : 7/31/02 17:43
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 15:50
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_124.RAW
Result File : C:\WINDOWS\TEMP\~RST0039.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0039.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

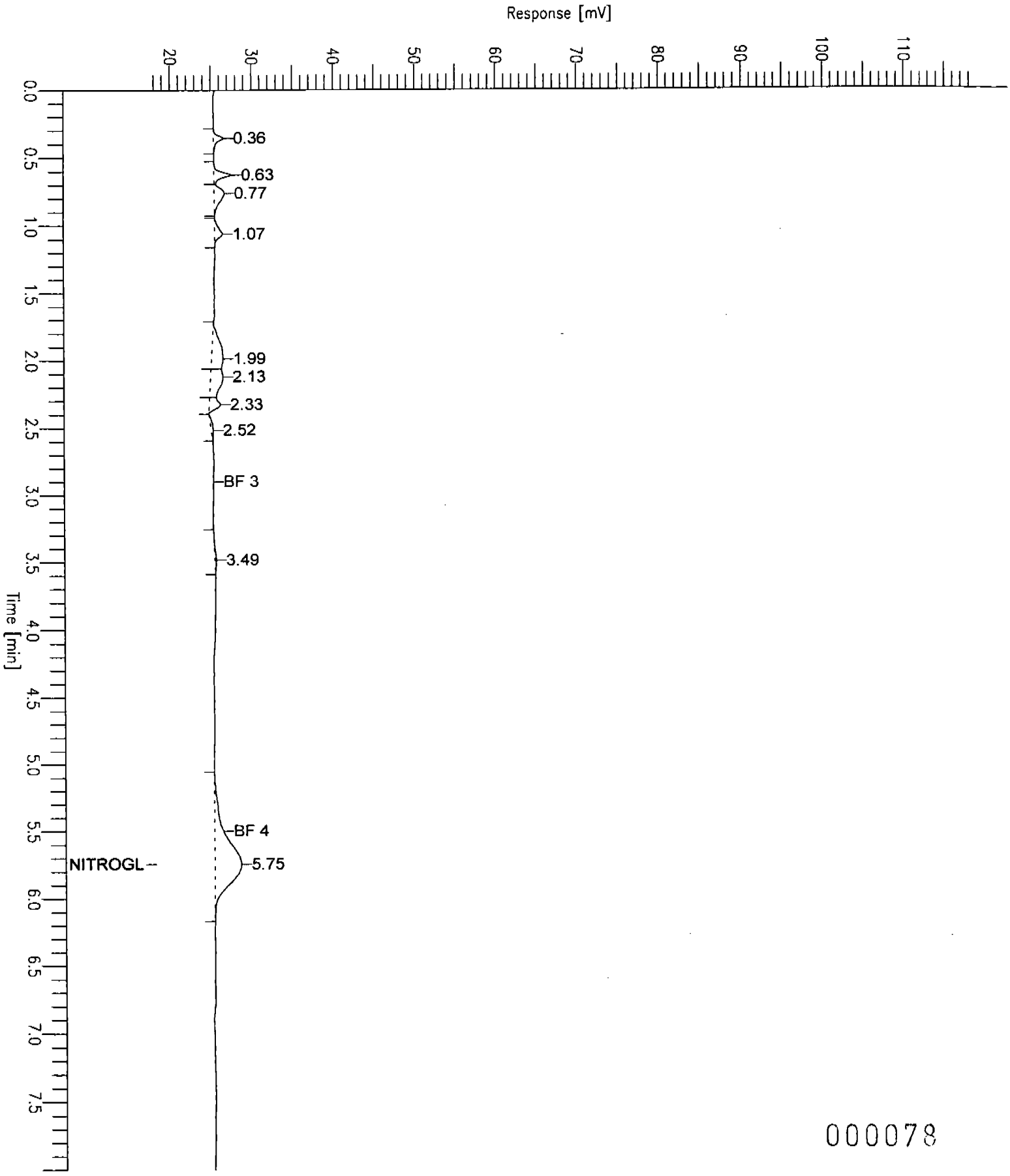
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
5.773	NITROGLYCERIN	1.8085	25237.00	1182.22	0.00	----------
			25237.00	1182.22	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0039.TX0

Chromatogram

Sample Name : 5ppm std
FileName : C:\TC4\LC151\A35_125.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 125 Page 1 of 1
Date : 7/31/02 17:43
Time of Injection: 7/31/02 16:06
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000078

Software Version: 4.1<2F12>
Sample Name : 5ppm std
Sample Number: 125
Operator :

Time : 7/31/02 17:43
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 16:06
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_125.RAW
Result File : C:\WINDOWS\TEMP\~RST0039.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0039.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

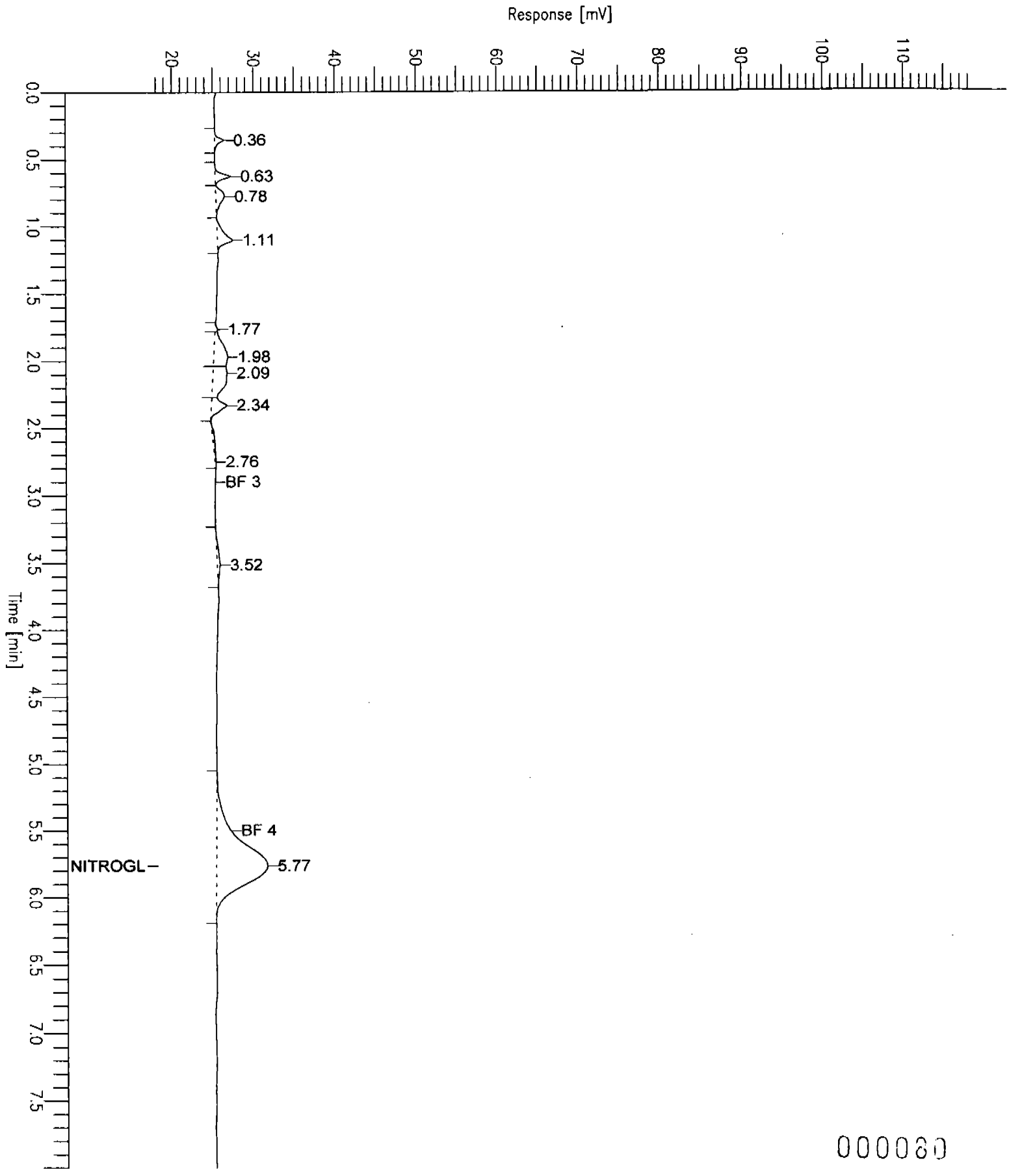
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
5.747	NITROGLYCERIN	5.0130	74824.75	3277.13	0.00	----------
			74824.75	3277.13	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0039.TX0

Chromatogram

Sample Name : 10ppm std
FileName : C:\TC4\LC151\A35_126.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 126 Page 1 of 1
Date : 7/31/02 17:43
Time of Injection: 7/31/02 16:22
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 10ppm std
Sample Number: 126
Operator :

Time : 7/31/02 17:43
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 16:22
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_126.RAW
Result File : C:\WINDOWS\TEMP\~RST0039.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0039.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

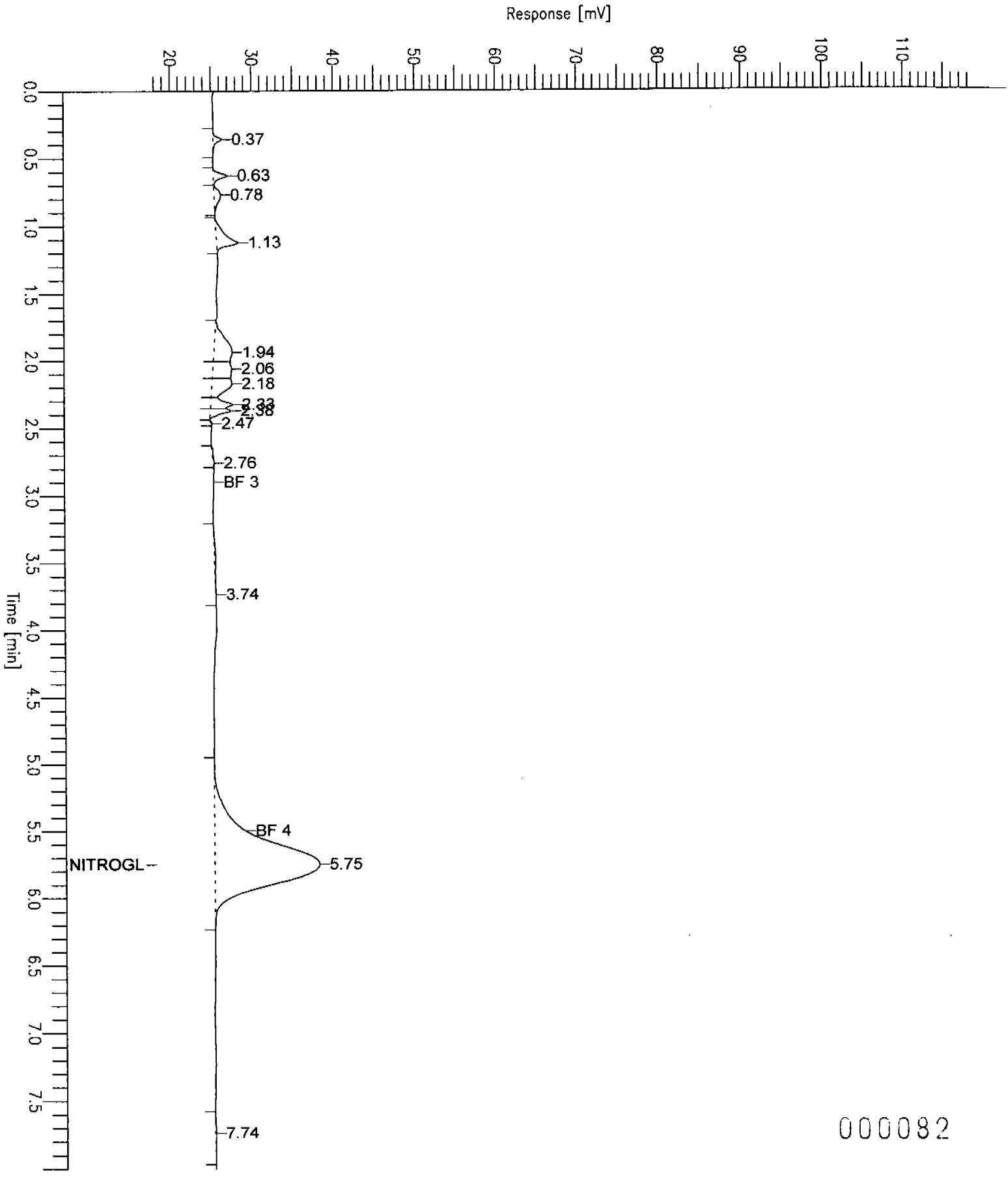
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
5.766	NITROGLYCERIN	9.6244	140377.50	6291.71	0.00	----------
			140377.50	6291.71	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0039.TXO

Chromatogram

Sample Name : 20ppm std
FileName : C:\TC4\LC151\A35_127.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 127 Page 1 of 1
Date : 7/31/02 17:43
Time of Injection: 7/31/02 16:38
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000082

Software Version: 4.1<2F12>
Sample Name : 20ppm std
Sample Number: 127
Operator :

Time : 7/31/02 17:43
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 16:38
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_127.RAW
Result File : C:\WINDOWS\TEMP\~RST0039.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0039.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

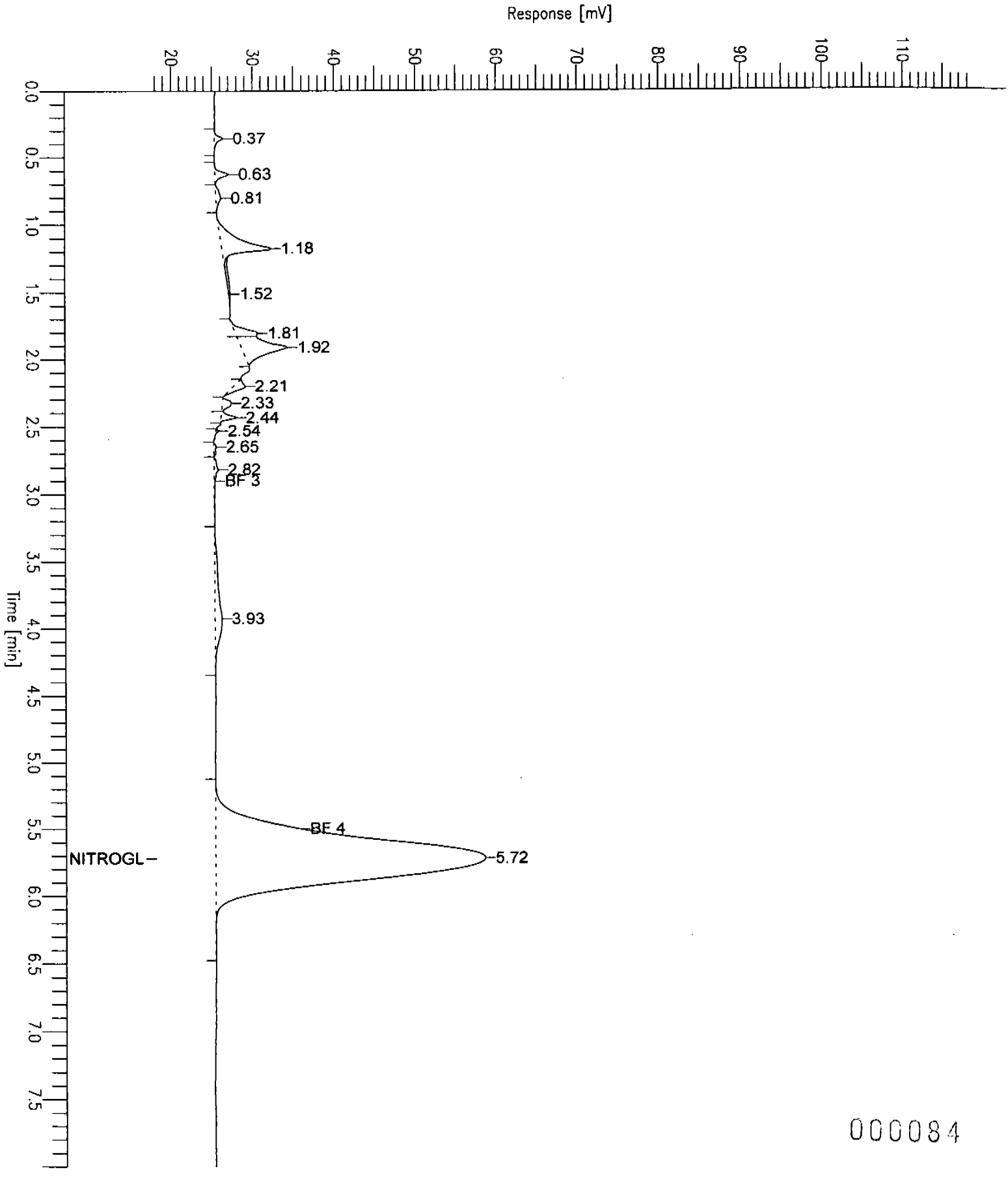
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
5.751	NITROGLYCERIN	19.6692	290824.00	12858.20	0.00	----------
			290824.00	12858.20	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0039.TX0

Chromatogram

Sample Name : 50ppm std
FileName : C:\TC4\LC151\A35_128.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 128 Page 1 of 1
Date : 7/31/02 17:44
Time of Injection: 7/31/02 16:55
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000084

Software Version: 4.1<2F12>
Sample Name : 50ppm std
Sample Number: 128
Operator :

Time : 7/31/02 17:44
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 16:55
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_128.RAW
Result File : C:\WINDOWS\TEMP\~RST0039.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0039.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
5.724	NITROGLYCERIN	50.8726	719284.50	33256.51	0.00	----------
			719284.50	33256.51	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0039.TXO

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_07.mth Date: 7/31/02
Std. Level: Std. 4 CCV Filename: A35_120 Time: 14:26

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	7.03	416.08	365.66	13.79%	YES

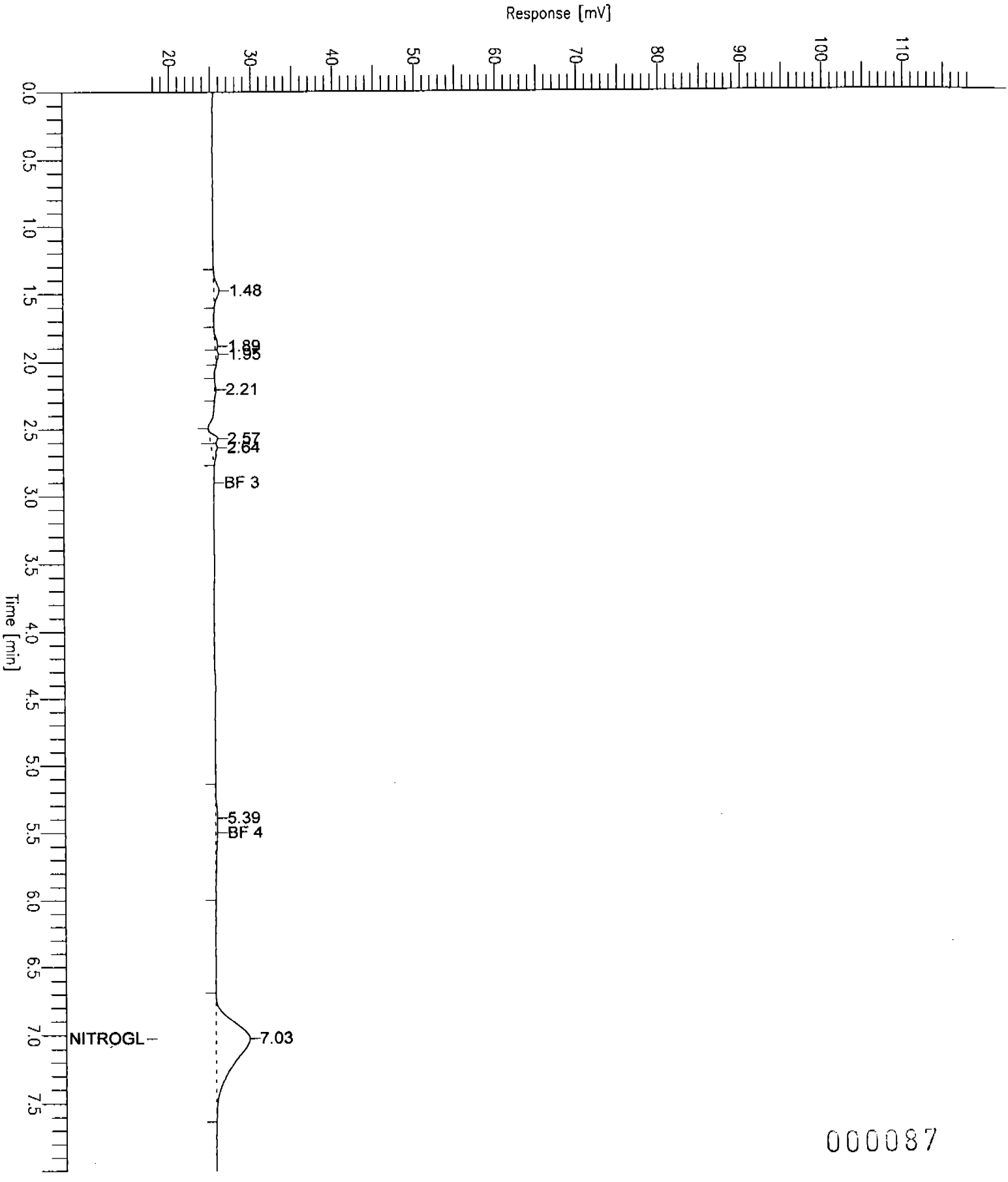
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10PPMSTD
FileName : C:\TC4\LC151\A35_120.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 120
Date : 7/31/02 14:42
Time of Injection: 7/31/02 14:26
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 10PPMSTD
Sample Number: 120
Operator :

Time : 7/31/02 14:42
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 14:26
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_120.RAW
Result File : C:\WINDOWS\TEMP\~RST3468.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST3468.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.026	NITROGLYCERIN	11.3790	86121.25	4160.82	10.00	113.79
			86121.25	4160.82	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST3468.TXO

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_08.mth Date: 7/31/02
Std. Level: Std. 4 CCV Filename: A35_139 Time: 19:54

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	5.77	631.74	653.72	3.36%	YES

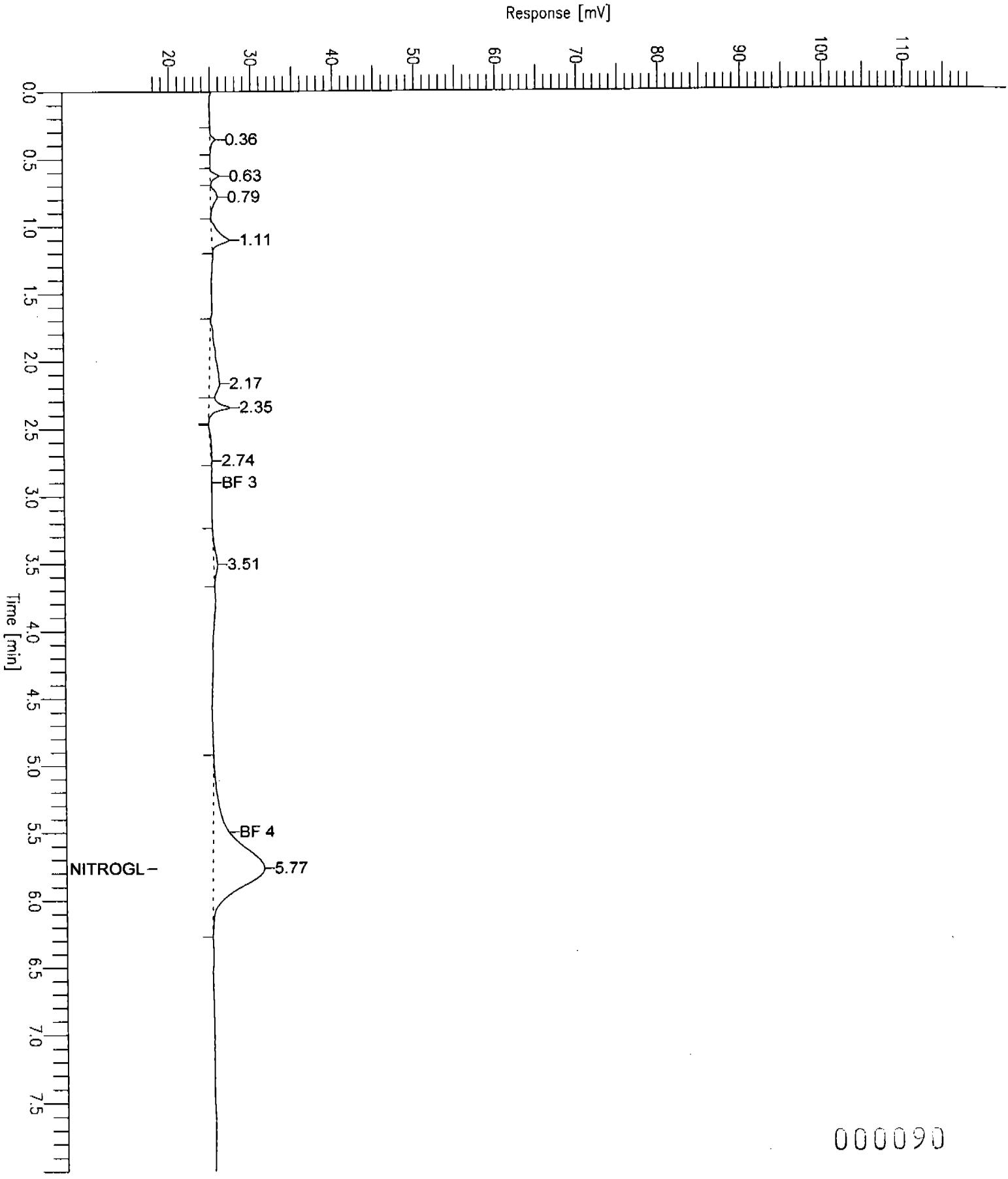
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10ppm std
FileName : C:\TC4\LC151\A35_139.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 139 Page 1 of 1
Date : 8/1/02 05:03
Time of Injection: 7/31/02 19:54
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000090

Software Version: 4.1<2F12>
Sample Name : 10ppm std
Sample Number: 139
Operator :

Time : 8/1/02 05:03
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 19:54
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_139.RAW
Result File : C:\WINDOWS\TEMP\~RST120B.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST120B.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
5.769	NITROGLYCERIN	9.6638	150513.50	6317.44	0.00	----------
			150513.50	6317.44	0.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST120B.TX0

SINGLE-COMPONENT IDENTIFICATION SUMMARY

EPA SAMPLE #: Badger A Spike LAB SAMPLE # 311131

	COLUMN 1	COLUMN 2
Inst.ID:	151	151
Column:	C18	CN
Length(cm):	25	25

Compound	Column	Retention Time	Retention Time Window From	Retention Time Window To	Concentration (ug/L)	%Diff
Nitroglycerine	1	7.06	6.87	7.27	29.6	10.4%
	2	5.70	5.56	5.96	26.5	

SINGLE-COMPONENT IDENTIFICATION SUMMARY

EPA SAMPLE #: Badger B Spike LAB SAMPLE # 311132

	COLUMN 1	COLUMN 2
Inst.ID:	151	151
Column:	C18	CN
Length(cm):	25	25

Compound	Column	Retention Time	Retention Time Window From	Retention Time Window To	Concentration (ug/L)	%Diff
Nitroglycerine	1	7.05	6.87	7.27	11.8	2.7%
	2	5.66	5.56	5.96	11.5	

SINGLE-COMPONENT IDENTIFICATION SUMMARY

EPA SAMPLE #: Badger C Spike LAB SAMPLE # 311133

	COLUMN 1	COLUMN 2
Inst.ID:	151	151
Column:	C18	CN
Length(cm):	25	25

Compound	Column	Retention Time	Retention Time Window From	Retention Time Window To	Concentration (ug/L)	%Diff
Nitroglycerine	1	7.05	6.87	7.27	7.66	21.5%
	2	5.68	5.56	5.96	6.01	

000094

SINGLE-COMPONENT IDENTIFICATION SUMMARY

EPA SAMPLE #: Badger D Spike LAB SAMPLE # 311134

	COLUMN 1	COLUMN 2
Inst.ID:	151	151
Column:	C18	CN
Length(cm):	25	25

Compound	Column	Retention Time	Retention Time Window From	Retention Time Window To	Concentration (ug/L)	%Diff
Nitroglycerine	1	7.09	6.87	7.27	3.33	4.8%
	2	5.70	5.56	5.96	3.49	

SECTION - C

RAW QUALITY CONTROL DATA

NITROGLYCERINE DATA

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories, Inc.

QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -2	Parameter	Nitroglycerine
Instrument ID	151	Ref. Cit.	USEPA-8332
		Matrix	WATER
		Units	mg/L

Batch	Blank QC Type	Sequence No.	Amount Found
189214	Instrument	1	<1.0

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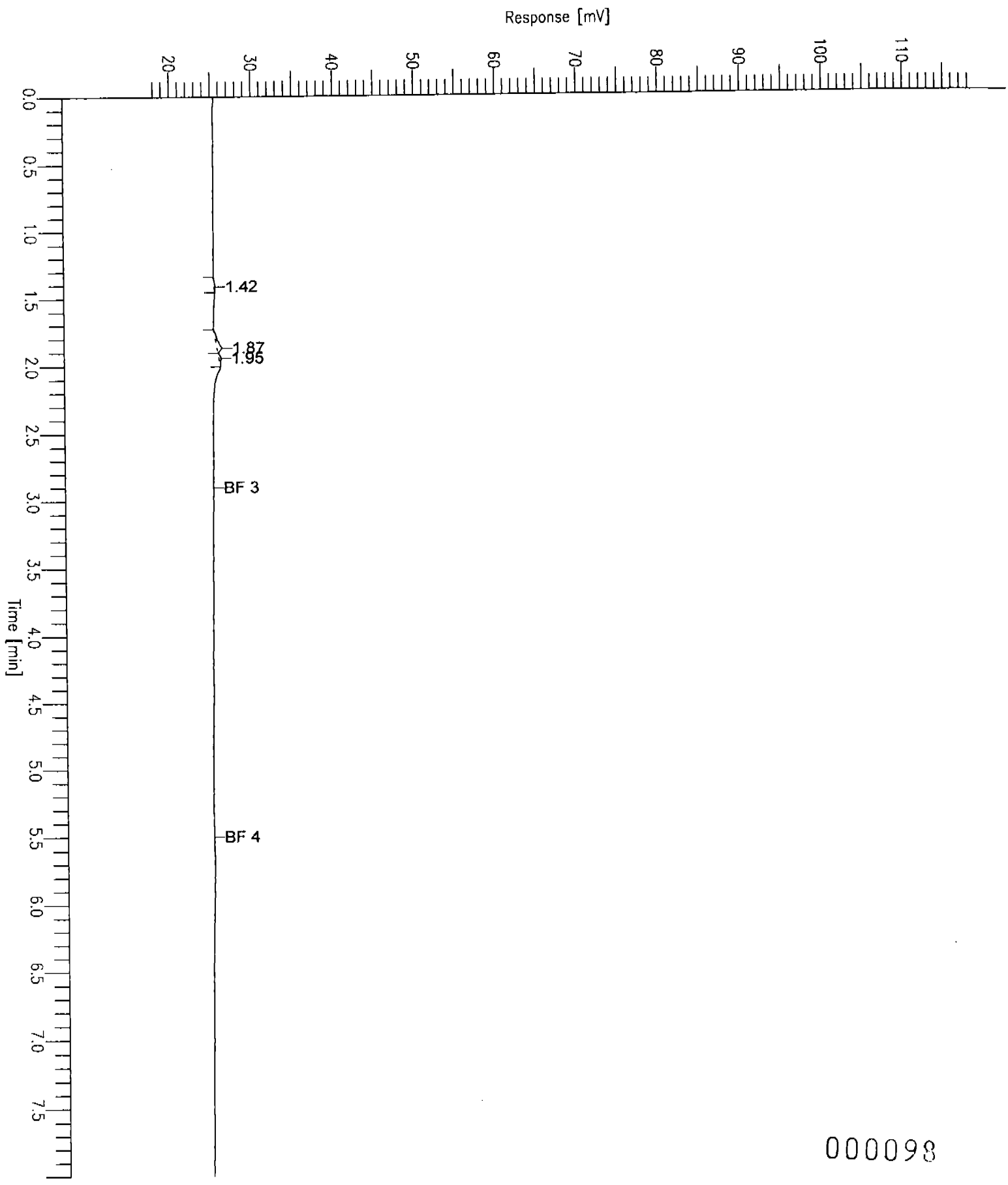
Chromatogram

Sample Name : INSTRBLK
FileName : C:\TC4\LC151\A35_103.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 103
Date : 7/31/02 13:23
Time of Injection: 7/31/02 11:12
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : INSTRBLK
Sample Number: 103
Operator :

Time : 7/31/02 13:23
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 11:12
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_103.RAW
Result File : C:\WINDOWS\TEMP\~RST2418.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST2418.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

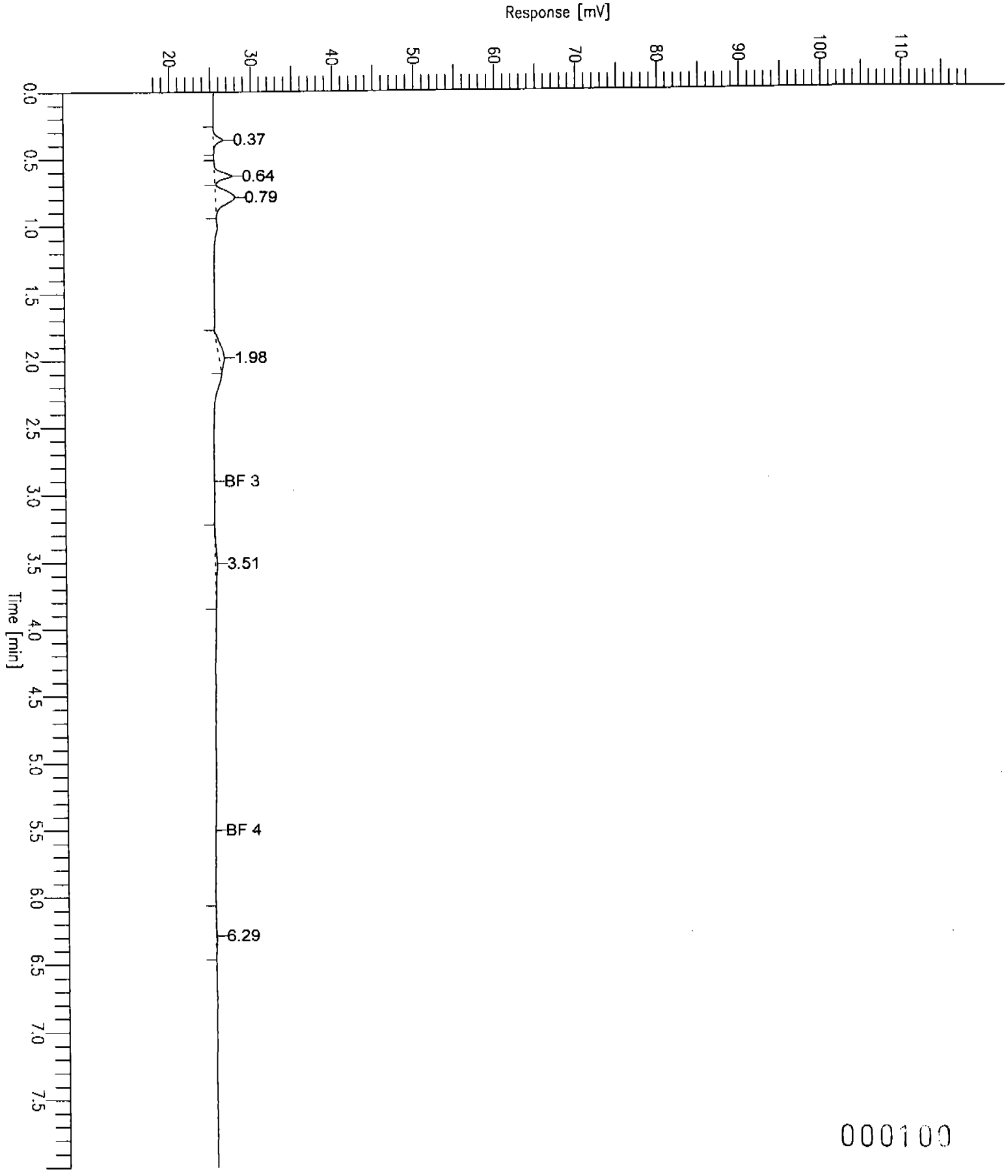
Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

Chromatogram

Sample Name : instrblk
FileName : C:\TC4\LC151\A35_122.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 122
Date : 7/31/02 17:42
Time of Injection: 7/31/02 15:17
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Confirmation column run

Software Version: 4.1<2F12>
Sample Name : instrblk
Sample Number: 122
Operator :

Time : 7/31/02 17:42
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 15:17
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_122.RAW
Result File : C:\WINDOWS\TEMP\~RST0039.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0039.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -2	Parameter	Nitroglycerine
Instrument ID	151	Ref. Cit.	USEPA-8332
		Matrix	SOIL
		Units	mg/kg dry

Batch	Blank QC Type	Sequence No.	Amount Found
77286	Method Preparation	1	<6.68

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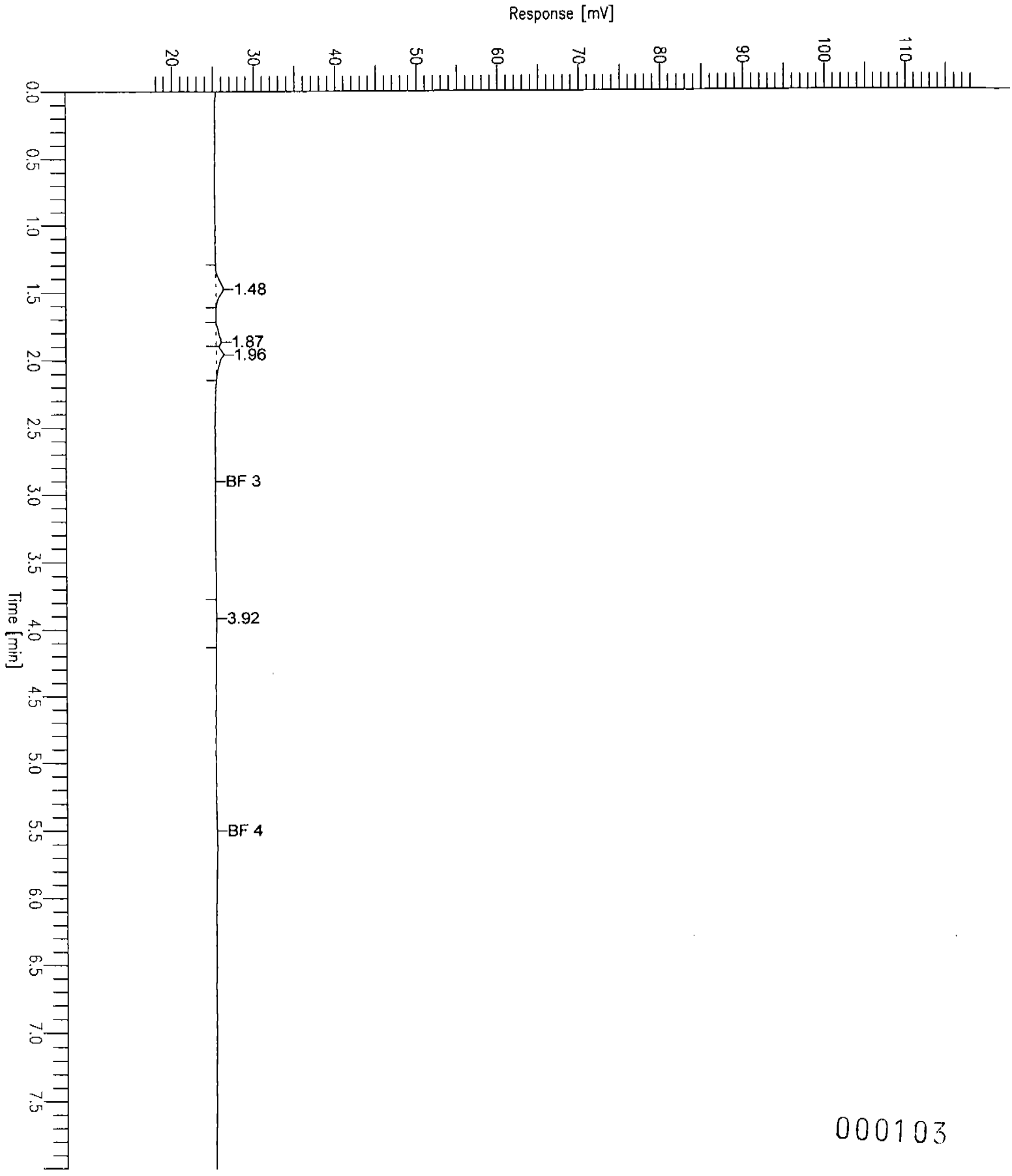
Chromatogram

Sample Name : MPB131
FileName : C:\TC4\LC151\A35_110.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 110
Date : 7/31/02 13:23
Time of Injection: 7/31/02 12:32
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : MPB131
Sample Number: 110
Operator :

Time : 7/31/02 13:23
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 12:32
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_110.RAW
Result File : C:\WINDOWS\TEMP\~RST2418.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST2418.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

NP

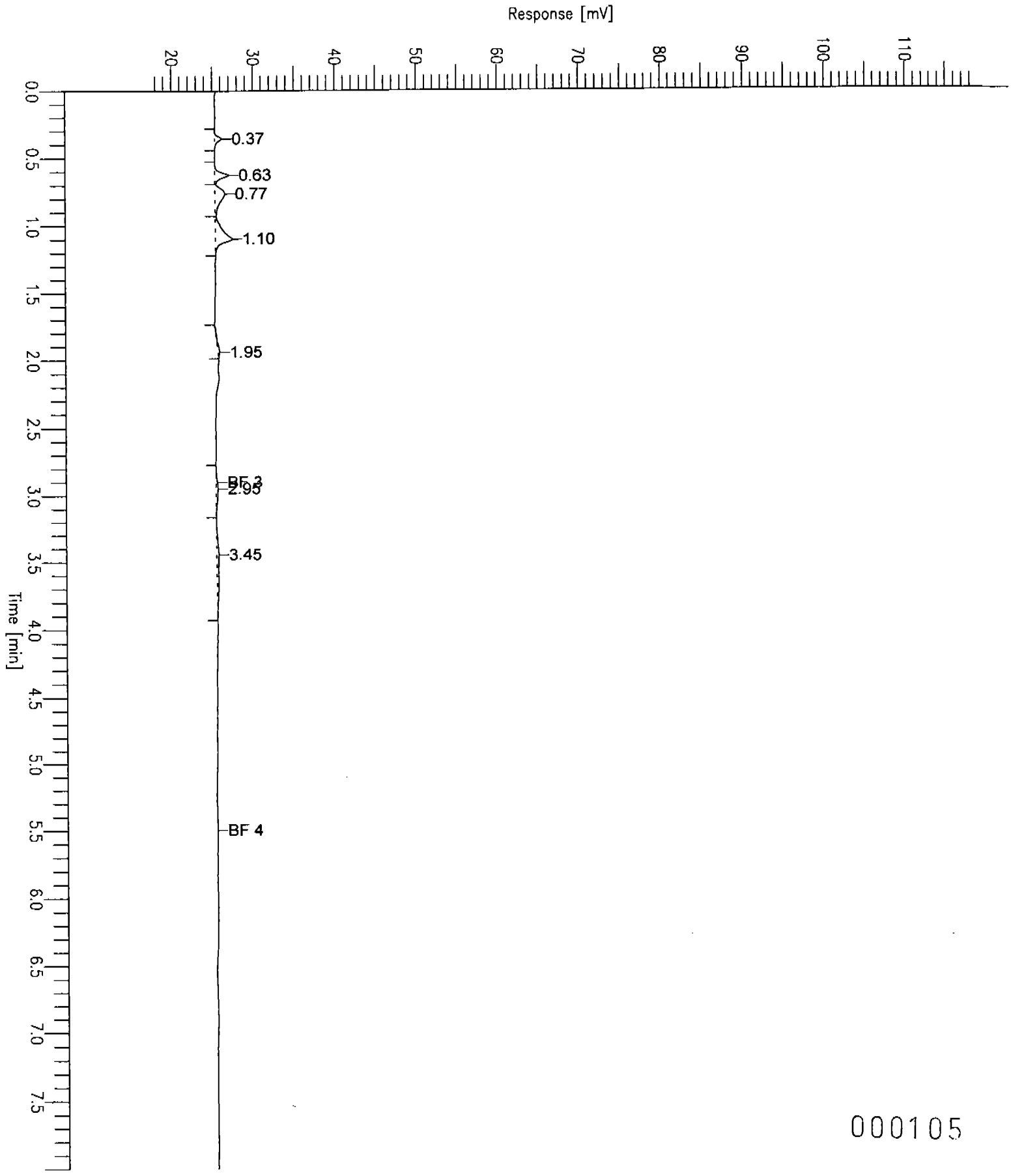
Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

Chromatogram

Sample Name : mpb131cc
FileName : C:\TC4\LC151\A35_129.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 129 Page 1 of 1
Date : 7/31/02 17:40
Time of Injection: 7/31/02 17:11
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : mpb131cc
Sample Number: 129
Operator :

Time : 7/31/02 17:40
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 17:11
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_129.RAW
Result File : C:\WINDOWS\TEMP\~RST0039.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0039.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -2
Sample ID. BadgerBlank

Matrix SOIL
Lab Sample No. 311136
Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitroglycerine	70 - 130	49.5	<6.68	U	51	97	
Nitroglycerine	70 - 130	64.6	<6.68	U	51	127	

000107

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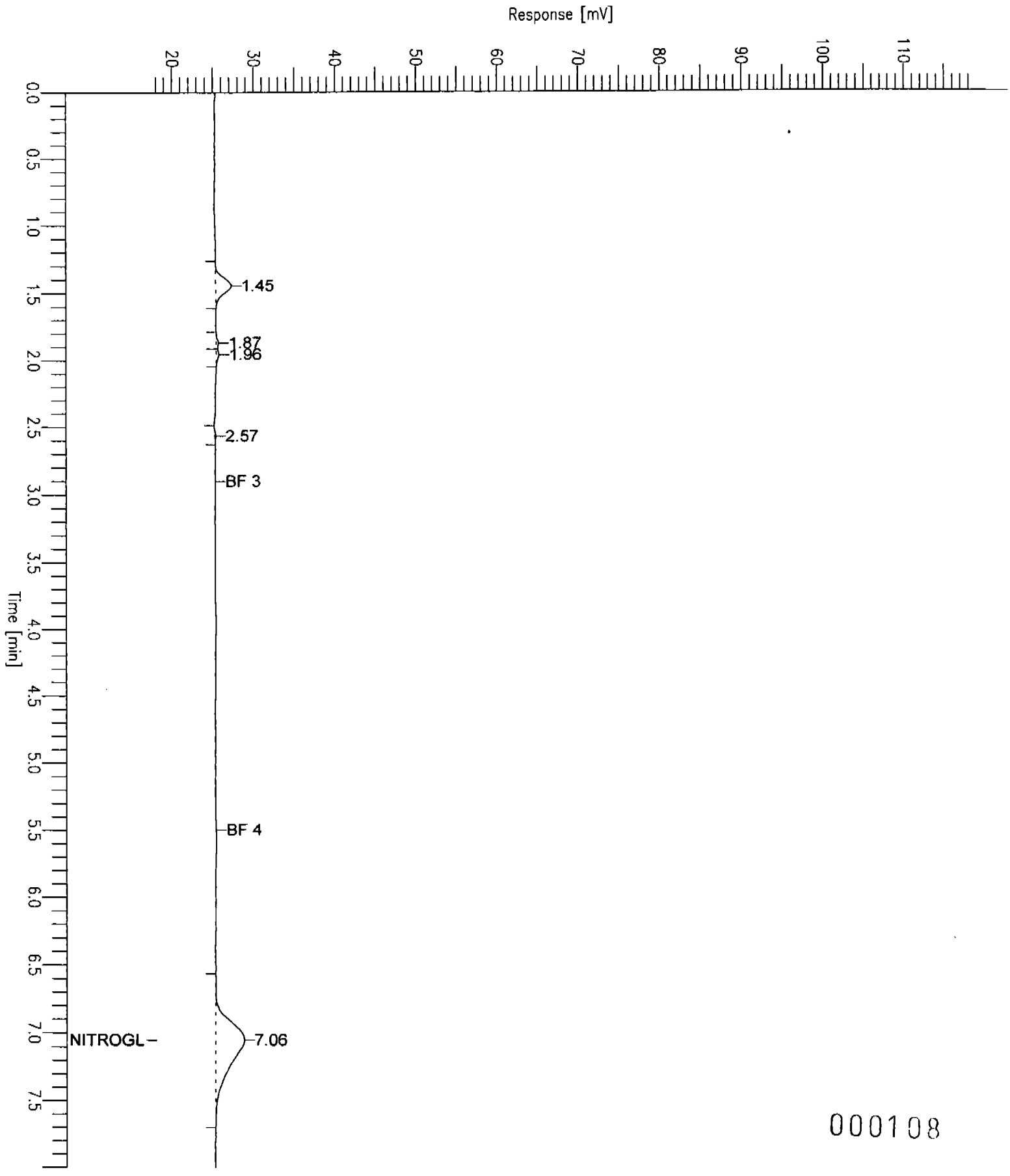
Chromatogram

Sample Name : 311136MD
FileName : C:\TC4\LC151\A35_119.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 119
Date : 7/31/02 14:42
Time of Injection: 7/31/02 14:15
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311136MD
Sample Number: 119
Operator :

Time : 7/31/02 14:42
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 14:15
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_119.RAW
Result File : C:\WINDOWS\TEMP\~RST3468.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST3468.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

2.05 → 10 ml

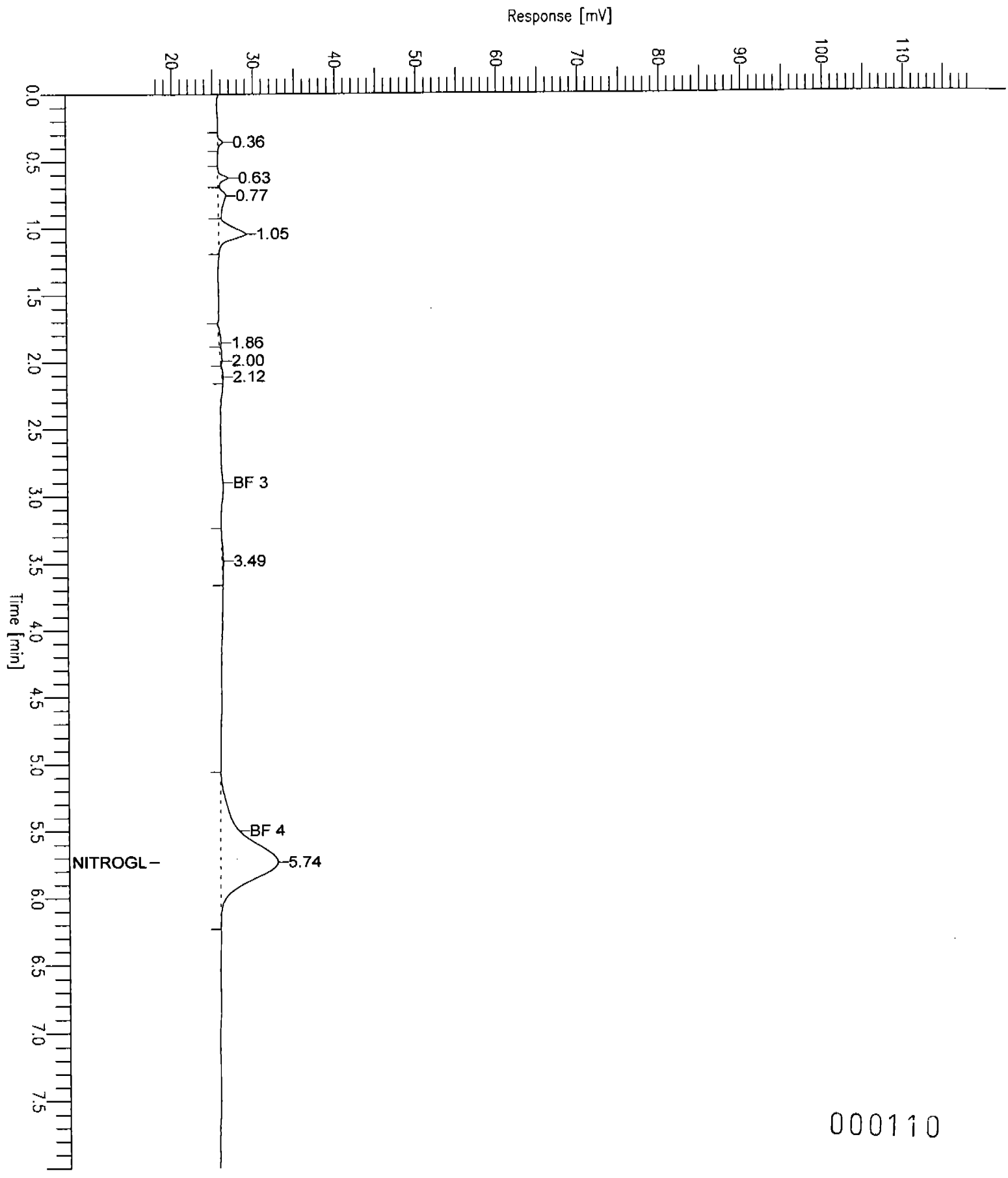
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)		
7.055	NITROGLYCERIN	9.6979	75649.00	3546.10	1.00	1.0	9.6979		
		9.6979	75649.00	3546.10	1.00	1.0	9.6979	48.49	49.44

Chromatogram

Sample Name : 311136mscc
FileName : C:\TC4\LC151\A35_137.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 137
Date : 8/1/02 05:04
Time of Injection: 7/31/02 19:21
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311136mscc
Sample Number: 137
Operator :

Time : 8/1/02 05:04
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 19:21
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_137.RAW
Result File : C:\WINDOWS\TEMP\~RST120B.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST120B.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

25 → 100

Trimatrix Labs. LC151 Sample Quant. Report - Soil

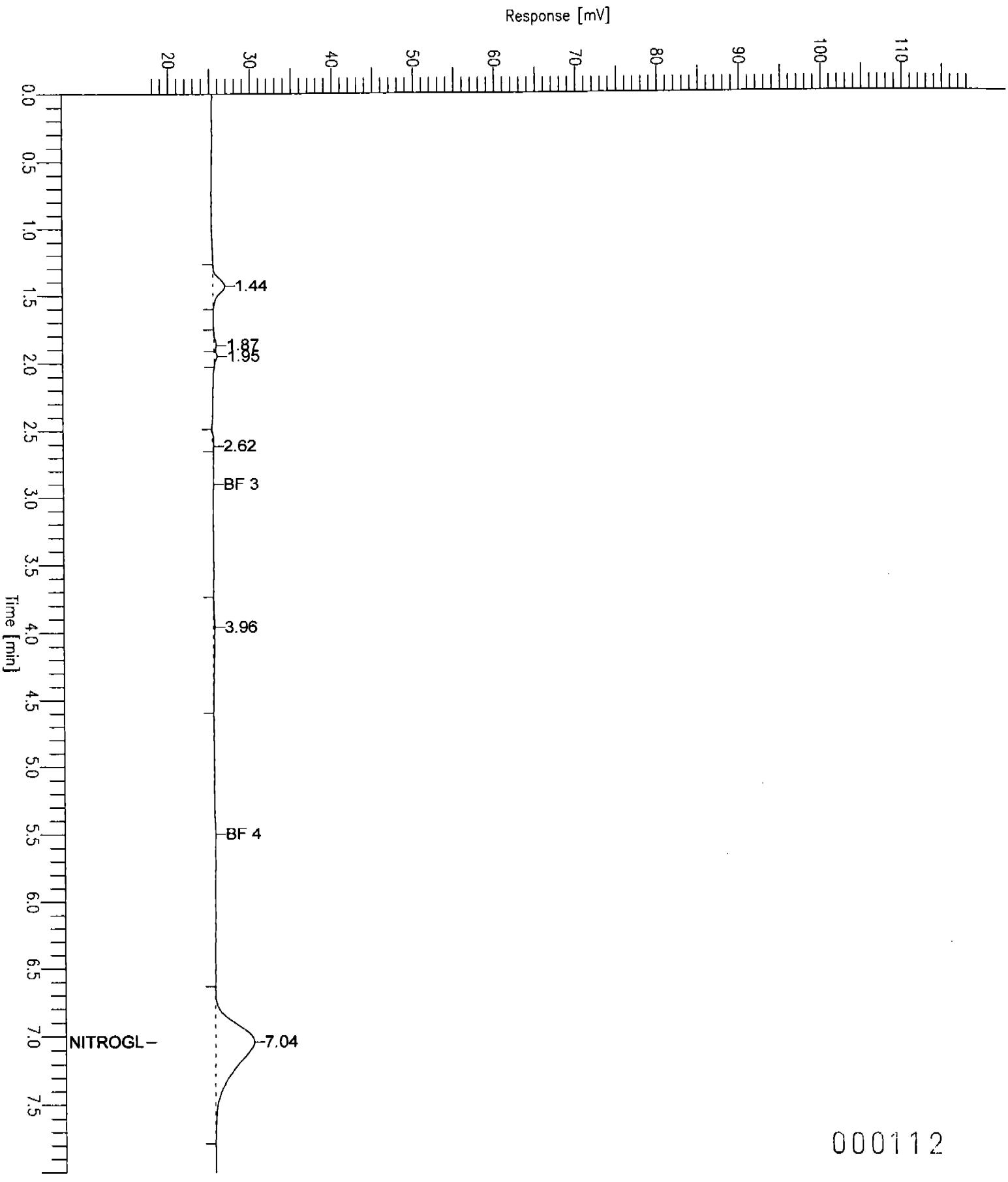
Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
5.735	NITROGLYCERIN	10.7855	154412.25	7050.74	1.00	1.0	10.7855
		10.7855	154412.25	7050.74	1.00	1.0	10.7855

53.93/.98 = 55.03

Chromatogram

Sample Name : 311136MS
FileName : C:\TC4\LC151\A35_118.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 118
Date : 7/31/02 14:43
Time of Injection: 7/31/02 14:03
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311136MS
Sample Number: 118
Operator :

Time : 7/31/02 14:43
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 14:03
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_118.RAW
Result File : C:\WINDOWS\TEMP\~RST3468.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST3468.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

29-132
982

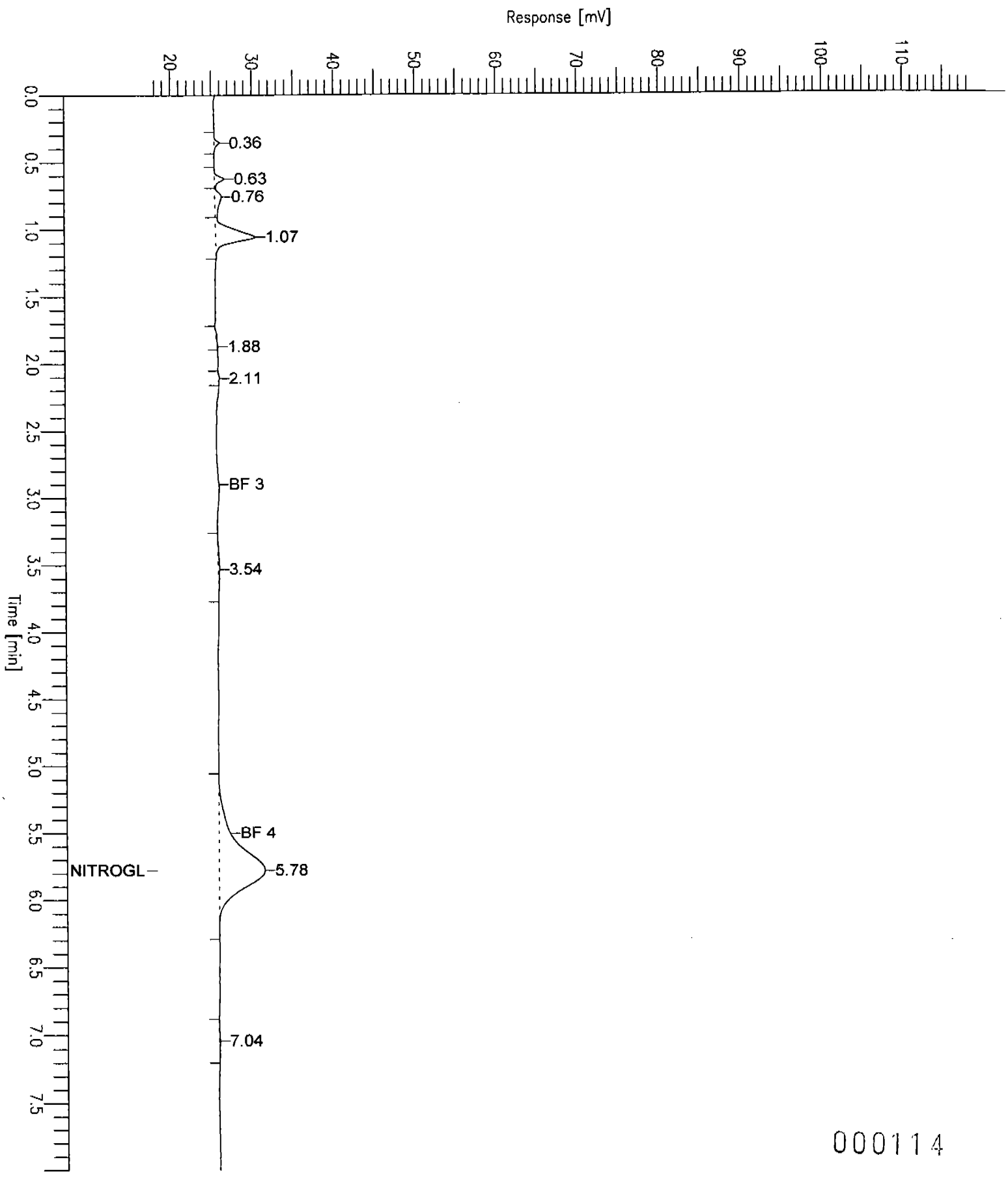
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
7.041	NITROGLYCERIN	12.6698	94474.25	4632.79	1.00	1.0	12.6698	
		12.6698	94474.25	4632.79	1.00	1.0	12.6698	63.34 (64.6)

Chromatogram

Sample Name : 311136mdcc
FileName : C:\TC4\LC151\A35_138.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 138
Date : 8/1/02 05:03
Time of Injection: 7/31/02 19:38
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 311136mdcc
Sample Number: 138
Operator :

Time : 8/1/02 05:03
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 19:38
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_138.RAW
Result File : C:\WINDOWS\TEMP\~RST120B.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST120B.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

25 → 13-1

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time (min)	Component Name	Raw Amount	Area (µV·s)	Height (µV)	Initial (g)	Final (ml)	Conc. (mg/kg)
5.780	NITROGLYCERIN	8.6576	123712.00	5659.68	1.00	1.0	8.6576
		8.6576	123712.00	5659.68	1.00	1.0	8.6576

43.23
.98 = 44.17

QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No. 35988 -2 Units mg/kg dry

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitroglycerine	77286	50	50.4	70 - 130	101

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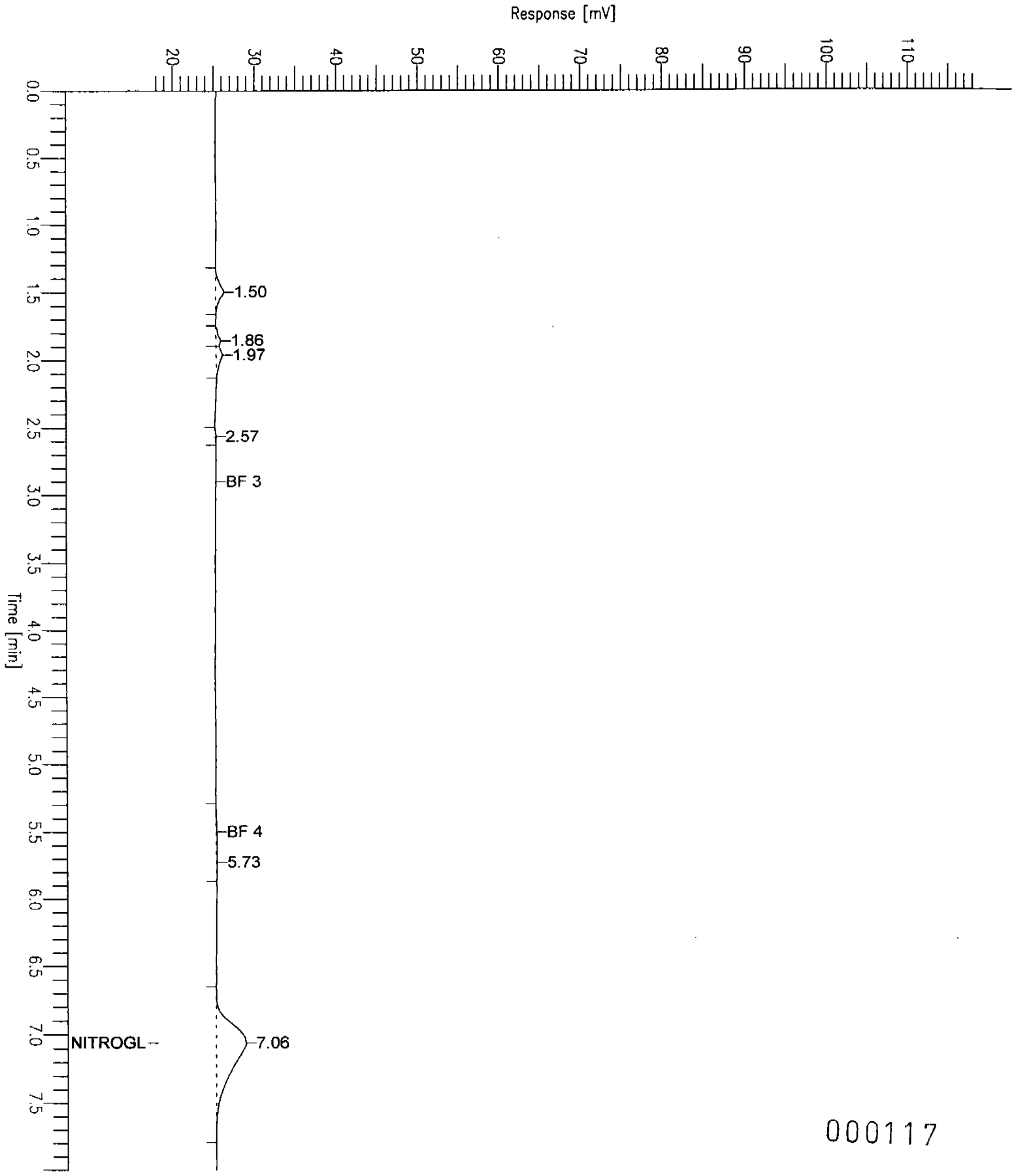
Chromatogram

Sample Name : LFB131
FileName : C:\TC4\LC151\A35_111.RAW
Method : 8332_07.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 111 Page 1 of 1
Date : 7/31/02 13:24
Time of Injection: 7/31/02 12:44
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000117

Software Version: 4.1<2F12>
Sample Name : LFB131 Time : 7/31/02 13:24
Sample Number: 111 Study : NITROGLYCERIN
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 12:44
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_111.RAW
Result File : C:\WINDOWS\TEMP\~RST2418.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST2418.RST
Proc Method : C:\TC4\LC151\8332_07.MTH
Calib Method : C:\TC4\LC151\8332_07.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

2-05-2001

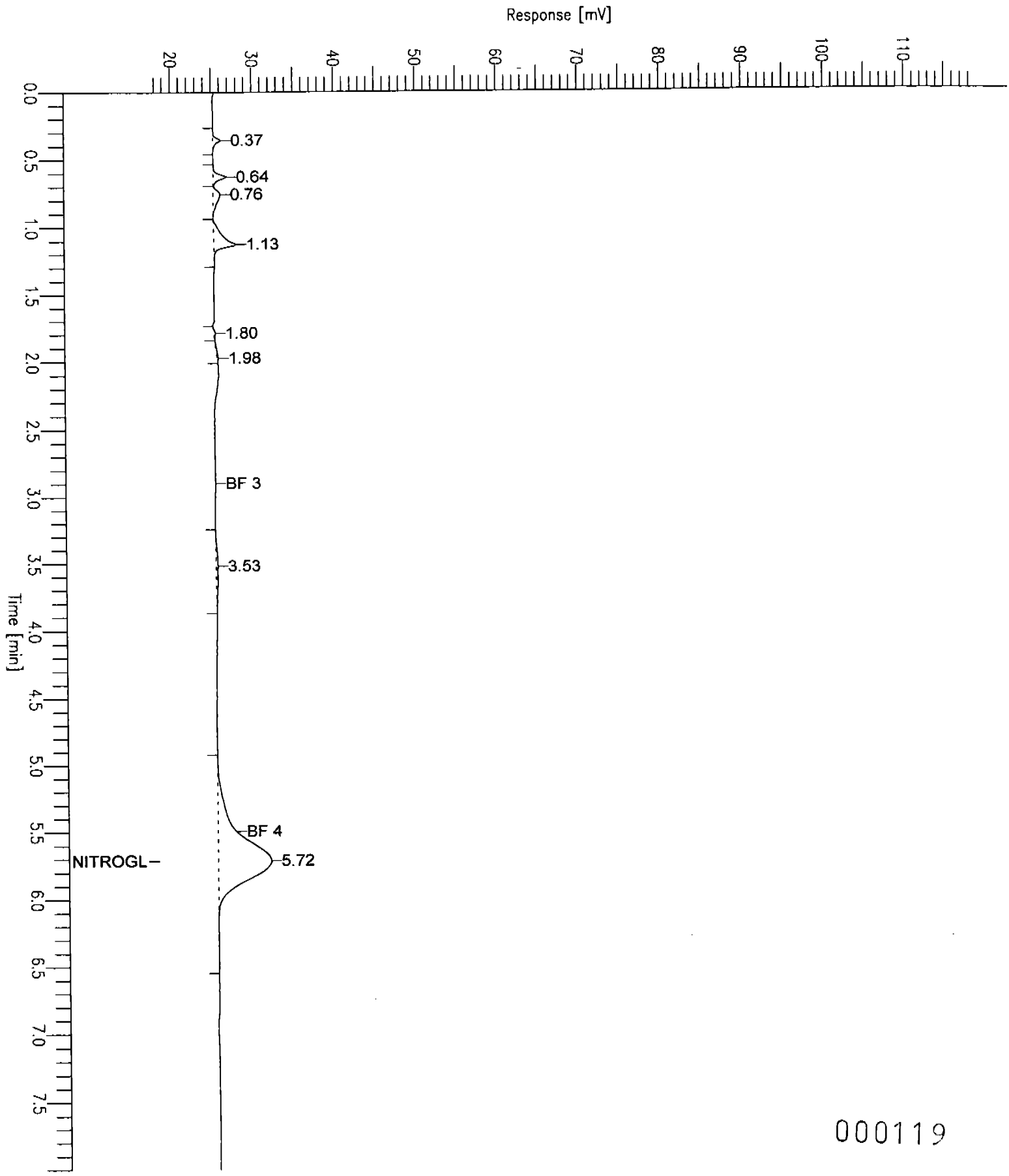
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
7.059	NITROGLYCERIN	10.0796	82727.00	3685.65	1.00	1.0	10.0796	
		10.0796	82727.00	3685.65	1.00	1.0	10.0796	50.396

Chromatogram

Sample Name : 1fb1331cc
FileName : C:\TC4\LC151\A35_130.RAW
Method : 8332_08.MTH
Start Time : 0.00 min End Time : 8.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 130
Date : 7/31/02 17:41
Time of Injection: 7/31/02 17:27
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000119

Software Version: 4.1<2F12>
Sample Name : 1fb1331cc
Sample Number: 130
Operator :

Time : 7/31/02 17:41
Study : NITROGLYCERIN

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 7/31/02 17:27
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A35_130.RAW
Result File : C:\WINDOWS\TEMP\~RST0039.RST
Inst Method : C:\TC4\LC151\8332_06 from C:\WINDOWS\TEMP\~RST0039.RST
Proc Method : C:\TC4\LC151\8332_08.MTH
Calib Method : C:\TC4\LC151\8332_08.MTH
Sequence File : C:\TC4\LC151\A35.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

25 → 10~1

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)	
5.718	NITROGLYCERIN	10.0051	146164.25	6540.53	1.00	1.0	10.0051	
		10.0051	146164.25	6540.53	1.00	1.0	10.0051	50.0255

SECTION - C

PREPARATION LOGS / MISCELLANEOUS

NITROGLYCERINE DATA

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31-JUL-02 EXTRACTION LAB EXTRACTION SUMMARY PAGE 1

Prepared by: DM

Time spent: _____

Lims Batch: 188951//131

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: DM
Opened Date: 7/31/02
Sequence: 1

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

000122

Client / [Test number] Parameter	Submittal Method	Sample QC COC	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP QC Type
Stone & Webster Engineering Corp 35988- 2 311131 LV5									
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332		7/31/02	2.1g	10.0ml	96			
Stone & Webster Engineering Corp 35988- 2 311132 LV5									
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332			2.0g		97			
Stone & Webster Engineering Corp 35988- 2 311133 LV5									
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332			2.0g		96			
Stone & Webster Engineering Corp 35988- 2 311134 LV5									
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332			2.0g		97			
Stone & Webster Engineering Corp 35988- 2 311135 LV5									
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332			2.1g		92			
Stone & Webster Engineering Corp 35988- 2 311136 LV5									
[1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE	USEPA-8332			2.0g		96			
MPB131				2.0g					
311136 MS				2.0g					
311136 MSD				2.0g					
LFB131				2.0g					

********** QUALITY CONTROL DATA **********

Type	Amt Ext	Final Volume	Surrogates... Standard	Surrogates... Amount	Spikes... Standard	Spikes... Amount	Spikes... Standard	Spikes... Amount
MPB								
DUP								
SPK#								
MSD#								
LCS					82,9-63	100ul		
(Sample Notes)								

*	Type	Date done	# times
* 1	Nitrogen Blowdown		
* 2	Alumina		
* 3	Copper/Sulf. Acid		
* 4	Small Florisil		
* 5	Lg. Florisil Col.		
* 6	Silica Gel		
* 7	GPC		

TriMatrix Laboratories, Inc.

Instrument ID: Perkin Elmer LC235 151	Date: 7/31/2	Sequence #: A35	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: Primacle Ultra C18	Curve Date: 7/31/2	(Programs listed in front of book)	Notes:
Column Heater Temp: 25°	Curve Type: Regression or Avg. CF	8315 Acrylamide	8332 - Nitroglycerol
Injection Volume: 20ul	Quantitated By: Curve	8310 Phenytoin	
Initial Pressure: 2500	ICV/CCV Std: GC2.3.8.	8330 Other A	
UV Detector Wavelength: 214nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
mki	Instrblk	A35 103	11:12	8332_06			Str		
	1PPMSTD	104	11:24						
	2PPMSTD	105	11:35						
	5PPMSTD	106	11:46						new curve
	10PPMSTD	107	11:58						
	20PPMSTD	108	12:09						
	50PPMSTD	109	12:21						
	MPB131	110	12:32		SLW	Soil	Str		
	LFB131	111	12:44						
	311131	112	12:55						
	311132	113	13:06						
	311133	114	13:18						
	311134	115	13:29						
	311135	116	13:40						
	311136	117	13:52						
	311136MS	118	14:03						
	311136MD	119	14:15						
	10PPMSTD	120	14:26				Str	passes	

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confirmation column

Instrument ID: Perkin Elmer LC235 151	Date: 7/31/12	Sequence #: A31	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: Dionex CN	Curve Date: 7/31/12	(Programs listed in front of book)	Notes:
Column Heater Temp: 25°	Curve Type: Regression or Avg. CF	8315 Acrylamide	E332 Nitroglycerin
Injection Volume: 50uL	Quantitated By: Curve	8310 Phenytoin	
Initial Pressure: 2100	ICV/CCV Std: CC238	8330 Other A	
UV Detector Wavelength: 214nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
JMH	instrblk	A31 122	15:17	E332-CC			SL		
	1ppmstd	123	15:33						
	2ppmstd	124	15:50						
	5ppmstd	125	16:06						
	10ppmstd	126	16:22						new curve
	20ppmstd	127	16:38						
	50ppmstd	128	16:54						
	MPB13CC	129	17:11		SLW	33.1	SL		
	LFB13CC	130	17:27						
	311131CC	131	17:44						
	311132CC	132	18:00						
	311133CC	133	18:16						
	311134CC	134	18:33						
	311135CC	135	18:49						
	311136CC	136	19:05						
	311136MSCC	137	19:21						
	311136MSDCC	138	19:38						
	10ppmstd	139	19:54				SL	passes	

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Row #	Standard Number	Standard Description	Analyte(s) (and/or Stock Standard Number for dilutions)	Manufacturer and Lot Numbers	Exp. Date	Ampule or Stock Standard Concentration	Initial Weight/ Volume	Solvent Used/ Lot #	Final Volume	Final Concentration	Made or Opened By	Date Made or Opened	Date Expires	Math Check By
1	GC2. 3 -1	Benzaldehyde Spike	~~Bz~~ GC2.2.18		7/19/3	1034 ug/ml	1.25 ml	CH_3CN	25 ml	50 ug/ml	JMK	7/19/2	1/19/3	
2	GC2. 3 -2	Chlorinated Pesticide SPIKING MIX	8081 Pest List	Ultra Sc. PPM-808F Lot R-376B	01/2004	1000 ug/mL	40 uL	Acetone	50mL	0.80 ug/mL	JAZ	7/23/02	1/23/03	
3	GC2. 3 -3	Form + Benz. Calibration Std	GC2.3.1		1/19/3	1034 ug/ml	1.6 ml	CH_3CN	10 ml	160 ug/ml	JMK	7/23/2	1/19/3	
4	GC2. 3 -4		GC 1.50.3		5/30/3	1033 ug/ml	1.6 ml	↓	↓	↓	↓	↓	↓	
5	GC2. -5	#2 Diesel Stock STD	#2 Diesel composite	Ultra Sc. RGO-616 Lot P-1316		50000 ug/mL	2.0 mLS	$MeCl_2$	25 mLS	4000 ug/mL	JAZ	7/24/2	1/24/3	
6	GC2. 3 -6	Form, Benz Spike	GC2.3.1		1/19/3	1034 ug/ml	1.25 ml	CH_3CN	25 ml	50 ug/ml	JMK	7/27/2	1/19/3	
7	GC2. -7		GC1.50.3		5/30/3	1033 ug/ml	1.25 ml	↓	↓	↓	↓	↓	↓	
8	GC2. 3 -8	Stock Nitroglycerin	Nitroglycerin	Accustr. B2070078	7/9/03	100 ug/ml						7/31/2	7/9/3	
9	GC2. 3 -9	Pest Calibration Std.	Organochlorine Pesticides Mix	ULTRA PPM-808C Lot# T-0089	02/04	1000 ug/mL	4.0 uL	Hexane 003841	50 mL	0.08 ug/mL ~~0.16 ug/mL~~	JAM	8-2-02	2-2-03	
10	GC2. -10		JAM 8-2-02 ~~TCMX + DCB~~ PL2.10-13	~~PL~~	7.8.03	1.0 ug/mL	4.0 mL			JAM 8-2-02				
11	GC2. 3 -11	Pest 2nd Source Std.	#1-508 Organochlorine Pesticides Mix	CHEM SERVICE OCP508-1JM Lot# 277-148B	2.03	1000 ug/mL	4.0 uL	Hexane 003841	50 mL	0.08 ug/mL ~~0.16 ug/mL~~	JAM	8-2-02	2-2-03	
12	GC2. -12		PL2.10-13		7.8.03	1.0 ug/mL	4.0 mL							
13	GC2. 3 -13	#2 Diesel Spiking mix	Composite #2 Diesel Fuel Solution	Ultra Sc. RGO-616 Lot No. P-1316	9/2003	50000 ug/mL	1000 uL	$MeCl_2$	50 mL	1000 ug/mL	JAZ	8/5/2	~~11/5/3~~ 11-5-02	8-8-02
14	GC2. 3 -14	TRIS(2,3-dichloropropyl) Phosphate mix		Chemservice PZ-670 Lot #55-168L	NA	Neat (technical grade)	0.0493 g	Hexane 003841	50 mL	1000 ug/mL	JAZ	8/5/2	8/5/3	
15	GC2. 3 -15	MDEQ TRIS STD LIST	TCMX + DCB	Absolute 71008 Lot #131701	3/17/06	200 ug/mL	10 uL	Hexane	50 mL	0.04 ug/mL	JAZ	8/7/2	8/7/3	
16	GC2. -16		Hexabromobenzene	02SI 030490-01 Lot 103665	8/9/05	1000 ug/mL	2 uL			0.04 ug/mL				
17	GC2. -17		2,4-DDT	02SI 130098-01 Lot 103659	8/9/2005	1000 ug/mL	2 uL			0.04 ug/mL				
18	GC2. -18		Tris(2,3-dibromopropyl) Phosphate	02SI 030286-01 Lot 103660	8/9/05	1000 ug/mL	200 uL			4.0 ug/mL				

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration
Submittal: 2 July 23, 2002 Soils

COC: YES
Proj Chemist: LMH
Received Date: 26-JUL-02

Lab due date: 07-AUG-02
QC: LV5
Safety: NO
Hazards: F=0 R=0 C=0 H=0

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Sample	Sample Names / Parameter	Description / Ref Cit	Appl	Unit	Hold Date	Test Type	Frac Num
311131	Badger A Spike NITROGLYCERINE	17 USEPA-8332	SOIL	mg/kg dry	01-SEP-02	STD TEST	
311132	Badger B Spike NITROGLYCERINE	17 USEPA-8332	SOIL	mg/kg dry	01-SEP-02	STD TEST	
311133	Badger C Spike NITROGLYCERINE	17 USEPA-8332	SOIL	mg/kg dry	01-SEP-02	STD TEST	
311134	Badger D Spike NITROGLYCERINE	17 USEPA-8332	SOIL	mg/kg dry	01-SEP-02	STD TEST	
311135	Badger E Spike NITROGLYCERINE	\7 USEPA-8332	SOIL	mg/kg dry	01-SEP-02	STD TEST	
311136	Badger Blank NITROGLYCERINE	17 USEPA-8332	SOIL	mg/kg dry	01-SEP-02	STD TEST	

========== CLIENT NARRATIVES ==========

Date	User	Text
03-FEB-00	LMH	EDD and data within 20 days of sample receipt
03-FEB-00	LMH	LV-5 package must include MDLs and IDL (metals) sheets
21-MAY-02	LMH	--
21-MAY-02	LMH	prep lab: for soil BNAs please extract for Ion trap
21-MAY-02	LMH	extract 30g to 1 ml

========== PROJECT NARRATIVES ==========

Date	User	Text
13-MAY-02	LMH	LV5 - Wisconsin reportable
13-MAY-02	LMH	please J flag between MDL (LOD) and 3.333xMDL (LOQ)
13-MAY-02	LMH	-
13-MAY-02	LMH	PREP LAB: extract all SVOCs for ion trap
13-MAY-02	LMH	--

========== SUBMITTAL NARRATIVES ==========

SECTION - J

WET CHEMISTRY DATA

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SECTION - J

SAMPLE RESULT SUMMARIES

WET CHEMISTRY DATA

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger A Spike	LOD	LOQ	Units
	Lab Sample No:	311131			
E-1047	Percent Solids	96	NA	0.1	%
55-63-0	Nitroglycerine	30	2.0	6.68	mg/kg dry
Sampled by:		ARA			
Date Sampled:		07/23/02			
Time Sampled:		00:00			
Date Received:		07/26/02			
Time Received:		08:45			

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger B Spike	LOD	LOQ	Units
	Lab Sample No:	311132			
E-1047	Percent Solids	97	NA	0.1	%
55-63-0	Nitroglycerine	12	2.0	6.68	mg/kg dry

Sampled by:	ARA
Date Sampled:	07/23/02
Time Sampled:	00:00
Date Received:	07/26/02
Time Received:	08:45

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger C Spike	LOD	LOQ	Units
	Lab Sample No:	311133			
E-1047	Percent Solids	98	NA	0.1	%
55-63-0	Nitroglycerine	7.7	2.0	6.68	mg/kg dry

Sampled by:	ARA
Date Sampled:	07/23/02
Time Sampled:	00:00
Date Received:	07/26/02
Time Received:	08:45

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger D Spike		LOD	LOQ	Units
	Lab Sample No:	311134				
E-1047	Percent Solids	97		NA	0.1	%
55-63-0	Nitroglycerine	3.3	J	2.0	6.68	mg/kg dry
	Sampled by:	ARA				
	Date Sampled:	07/23/02				
	Time Sampled:	00:00				
	Date Received:	07/26/02				
	Time Received:	08:45				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger E Spike		LOD	LOQ	Units
	Lab Sample No:	311135				
E-1047	Percent Solids	92		NA	0.1	%
55-63-0	Nitroglycerine	ND	U	2.0	6.68	mg/kg dry
Sampled by:		ARA				
Date Sampled:		07/23/02				
Time Sampled:		00:00				
Date Received:		07/26/02				
Time Received:		08:45				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils

Submittal Number: 35988- 2
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		Badger Blank		LOD	LOQ	Units
	Lab Sample No:	311136				
E-1047	Percent Solids	98		NA	0.1	%
55-63-0	Nitroglycerine	ND	U	2.0	6.68	mg/kg dry
	Sampled by:	ARA				
	Date Sampled:	07/23/02				
	Time Sampled:	00:00				
	Date Received:	07/26/02				
	Time Received:	08:45				

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SECTION - J

QUALITY CONTROL SUMMARIES

WET CHEMISTRY DATA

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -2	Parameter	Percent Solids
Instrument ID	210	Ref. Cit.	SW-846 3550B
		Matrix	SOIL
		Units	%

Batch	Blank QC Type	Sequence No.	Amount Found
189141	Instrument	1	<0.1

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -2	Matrix	SOIL
		Lab Sample No.	311136
Sample ID.	BadgerBlank	Units	%

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Percent Solids	0 - 20	98	98	0	G

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SECTION - J

SAMPLE RAW DATA

WET CHEMISTRY DATA

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SA 8/1/02 11:32 AM V-by CC Due ~~7.31.2~~ 8.1.2 8.7.2

TriMatrix Laboratories, Inc.

TOTAL PERCENT SOLIDS

BATCH INFORMATION	ANALYSIS STEPS							QUALITY CONTROL	QC BATCH A
Method Number: 14.1 -16.01	Step	Start Date	Start Time	Start Temp (°C)	End Date	End Time	End Temp (°C)	Difference Between Weighings: Less than 0.0005 g	Batch Number: 189141 KLK 8-2-02
Analyst: JMJ									
Analysis Date: 7/31/02	Step #1	07/31/02	12:30~~AM~~ PM	105.0	8.1.2	7:30 a.m.	NA	Blank Concentration: Less than 0.1%(w/w)	
Balance Number: 210	Step #2								
Parameter: TS	Step #3		SAJ 8/1/02					MS/MSD Precision: <20%	Supervisor Approv
Method Reference: 3550	Step #1	Drying @ 103-105° C (24 hr)							
Matrix: Soil	Step #2	Second drying @ 103-105° C (1hr)						LCS Accuracy: N/A	
ODL: 0.1	Step #3	Recheck of Step #2 after further cooling in desiccator (if necessary)							
Units: %									

Client	Sample Number	QC	Dish ID	Dish (g)	Sample Size (g)	Final Dish + Residue (g)	TS Result (%)	TS Result (If <10) (%)	Analysis Duplicate %RPD
BLANK		BLK	1	1.5769	[illegible] 8.1.2 JMJ	1.577	<0.1		
STONE & WEBSTER	311131	SAMPLE	2	1.6062	31.1932	31.6346	96		
STONE & WEBSTER	311132	SAMPLE	3	1.6217	47.6058	47.9579	97		
STONE & WEBSTER	311133	SAMPLE	4	1.6039	30.4844	31.4541	98		
STONE & WEBSTER	311134	SAMPLE	5	1.6055	41.6719	42.126	97		
STONE & WEBSTER	311135	SAMPLE	6	1.6125	37.1956	35.7978	92		
STONE & WEBSTER	311136	SAMPLE	7	1.6219	37.5381	38.3847	98		
STONE & WEBSTER	311136	DUP	8	1.6202	37.6782	38.4131	98		0

000139

JMB 8-5-02 LVS

15m7 J66t15m7 J66t

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
189141	31-JUL-02	JMJ	2	NO	YES	RESD/TOTAL/SOIL	SOIL	SW-846 3550B	6	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	07/31/02	JMJ		SOIL	0.1		<0.1		PERCENT SOLIDS	BLK- 1	0						SW-846 3550B
v	2.000	-	189141-131	07/31/02	JMJ	311131	SOIL	0.1		96		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	3.000	-	189141-131	07/31/02	JMJ	311132	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	4.000	-	189141-131	07/31/02	JMJ	311133	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	5.000	-	189141-131	07/31/02	JMJ	311134	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	6.000	-	189141-131	07/31/02	JMJ	311135	SOIL	0.1		92		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	7.000	-	189141-131	07/31/02	JMJ	311136	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	8.000	- 7	189141-131	07/31/02	JMJ	311136	SOIL	0.1	98	98		PERCENT SOLIDS	DUP- 1	0		20				SW-846 3550B

31-JUL-02 INORGANIC BENCHSHEET -- GRAVIMETRIC PAGE 1

Test #: 14. 1- 16.01 Instrument #: _____ Est anal hrs: 1.5 Benchsheet ID: 293173
Parameter: PERCENT SOLIDS Act anal hrs: _____ Owner: _____
Method: RESD/TOTAL/SOIL ODL: 0.1 Samples in batch: 6 Batch Opened Date: _____
Ref. cit.: SW-846 3550B Unit: % Stock std #: _____ Supervisor: _____

Batch: _____

Comments:

OVEN TEMPS	Cycle	1	2
	In		
	Out		

Client..... Submittal Location	Sample	COC	QC	Analyst	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Report. Conc.	ODL	Q#
Stone & Webster Engineering Corp 35988- 2 Badger A S	311131	YES	LV5										
Stone & Webster Engineering Corp 35988- 2 Badger B S	311132	YES	LV5										
Stone & Webster Engineering Corp 35988- 2 Badger C S	311133	YES	LV5										
Stone & Webster Engineering Corp 35988- 2 Badger D S	311134	YES	LV5										
Stone & Webster Engineering Corp 35988- 2 Badger E S	311135	YES	LV5										
Stone & Webster Engineering Corp 35988- 2 Badger Bla	311136	YES	LV5										

000141

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL ODL: 0.1
Ref. cit.: SW-846 3550B Unit: %

Benchsheet ID: 293173
Owner: _____
Batch Opened Date: _____
Supervisor: _____

Comments:

	Anl.	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK: _____											XXXXXXXX	
											XXXXXXXX	
LCS: Stk _____												
SPK1: Stk _____ Smp _____												
SPK2: Stk _____ Smp _____												
MSD: _____ Smp _____		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: _____ Smp _____											XXXXXXXX	
											XXXXXXXX	
SPK1: Stk _____ Smp _____												
SPK2: Stk _____ Smp _____												
MSD: _____ Smp _____		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: _____ Smp _____											XXXXXXXX	
											XXXXXXXX	
MPB: _____ QCB# _____											XXXXXXXX	
											XXXXXXXX	
LFB: Stk _____ QCB# _____												
CRDL: Stk _____												

QC Type	Range	Lower	Upper
DUP	1		20
DUP	2		20
LFB - SOIL - 01	1	80	120
MSD	1		20
MSD	2		20
SPK	1	80	120

SECTION - K

ANALYSIS-PRETREATMENT DATE SUMMARY PAGES

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils
Sample: Badger A
Spike

Submittal Number 35988- 2
Date Sampled: 07/23/02
Date Received: 07/26/02

Sample No: 311131

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	07/31/02	08/06/02		
Nitroglycerine	07/31/02	09/09/02	07/31/02	08/06/02
Percent Solids	07/31/02	08/06/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils
Sample: Badger B
Spike

Submittal Number 35988- 2
Date Sampled: 07/23/02
Date Received: 07/26/02

Sample No: 311132

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	07/31/02	08/06/02		
Nitroglycerine	07/31/02	09/09/02	07/31/02	08/06/02
Percent Solids	07/31/02	08/06/02		

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TriMatrix Laboratories, Inc.

ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 2
Date Sampled: 07/23/02
Date Received: 07/26/02

Subm: July 23, 2002 Soils
Sample: Badger C
Spike

Sample No: 311133

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	07/31/02	08/06/02		
Nitroglycerine	07/31/02	09/09/02	07/31/02	08/06/02
Percent Solids	07/31/02	08/06/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils
Sample: Badger D
Spike

Submittal Number 35988- 2
Date Sampled: 07/23/02
Date Received: 07/26/02

Sample No: 311134

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	07/31/02	08/06/02		
Nitroglycerine	07/31/02	09/09/02	07/31/02	08/06/02
Percent Solids	07/31/02	08/06/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: July 23, 2002 Soils
Sample: Badger E
Spike

Submittal Number 35988- 2
Date Sampled: 07/23/02
Date Received: 07/26/02

Sample No: 311135

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	07/31/02	08/06/02		
Nitroglycerine	07/31/02	09/09/02	07/31/02	08/06/02
Percent Solids	07/31/02	08/06/02		

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TriMatrix Laboratories, Inc.

ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 2
Date Sampled: 07/23/02
Date Received: 07/26/02

Subm: July 23, 2002 Soils
Sample: Badger Blank

Sample No: 311136

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	07/31/02	08/06/02		
Nitroglycerine	07/31/02	09/09/02	07/31/02	08/06/02
Percent Solids	07/31/02	08/06/02		

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SECTION - L

METHODS PAGES

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METHODS PAGE

Parameter: Extraction Procedure- Nitroglycerine
Method: Extraction for Nitroglycerine
Application: SOIL Reference Citation: USEPA-8332
Analyst: Daniel J. Mierendorf (DJM) Date Analyzed: 07/31/02

Sample Number	Sample Description		Analytical Batch	QC Batch
311131	Badger A	Spike	188951	-131
311132	Badger B	Spike	188951	-131
311133	Badger C	Spike	188951	-131
311134	Badger D	Spike	188951	-131
311135	Badger E	Spike	188951	-131
311136	Badger	Blank	188951	-131

Parameter: Nitroglycerine
Method: Nitroglycerine by HPLC
Application: SOIL Reference Citation: USEPA-8332
Analyst: Janet M. Kudirka (JMK1) Date Analyzed: 07/31/02

Sample Number	Sample Description		Analytical Batch	QC Batch
311131	Badger A	Spike	189214	77286-131
311132	Badger B	Spike	189214	77286-131
311133	Badger C	Spike	189214	77286-131
311134	Badger D	Spike	189214	77286-131
311135	Badger E	Spike	189214	77286-131
311136	Badger	Blank	189214	77286-131

Parameter: Percent Solids
Method: Determination of Percent Dry Weight
Application: SOIL Reference Citation: SW-846 3550B
Analyst: Jennifer M. Jager (JMJ) Date Analyzed: 07/31/02

Sample Number	Sample Description		Analytical Batch	QC Batch
311131	Badger A	Spike	189141	77220-131
311132	Badger B	Spike	189141	77220-131
311133	Badger C	Spike	189141	77220-131
311134	Badger D	Spike	189141	77220-131
311135	Badger E	Spike	189141	77220-131
311136	Badger	Blank	189141	77220-131

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SECTION - M

METHOD DETECTION LIMIT (MDL) STUDIES

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TriMatrix Laboratories, Inc.

SEMIVOLATILE ORGANIC LABORATORY
INSTRUMENT 151 - 2002 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Nitrglycerin	5/21/02	8332	mg/kg	5.00	4.874	5.456	5.474	6.273	5.714	5.354	4.250	5.342	107%	0.639	2.007

0001153

TriMatrix Laboratories, Inc.
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Grand Rapids, MI 49512 (616) 975-4500

TRANSMITTAL FORM

Date: October 15, 2002

Attention: Doug Rubingh
To: Stone & Webster Engineering Corp.
9201 East Dry Creek Road
Centennial, CO 80112
303-741-7665

Project No.: 35988-3
Client: Stone & Webster
Project Name: ESTCP
Site Name: Badger Army Base
Location: Wisconsin

WE ARE SENDING YOU:

BY: ____ U.S. Mail ____ RPS __X__ Federal Express ____ Other: ____

ENCLOSED WITH THIS TRANSMITTAL: ***X*** ***UNDER SEPARATE COVER:*** ____

____ Work Plan(s)	____ Report(s) (DRAFT)(FINAL)	____ Contract Documents
____ Specifications	____ Design Plans	__X__ Data Package
____ Shop Drawings	____ Proposal(s)	____ Other

QUANTITY	*DESCRIPTION / DOCUMENT NAME*
1	Copy of the data validation package
1	CD

THESE ARE TRANSMITTED AS CHECKED BELOW:

____ For Approval	____ For Your Information	____ For Your Use
____ For File	__X__ Furnished As Requested	____ As Corrected
____ For Review and Comment	____ Revise and Resubmit	____ For Field Use
____ Rejected	____ ____	____ For Submittal To: ____

REMARKS:

cc:

BY: Lisa M. Harvey
Project Chemist

DATA VALIDATION PACKAGE

PREPARED FOR:

Stone & Webster Engineering Corporation
9201 East Dry Creek Road
Centennial, Colorado 80112

FOR THE SITE:

BAAP-ESTCP DEMONSTRATION
SDG-35988-3

OCTOBER 15, 2002

SUBMITTED BY:

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court
Grand Rapids, Michigan 49512

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STONE & WEBSTER ENGINEERING CORPORATION
BAAP-ESTCP DEMONSTRATION
SDG-35988-3
OCTOBER 15, 2002

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SAMPLE DELIVERY GROUP CASE NARRATIVE

Modified Level 5 Analysis

STONE & WEBSTER ENGINEERING CORPORATION
BAAP-ESTCP DEMONSTRATION

SDG-35988-3
OCTOBER 15, 2002

This case narrative is applicable to all samples received September 6, 2002. Laboratory sample numbers were assigned as follows:

Submittal Number: 35988-3 **Submittal Description:** August 2002 Soils

Laboratory Sample Numbers	Sample Identification	Requested Analysis	Date Sampled
314760	RH8E	NO_2, NO_3, Nitrocellulose, Nitroglycerine, %Solids	8/28/02
314761	RH6F	NO_2, NO_3, Nitrocellulose, Nitroglycerine, %Solids	8/28/02
314762	BL6B	NO_2, NO_3, Nitrocellulose, %Solids	8/28/02
314763	HH4B	NO_2, NO_3, Nitrocellulose, %Solids	8/28/02
314764	BL2A	NO_2, NO_3, Nitrocellulose, %Solids	8/28/02
314765	RH3C	NO_2, NO_3, Nitrocellulose, %Solids	8/28/02
314766	BB5C	NO_2, NO_3, Nitrocellulose, Nitroglycerine, %Solids	8/29/02
314767	BB5A	NO_2, NO_3, Nitrocellulose, %Solids	8/29/02
314768	HH1C	NO_2, NO_3, Nitrocellulose, %Solids	8/29/02
314769	BB3B/C	NO_2, NO_3, Nitrocellulose, Nitroglycerine, %Solids	8/29/02
314770	BB2B	NO_2, NO_3, Nitrocellulose, %Solids	8/29/02
314771	BB3D	NO_2, NO_3, Nitrocellulose, Nitroglycerine, %Solids	8/29/02
314772	BT2D	NO_2, NO_3, Nitrocellulose, %Solids	8/29/02
314773	HH4D	NO_2, NO_3, Nitrocellulose, %Solids	8/29/02
314774	BB1D	NO_2, NO_3, Nitrocellulose, Nitroglycerine, %Solids	8/29/02
314775	BD1A	NO_2, NO_3, Nitrocellulose, %Solids	8/29/02
314776	BD1B	NO_2, NO_3, Nitrocellulose, %Solids	8/29/02
314777	BD4D	NO_2, NO_3, Nitrocellulose, %Solids	8/29/02
314778	BD3C	NO_2, NO_3, Nitrocellulose, Nitroglycerine, %Solids	8/29/02

Sample Receipt

On September 6, 2002 at 9:50 AM, a sample delivery group (SDG) containing nineteen (19) soil samples was received at our Grand Rapids, Michigan Laboratory. These samples were scheduled for the analyses requested on the chain-of-custody.

One cooler was received with this shipment. The receipt temperature of the samples were determined by recording the temperature of three (3) random samples of varying container types, using an infra-red thermometer. The average temperature of the three (3) temperatures measured from the cooler received was 8.5°C.

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Sample Receipt (continued)
All samples and containers were sent via Federal Express and were received intact and in good condition. No custody seals were present upon receipt. Shipping documents included a field chain-of custody form and Federal Express air bill.

Analytical Methods

The analytical methods used are as follows.

Parameter	Analytical Method
Nitrate & Nitrite	USEPA Method 353.2/4500 NO3F
Nitrocellulose	USARMY BR&D Lab
Nitroglycerine	USEPA Method 8332
% Solids	USEPA Method 3550B

These methods are presented in detail in Section L-Methods Pages.

Holding Times

All samples were prepared and analyzed within EPA approved hold times. The hold time date, pre-treatment date, and analysis date are presented in Section K, Analysis-Pretreatment Date Summary Pages.

Administrative Issues/Problems

No administrative issues were associated with these samples.

Technical Issues/Problems

No technical problems or issues were encountered during the analysis of this SDG.

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In addition to the location of information, the following is a list of QA/QC types utilized by TriMatrix Laboratories, and our in-house type designations.

Method QC:

MPB Method Preparation Blank
BLK Daily Instrument Blank
LFB Laboratory Fortified Blank
LCS Laboratory Control Sample
IEC ICP Interference Check Sample
CRL Contract Required Detection Limit Standard
ICB Initial Calibration Blank
ICV Initial Calibration Verification
CCB Continuing Calibration Blank
CCV Continuing Calibration Verification

Matrix QC:

SPK Sample Matrix Spike
MSD Sample Matrix Spike Duplicate
DUP Sample Duplicate Analysis
SUR Surrogate
PDS Post Digestion Spike

Lisa M. Harvey, Project Chemist

10/15/02
Date

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SECTION - A

FIELD and INTERNAL

CHAIN-OF-CUSTODY (COC) RECORDS

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SECTION - A

FIELD
CHAIN-OF-CUSTODY (COC) RECORDS

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TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. 1/3

Nº 85314

Project Manager	Project Name	For Lab Use Only
DRubingh	ESTCP	Rack/Tray No:
Project No. 13341	Sampler (Print) CLOSE	Lab Project # 35988.3
	Sampler Signature D Close	

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type (No's Correspond to Bottle Packing List)	Analysis Required/Comments	Sample No.	Filtered Date/Time
8/28/02	1400	SO		X	RHBE	1	16	NITRATE/NITRITE 9056 NITROCELLULOSE NC NG 8332	314760	02
	1415			X	RH6F	1	16	9056, NC, 8332	314761	02
	1430			X	BL6B	1	16	9056, NC	314762	03
	1445			X	HH4B	1	16	9056, NC	314763	03
	1500			X	BL2A	1	16	9056, NC	314764	03
	1515			X	RH3C	1	16	9056, NC	314765	03
8/29/02	0800			X	BB5C	1	16	9056, NC, 8332	314766	02
	0815			X	BB5A	1	16	9056, NC	314767	03
	0830			X	HH1C	1	16	9056, NC	314768	03

Relinquished By:	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
D Close	9/5/02 1200			9/6/02 9:50	DL	9-6-02

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

21-15

Cart 3

TriMatrix Laboratories, Inc.

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Chain of Custody Record

COC No. Nº 85313

| Project Manager | Project Name | | |

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. 3/3

№ 85290

Project Manager	Project Name	For Lab Use Only
DRubingh	ESTCP	Rack/Tray No:
Project No. 13341	Sampler (Print) CLOSE	Lab Project # 35988.3
	Sampler Signature D Close	

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
8/29/02	1115			X	BD3C	1	16	9056, NC, B332	314778	02

No's Correspond to Bottle Packing List

Relinquished By:	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
D Close	9/5/02 1200			9/6/02 9:50	D L.	9-6-02

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc.

SAMPLE RECEIVING / LOG-IN CHECKLIST

Client	Project-Submittal No.
Stone + Webster	35988.3
Receipt Log No.	**Sample Nos.**	**Project Chemist**
21-15	314760 - 778	LKP

Coolers Received

Recorded by (initials/date)		Qty Received	
LKP 9/6/02	☑ Cooler ☐ Box ☐ Other_____	1	☑ IR Gun Thermometer Used ☐ Digital Thermometer ☐ Other ☐ See Additional Cooler Information Form

Cooler No.	Time
TM0058	2:10

Custody Seals
- ☑ none
- ☐ present / intact
- ☐ present / not intact

Coolant / Temperature Taken Via:
- ☑ loose ice / melt water (mw)
- ☐ bagged ice / avg 2-3 containers
- ☐ ice packs / avg 2-3 containers
- ☐ none / avg 2-3 containers

Alternate Temperature Taken Via:
- ☐ temperature blank (tb)
- ☐ 1 container

	Recorded °C	Correction Factor °C	Actual °C
mw			
tb			
1	8.0	0	8.0
2	8.5	0	8.5
3	9.1	0	9.1
Average °C			8.5

- ☑ Cooler ID on COC?
- ☐ VOA trip blank received?

Cooler No.	Time

Custody Seals
- ☐ none
- ☐ present / intact
- ☐ present / not intact

Coolant / Temperature Taken Via:
- ☐ loose ice / melt water (mw)
- ☐ bagged ice / avg 2-3 containers
- ☐ ice packs / avg 2-3 containers
- ☐ none / avg 2-3 containers

Alternate Temperature Taken Via:
- ☐ temperature blank (tb)
- ☐ 1 container

	Recorded °C	Correction Factor °C	Actual °C
mw			
tb			
1			
2			
3			
Average °C			

- ☐ Cooler ID on COC?
- ☐ VOA trip blank received?

Cooler No.	Time

Custody Seals
- ☐ none
- ☐ present / intact
- ☐ present / not intact

Coolant / Temperature Taken Via:
- ☐ loose ice / melt water (mw)
- ☐ bagged ice / avg 2-3 containers
- ☐ ice packs / avg 2-3 containers
- ☐ none / avg 2-3 containers

Alternate Temperature Taken Via:
- ☐ temperature blank (tb)
- ☐ 1 container

	Recorded °C	Correction Factor °C	Actual °C
mw			
tb			
1			
2			
3			
Average °C			

- ☐ Cooler ID on COC?
- ☐ VOA trip blank received?

Cooler No.	Time

Custody Seals
- ☐ none
- ☐ present / intact
- ☐ present / not intact

Coolant / Temperature Taken Via:
- ☐ loose ice / melt water (mw)
- ☐ bagged ice / avg 2-3 containers
- ☐ ice packs / avg 2-3 containers
- ☐ none / avg 2-3 containers

Alternate Temperature Taken Via:
- ☐ temperature blank (tb)
- ☐ 1 container

	Recorded °C	Correction Factor °C	Actual °C
mw			
tb			
1			
2			
3			
Average °C			

- ☐ Cooler ID on COC?
- ☐ VOA trip blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance Form

Paperwork Received

☐ No COC received

N/A	Yes	No	
	☑	☐	**Chain of Custody Record(s)?**
	☐		If No, COC initiated by _____
	☑		Rec'd for Lab signed/date/time?
☐	☑		Shipping Document?
☐	☐		Other _____

COC ID Nos. 85313, 85314, 85290

☑ TriMatrix

☐ Other (name or ID#)_____

Check COC for Accuracy

☐ No analysis requested

Yes	No	
☑	☐	Sample ID matches COC?
☑	☐	Sample date and time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Sample Condition Summary

☐ Non-TriMatrix containers, see Notes

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate containers received?
☑	☐	☐	VOC vials have headspace?
☒	☐	☐	Extra sample locations / containers not listed on COC?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	All sample temperatures ≤4°C?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐	☐	Samples preserved correctly?
☐	☐		If "No", added orange tag?
☑	☐		Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☑ NONE ☐ TO LAB

- ☐ Semi-Volatile Organics: ***Air Bags*** *(24 hours)*
- ☐ Inorganics: Cr^{+6} *(24 hours)*; ***Bacteria*** *(6-24 hours)*; Fe^{+2} / CO_2 / BOD / NO_2 / NO_3 / o-Phos / MBAs / Turbidity *(48 hours)*
- ☐ Volatile Organics: *EnCore soils (48 hour prep)*
  - ☐ 5g ☐ Michigan/Wisconsin site?
  - ☐ 25g ☐ non-Michigan/Wisconsin site?
- ☐ Metals: *low-level Hg (72 hour prep)*
- ☐ Organic Prep: *Formaldehyde / Aldehydes (72 hours)*

Notes

- ☐ No COC received, Proj. Chemist reviewed (init./date) _____
- ☐ No analysis requested, Proj. Chemist completed (init./date) _____

Preliminary paperwork to Project Chemist (date/time)	Preliminary paperwork returned to Log-In (date/time)
LKP 9/6/02	1577

SECTION - A

INTERNAL
CHAIN-OF-CUSTODY (COC) RECORDS

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TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: August 2002 Soils PROJECT: 35988-3

Parameter: NITROGLYCERINE Method: GC/HPLC/NG/SOIL Ref Cit: USEPA-8332 Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
314760	[signature]	9/11/2 1PM			9/11/2 6PM
314761					
314766					
314769					
314771					
314774					
314778	[signature]	9/11/2 1PM			9/11/2 6PM

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: August 2002 Soils PROJECT: 35988-3

Parameter: NITROCELLULOSE Method: NC/AUTOAN/SOIL Ref Cit: USARMY BR&D Lab Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
314760	Jodi Blom	9-11-02 1030am			9-11-02 245pm
314761					
314762					
314763					
314764					
314765					
314766					
314767					
314768					
314769					
314770					
314771					
314772					
314773					
314774					
314775	Jodi Blom	9-11-02 1030am			9-11-02 245pm

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: August 2002 Soils PROJECT: 35988-3

Parameter: NITROCELLULOSE Method: NC/AUTOAN/SOIL Ref Cit: USARMY IR&D Lab Matrix: SOIL

314776	Jodi D Blouin	9-11-02 1030am			9-11-02 245pm
314777		"			"
314778	Jodi D Blouin	9-11-02 1030am			9-11-02 245pm

06-SEP-2002

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: August 2002 Soils PROJECT: 35988-3

Parameter: INORGANIC PRETREATMENT Method: MSA/EXC/EXT/SOL Ref Cit: MSA 33-3.2 Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
314760	Jodi Blom	9-10-02 11 am			9-10-02 1230pm
314761					
314762					
314763					
314764					
314765					
314766					
314767					
314768					
314769					
314770					
314771					
314772					
314773					
314774					
314775	Jodi Blom	9-10-02 11am			9-10-02 1230pm

000017

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: August 2002 Soils PROJECT: 35988-3

Parameter: INORGANIC PRETREATMENT		Method: MSA/EXC/EXT/SOL	Ref Cit: MSA 33-3.2	Matrix: SOIL	
314776	Jodi Blom	9-10-02 11am			9-10-02 12.30pm
314777	↓	↓			↓
314778	Jodi Blom	9-10-02 11am			9-10-02 12.30pm

06-SEP-2002

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: August 2002 Soils PROJECT: 35988-3

Parameter: NITROGEN, NITRATE+NITRITE Method: NO3/AUTOAN/SOIL Ref Cit: 353.2/4500 NO3F Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
314760	Jodi Blom	9-10-02 1240pm			9-10-02 3pm
314761					
314762					
314763					
314764					
314765					
314766					
314767					
314768					
314769					
314770					
314771					
314772					
314773					
314774					
314775	Jodi Blom	9-10-02 1240pm			9-10-02 3pm

00001

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: August 2002 Soils PROJECT: 35988-3

Parameter: NITROGEN, NITRATE+NITRITE Method: NO3/AUTOAN/SOIL Ref Cit: 353.2/4500 NO3F Matrix: SOIL

314776	Jodi Watson	9-10-02 1240pm			9-10-02 3pm
314777	↓	↓			↓
314778	Jodi Watson	9-10-02 1240pm			9-10-02 3pm

000020

06-SEP-2002

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: August 2002 Soils PROJECT: 35988-3

Parameter: PERCENT SOLIDS Method: RESD/TOTAL/SOIL Ref Cit: SW-846 3550B Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
314760		9/10/02 8:30 am			9/10/02 9:30 am
314761					
314762					
314763					
314764					
314765					
314766					
314767					
314768					
314769					
314770					
314771					
314772					
314773					
314774					
314775		9/10/02 8:30 am			9/10/02 9:30 am

0000021

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: August 2002 Soils PROJECT: 35988-3

Parameter: PERCENT SOLIDS Method: RESD/TOTAL/SOIL Ref Cit: SW-846 3550B Matrix: SOIL

314776	[signature]	9/10/02 8:55 am			9/10/02 9:30 am
314777	[signature]	[signature]			[signature]
314778	[signature]	9/10/02 8:55 am			9/10/02 9:30 am

SECTION - C

NITROGLYCERINE DATA

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SECTION - C

QUALITY CONTROL (QC) SUMMARY

NITROGLYCERINE DATA

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -3
Sample ID. BD3C
Matrix SOIL
Lab Sample No. 314778
Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitroglycerine	70 - 130	52.0	<25	U	50	104	
Nitroglycerine	70 - 130	51.4	<25	U	50	103	

000025

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QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -3	Matrix	SOIL
		Lab Sample No.	314778
Sample ID.	BD3C	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Nitroglycerine	0 - 40	52.0	51.4	1	

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QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No. 35988 -3 Units mg/kg dry

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitrocellulose	78577	39	35	70 - 130	90
Nitroglycerine	78597	50	43.4	70 - 130	87

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TRIMATRIX LABORATORIES, INC. FORM 4

8332 METHOD BLANK SUMMARY

Lab ID:	MPB108-190740	Matrix:	SOIL
Lab File Name:	A36_150	Extraction(SepF/Cont/Sonc):	Sonc.
Date Analyzed:	9/11/02	Sulfur Cleanup (Y/N):	N
Time Analyzed:	15:04	Date Extracted:	9/8/02
Instrument ID:	151		

This Method Blank applies to the Following Samples, MS and MSD:

EPA Sample #	Lab Sample #	Date Analyzed
LFB108-190740	LFB108-190740	9/11/02
RH8E	314760	9/11/02
RH6F	314761	9/11/02
BB5C	314766	9/11/02
BB3B/C	314769	9/11/02
BB3D	314771	9/11/02
BB1D	314774	9/11/02
BD3C	314778	9/11/02
BD3C	314778 MS	9/11/02
BD3C	314778 MSD	9/11/02

000028

SECTION - C

SAMPLE DATA

NITROGLYCERINE DATA

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		RH8E		LOD	LOQ	Units
	Lab Sample No:	314760				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	1.4	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	0.54		0.08	0.25	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/28/02
Time Sampled:	14:00
Date Received:	09/06/02
Time Received:	09:50

000030

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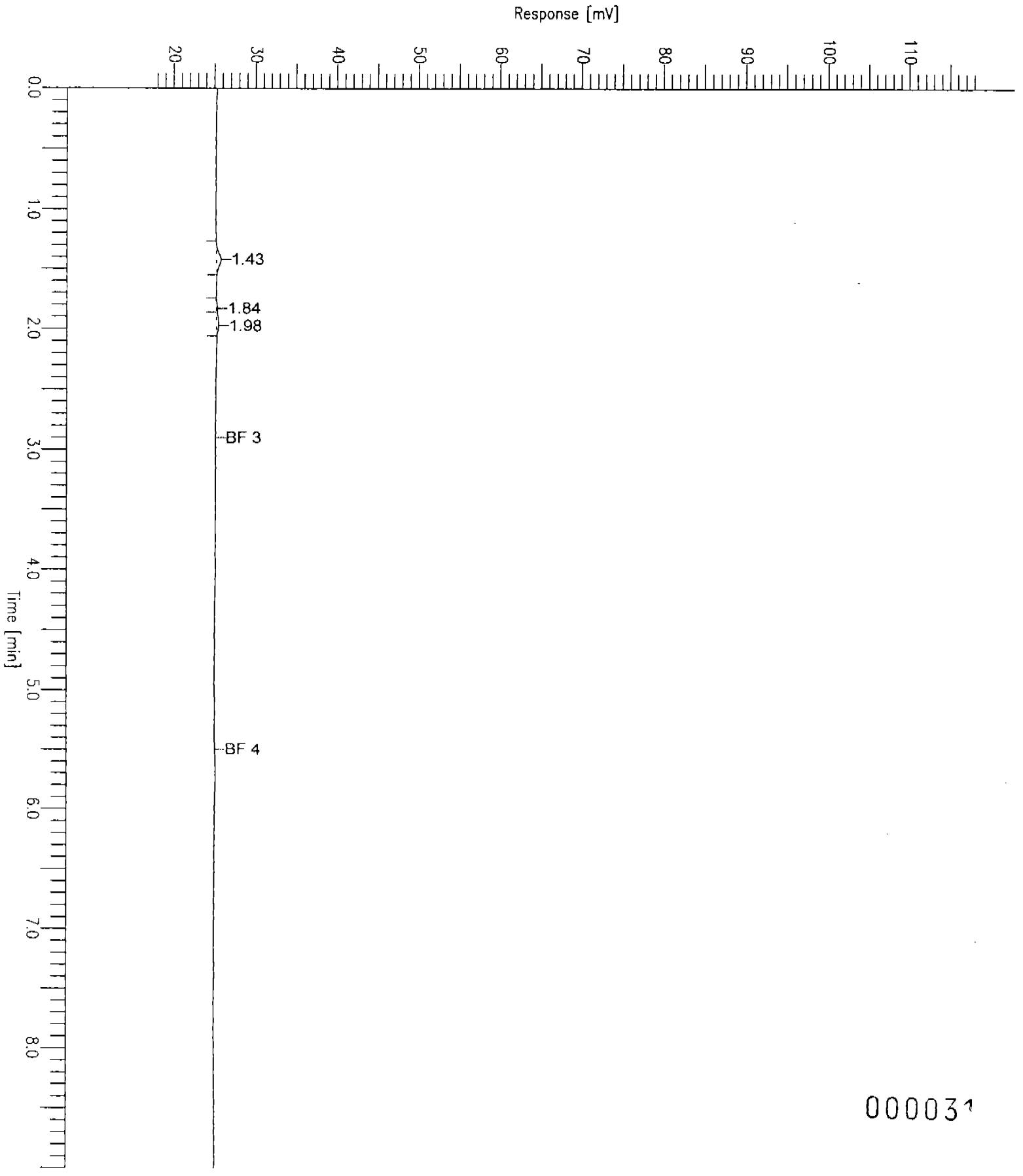
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 314760
FileName : C:\TC4\LC151\A36_152.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 152 Page 1 of 1
Date : 9/11/02 16:39
Time of Injection: 9/11/02 15:25
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 314760 Time : 9/11/02 16:39
Sample Number: 152 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 15:25
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_152.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

NP

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		RH6F		LOD	LOQ	Units
	Lab Sample No:	314761				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	2.4		0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	1.5		0.08	0.25	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/28/02				
Time Sampled:		14:15				
Date Received:		09/06/02				
Time Received:		09:50				

000033

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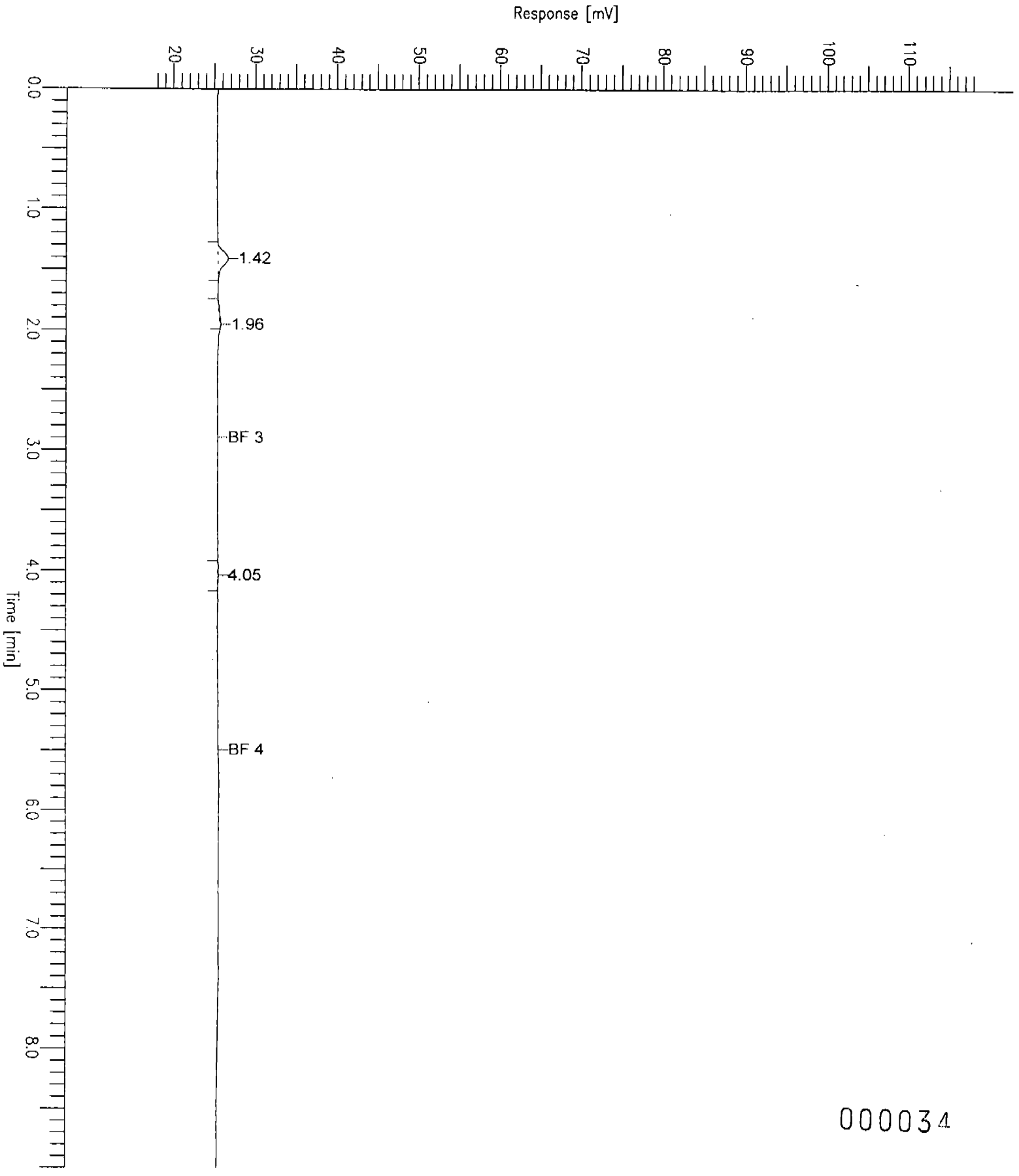
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 314761
FileName : C:\TC4\LC151\A36_153.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 153 Page 1 of 1
Date : 9/11/02 16:40
Time of Injection: 9/11/02 15:35
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 314761 Time : 9/11/02 16:40
Sample Number: 153 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 15:35
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_153.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

N.D.

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB5C		LOD	LOQ	Units
	Lab Sample No:	314766				
E-1047	Percent Solids	96		NA	0.1	%
9004-70-0	Nitrocellulose	4.1		0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	12		0.39	1.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/29/02
Time Sampled:	08:00
Date Received:	09/06/02
Time Received:	09:50

000036

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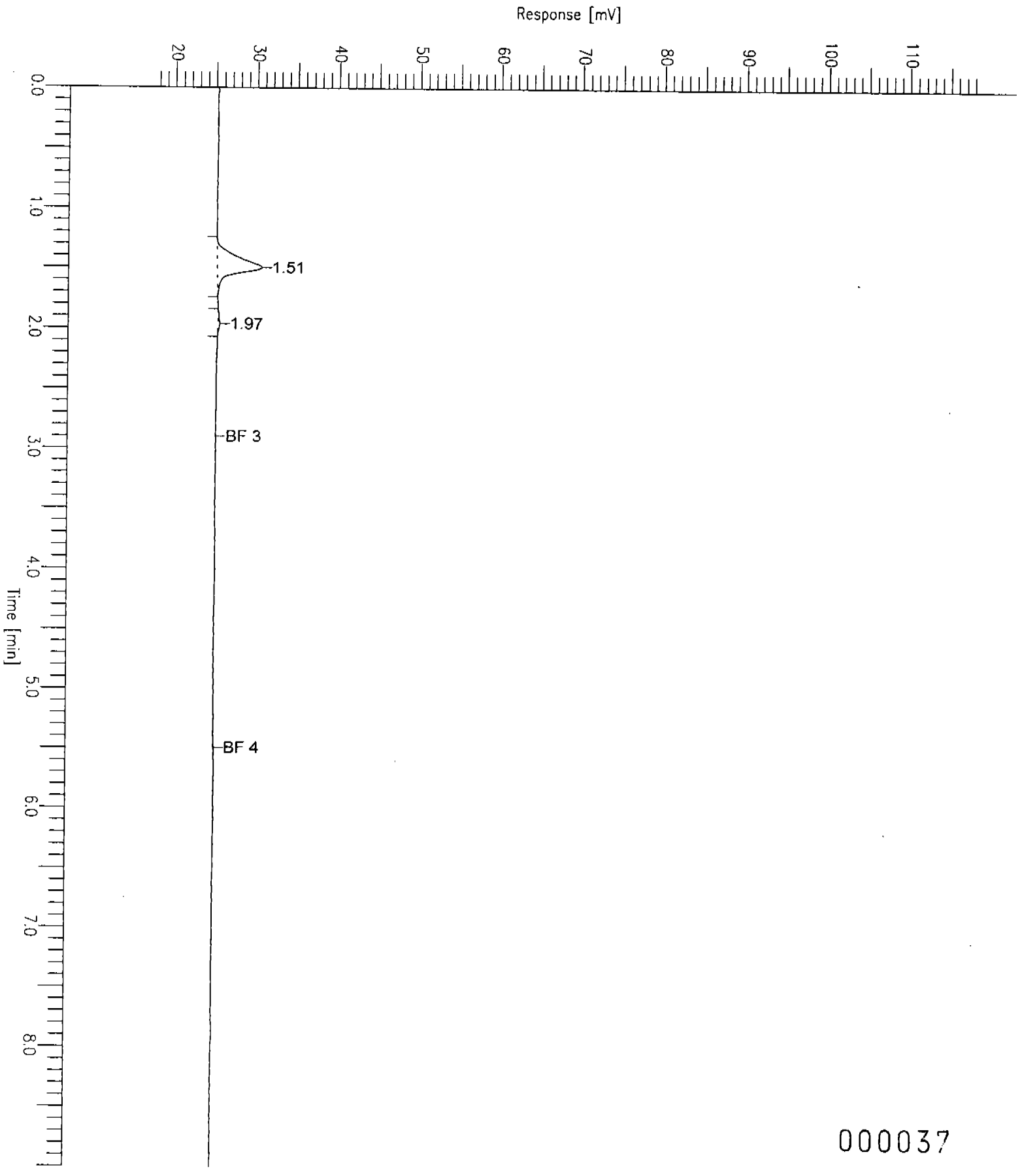
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 314766
FileName : C:\TC4\LC151\A36_154.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 154 Page 1 of 1
Date : 9/11/02 16:40
Time of Injection: 9/11/02 15:45
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 314766 Time : 9/11/02 16:40
Sample Number: 154 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 15:45
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_154.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9600 Dilution Factor : 1.00

NP

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration -

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB3B/C		LOD	LOQ	Units
	Lab Sample No:	314769				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	2.9		0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	8.0		0.08	0.26	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/29/02
Time Sampled:	08:45
Date Received:	09/06/02
Time Received:	09:50

000039

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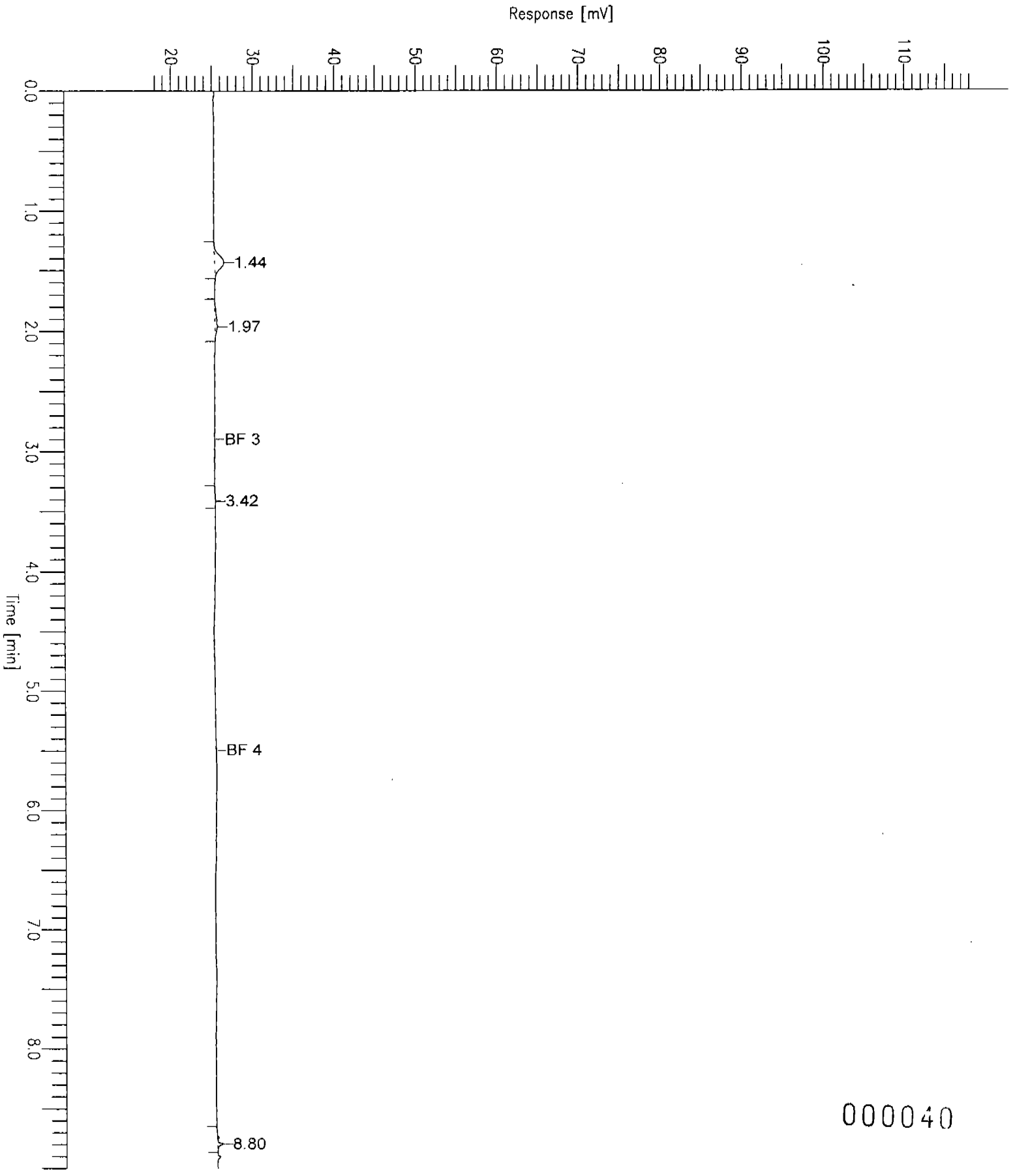
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 314769
FileName : C:\TC4\LC151\A36_155.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 155 Page 1 of 1
Date : 9/11/02 16:40
Time of Injection: 9/11/02 15:56
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000040

Software Version: 4.1<2F12>
Sample Name : 314769 Time : 9/11/02 16:40
Sample Number: 155 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 15:56
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_155.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 0.9800 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB3D		LOD	LOQ	Units
	Lab Sample No:	314771				
E-1047	Percent Solids	98		NA	0.1	%.
9004-70-0	Nitrocellulose	1.5	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	5.1		0.08	0.26	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/29/02
Time Sampled:	09:15
Date Received:	09/06/02
Time Received:	09:50

000042

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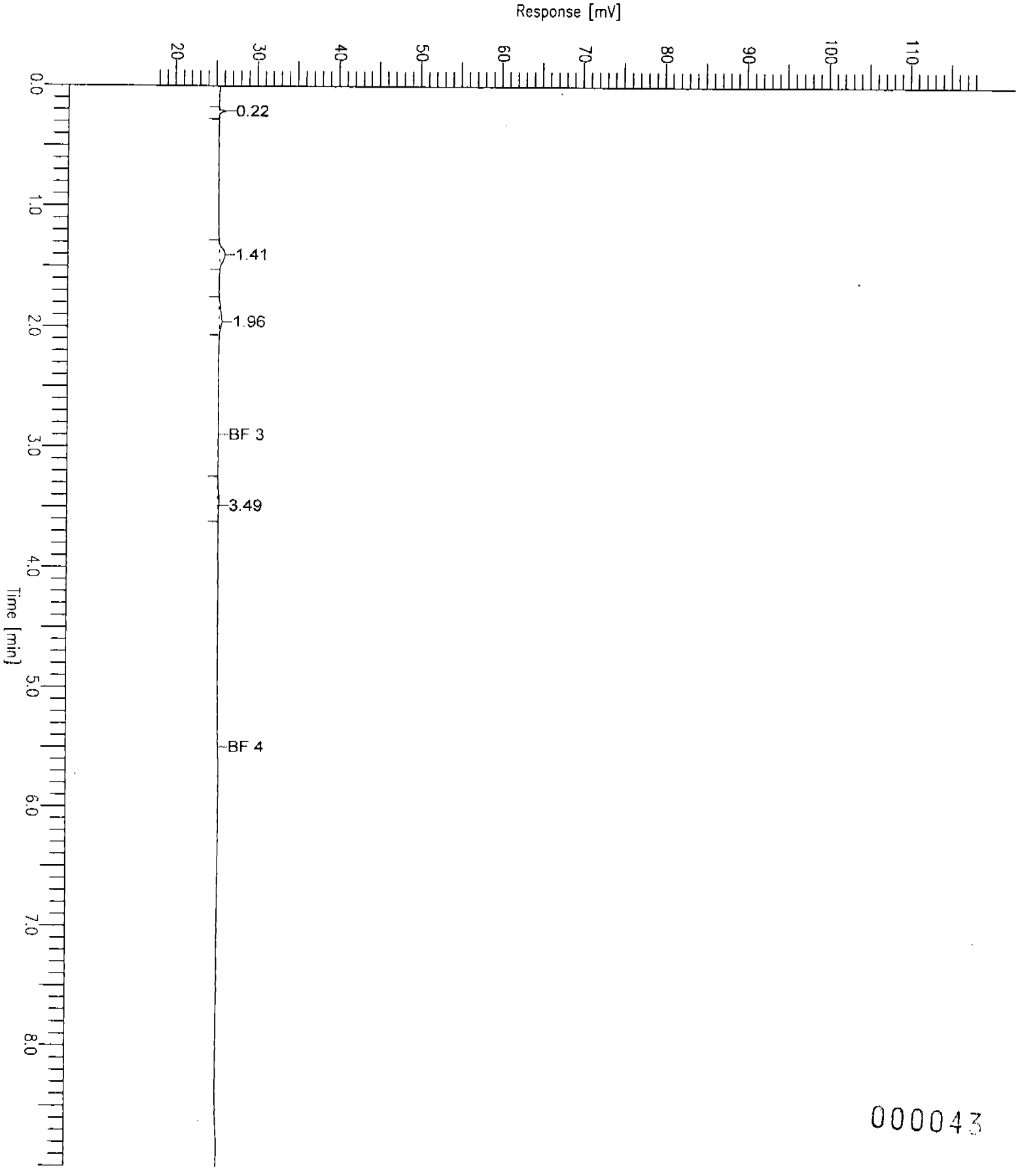
Chromatogram

Sample Name : 314771
FileName : C:\TC4\LC151\A36_156.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 156 Page 1 of 1
Date : 9/11/02 16:40
Time of Injection: 9/11/02 16:06
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000043

Software Version: 4.1<2F12>
Sample Name : 314771
Sample Number: 156
Operator :

Time : 9/11/02 16:40
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 16:06
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_156.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.9800

Area Reject : 0.000000
Dilution Factor : 1.00

N.D.

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix
Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB1D		LOD	LOQ	Units
	Lab Sample No:	314774				
E-1047	Percent Solids	97		NA	0.1	%
9004-70-0	Nitrocellulose	2.0	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	1.7		0.08	0.26	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/29/02
Time Sampled:	10:15
Date Received:	09/06/02
Time Received:	09:50

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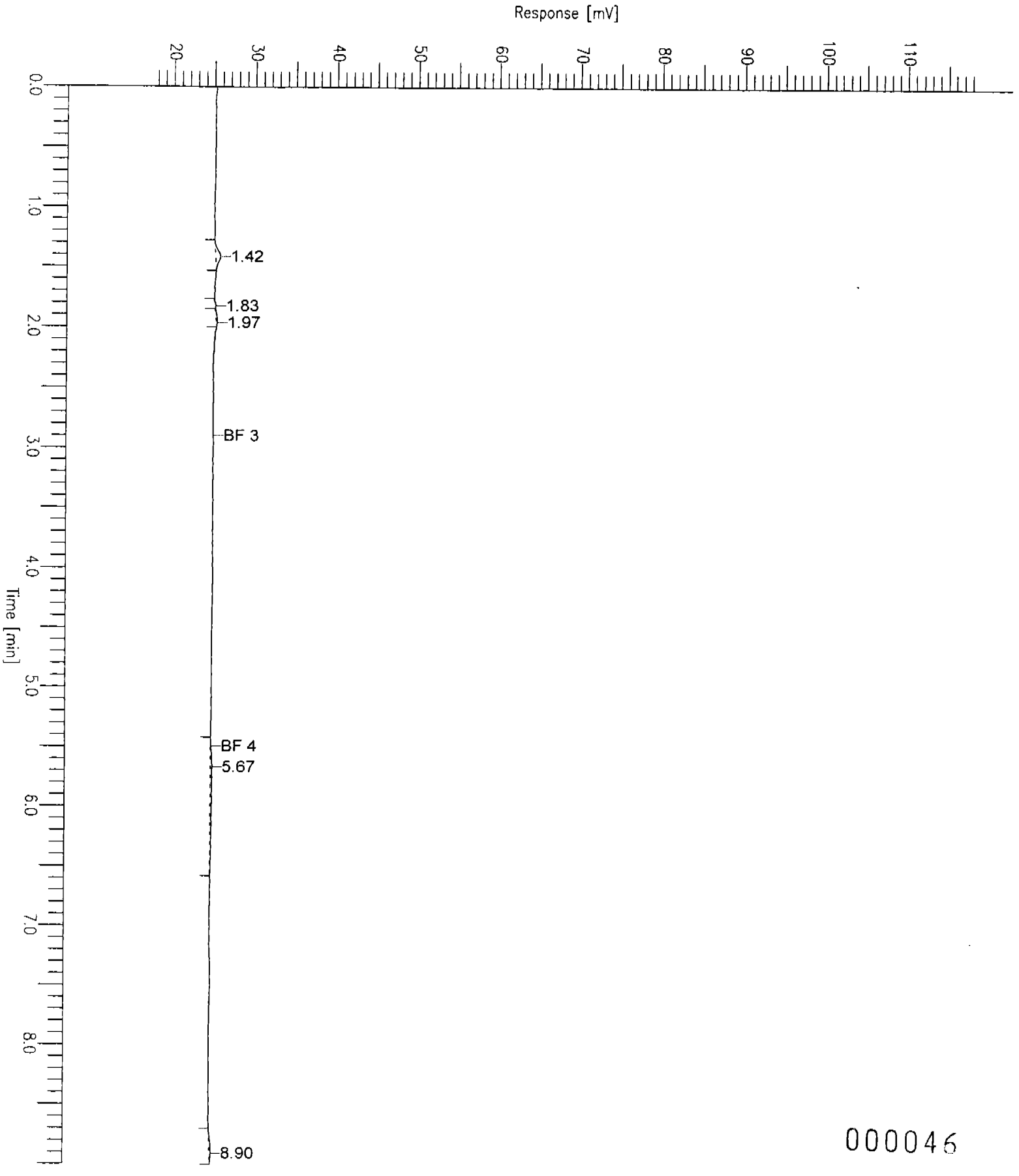
Chromatogram

Sample Name : 314774
FileName : C:\TC4\LC151\A36_157.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 157
Date : 9/11/02 16:41
Time of Injection: 9/11/02 16:17
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 314774
Sample Number: 157
Operator :

Time : 9/11/02 16:41
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 16:17
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_157.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 0.9700

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BD3C		LOD	LOQ	Units
	Lab Sample No:	314778				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	2.3		0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	1.6		0.08	0.25	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/29/02
Time Sampled:	11:15
Date Received:	09/06/02
Time Received:	09:50

000048

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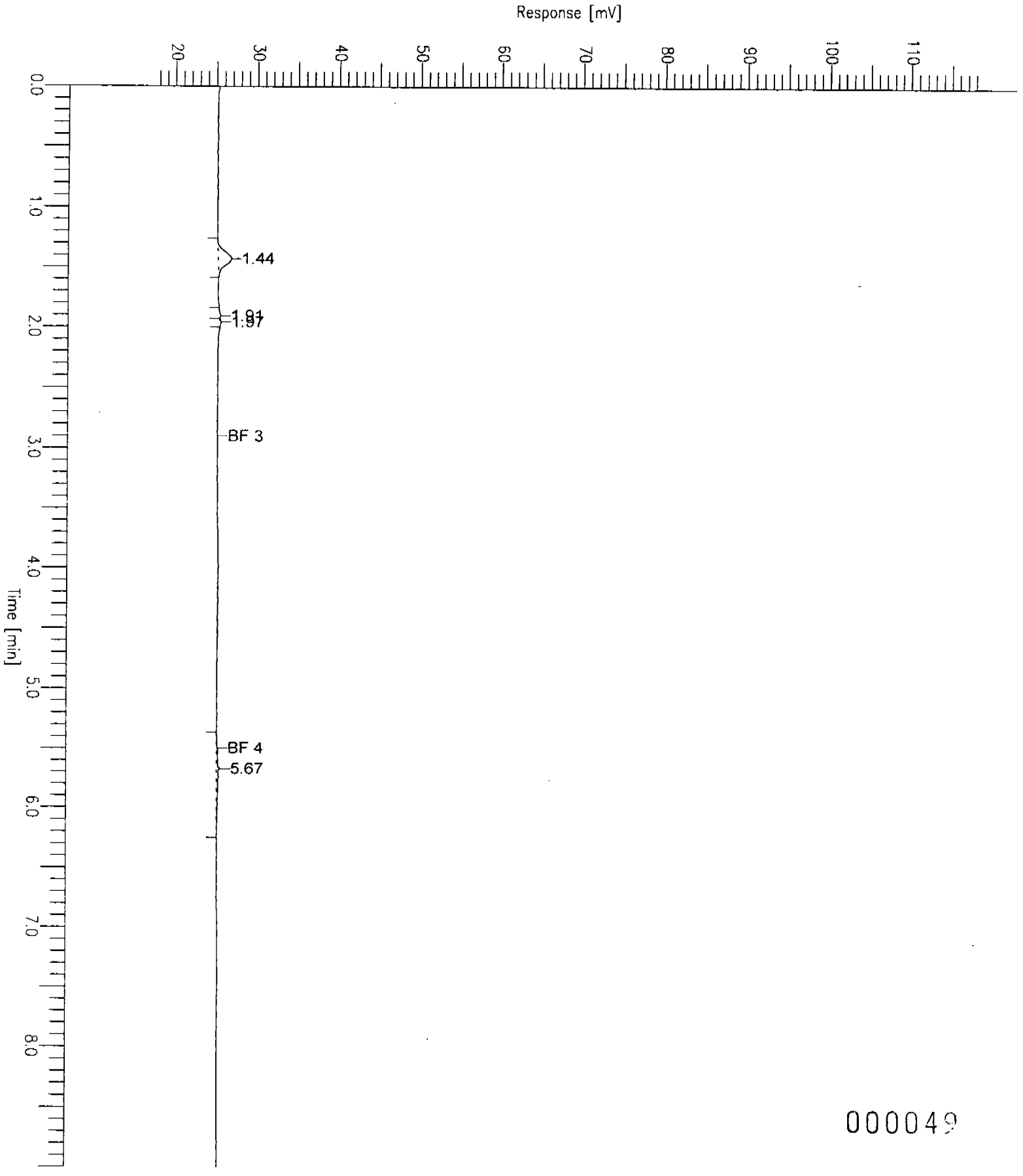
Individual sample results relate only to the sample tested.

Chromatogram

Sample Name : 314778
FileName : C:\TC4\LC151\A36_158.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 158 Page 1 of 1
Date : 9/11/02 16:41
Time of Injection: 9/11/02 16:27
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 314778
Sample Number: 158
Operator :

Time : 9/11/02 16:41
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 16:27
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_158.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

MP

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

SECTION - C

STANDARDS DATA

NITROGLYCERINE DATA

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5560 Corporate Exchange Court SE • Grand Rapids, MI 49512 • (616) 975-4500 • Fax (616) 942-7463

INITIAL CALIBRATION OF SINGLE-COMPONENT ANALYTES

Inst. ID: LC 151 **Column: CN** **Date(s) Analyzed: 09/11/02** **Curve: 8332_09.mth**

STD. AMT. (ug)	1.0	2.5	5.0	10	20	50	MEAN	RT WINDOW	
COMPOUND	RT OF STANDARDS						RT	FROM	TO
Nitroglycerine	7.309	7.402	7.414	7.382	7.425	7.405	7.390	7.190	7.590

Note: used default RT Windows of +/- 0.05 minutes.

STD. AMT. (ug)	1.0	2.5	5.0	10	20	50	MEAN	%
COMPOUND	CALIBRATION FACTORS						CF	RSD
Nitroglycerine	401.72	421.24	423.69	541.56	486.55	414.70	448.24	12.14

CF= Peak Height/Amount
Note: %RSD should be <20% for an acceptable curve

Turbochrom Method File : C:\TC4\LC151\8332_09.MTH <Modified>
Created by : DLV on : 9/11/02 15:08
Edited by : JMK1 on : 9/11/02 15:10
Description :

Number of Times Edited : 1
Number of Times Calibrated : 138

Instrument Conditions :

Liquid Chromatography -

Instrument	: 151
Column	: C18
Column Length	: 250
Particle Size	: 5
Column Diameter:	
Mobile Phase	:60:40 AcCN:H2O
Flow Rate	: 1.0 ML/MIN
Back Pressure	: 2500
Temperature	: AMBIENT
Detector 1	: 214
Detector 2	:
Notes	: 20 UL INJECTION

Instrument Control Method:

Instrument name : LC151

Interface Parameters :

Delay Time	: 0.00 min.
Run Time	: 9.00 min.
Sampling Rate	: 2.0000 pts/s
Interface Type	: 900
Analog Voltage Input	: 1000 mV

Data will be collected from channel A

Timed Events:

There are no timed events in the method

Real Time Plot Parameters :

Channel A -- Pages: 1 Offset: 20.000 mV Scale: 40.000 mV
Channel B -- Pages: 1 Offset: 0.000 mV Scale: 1000.000 mV

Processing Parameters :

Bunch Factor	: 1 points
Noise Threshold	: 20 µV
Area Threshold	: 100.00 µV

Peak Separation Criteria

Width Ratio	: 0.200
Valley-to-Peak Ratio	: 0.010

Exponential Skim Criteria

Peak Height Ratio : 5.000
Adjusted Height Ratio : 4.000
Valley Height Ratio : 3.000

Baseline Timed Events :
Event #1 - BF 3.000 at 2.904
Event #2 - BF 4.000 at 5.500

Annotated Replot Parameters :
Offset & Scale set to absolute values
Plot Offset : 18.000 mV
Plot Scale : 100.000 mV

Number of Pages : 1
Plot Title : Chromatogram
X-Axis Label : Time [min]
Y-Axis Label : Response [mV]
Orientation : Landscape
Retention Labels : Peak Crests
Component Labels : Actual Time
Start Time : 0.00
End Time : 9.00

Report Format files :
No report format files given

User Programs :
No user programs will be executed

Global Information :
Default Sample Volume : 1.000 UG
Quantitation Units : ML
Void Time : 0.000 min
Correct amounts during calibration : YES
Reject outliers during calibration : NO
An External Standard calibration will be used
Unknown peaks will be quantitated using a response factor of 1.000000e+06

Component Information :
NITROGLYCERIN
Component Type : Single Peak Component
Retention Time : 7.389 min Search Window: 10.00 s, 0.00 %
Reference Component:
Find peak closest to expected RT in window
Use Average Calibration Factor (Height / Amount)
User Values:
Label :
Value 1: 0.000000
Value 2: 0.000000
Value 3: 0.000000
Value 4: 0.000000
Value 5: 0.000000
Calibration Levels:

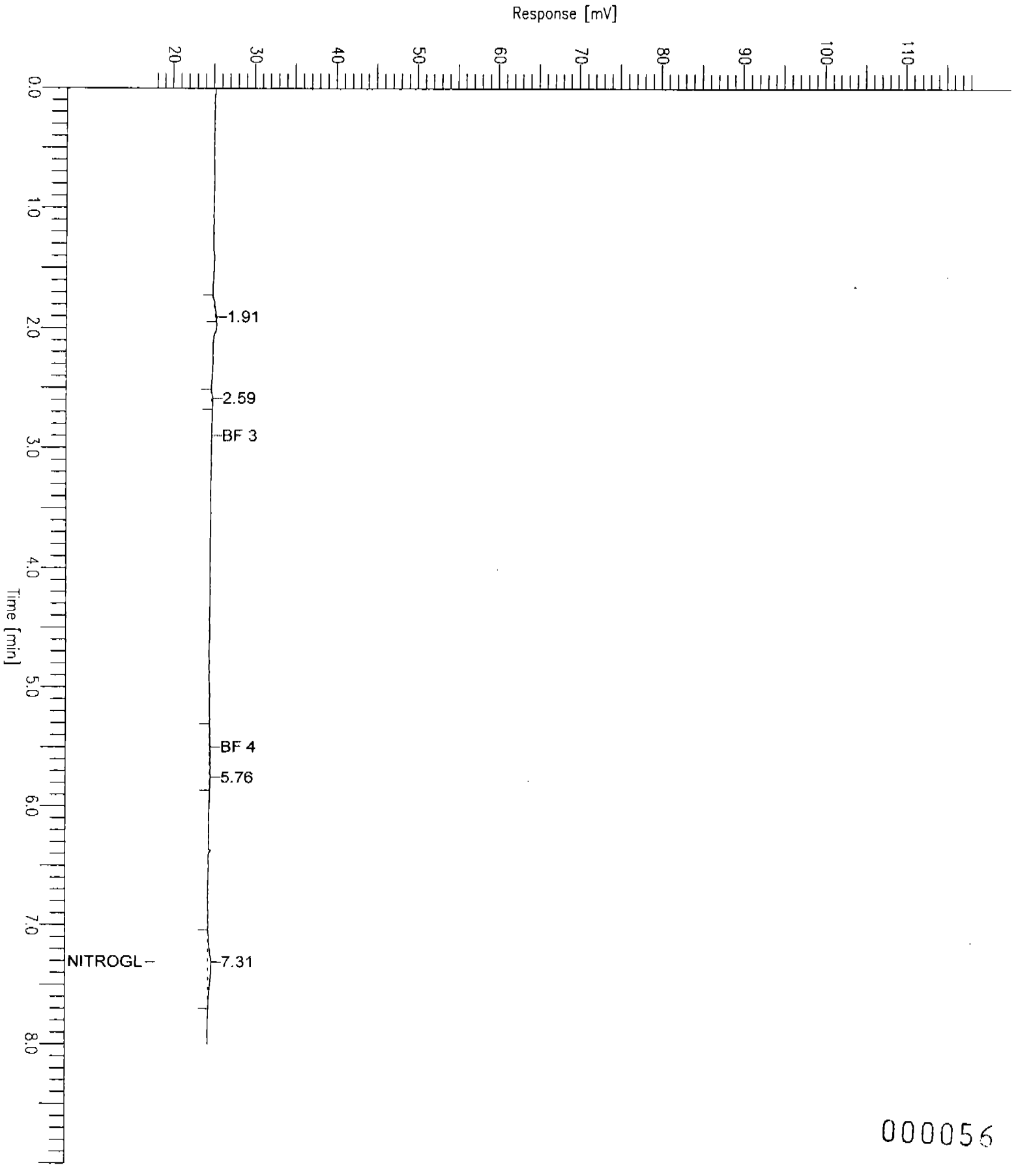
Level Name	Amount	Area	Height	ISTD Resp.	ISTD Amt.	# Replicates
1	1.0000	7717.00	401.72	----------	----------	1
2	2.5000	23854.50	1053.09	----------	----------	1
3	5.0000	47239.50	2118.46	----------	----------	1
4	10.0000	114215.75	5415.61	----------	----------	1
5	20.0000	203885.50	9730.90	----------	----------	1
6	50.0000	433236.00	20735.24	----------	----------	1

Average Calibration Factor = 448.243210 (%RSD = 12.14)

Chromatogram

Sample Name : 1ppm std
FileName : C:\TC4\LC151\A36_144.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 144 Page 1 of 1
Date : 9/11/02 15:11
Time of Injection: 9/11/02 13:50
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 1ppm std
Sample Number: 144
Operator :

Time : 9/11/02 15:11
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 13:50
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_144.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

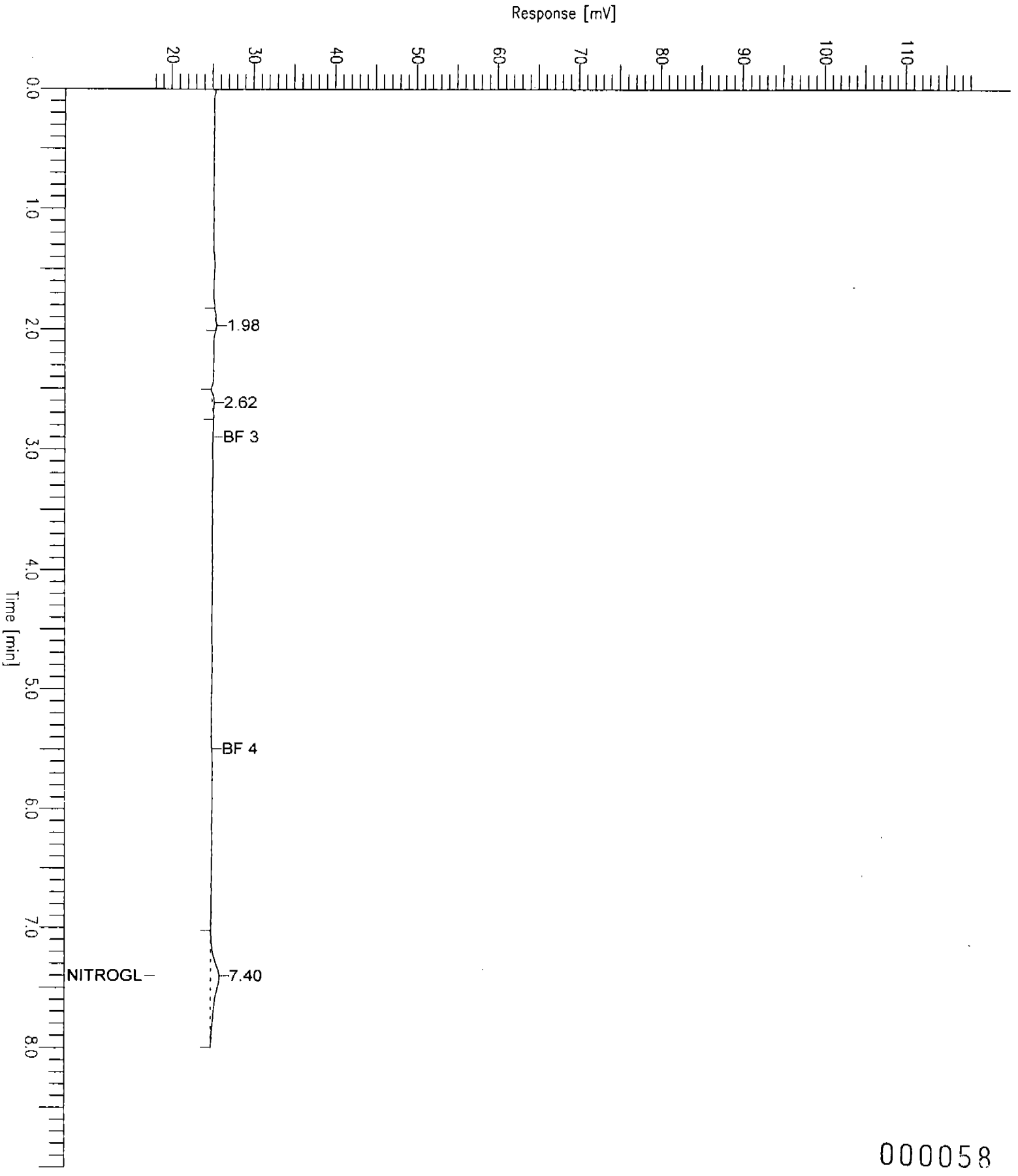
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.309	NITROGLYCERIN	0.8962	7717.00	401.72	1.00	89.62
			7717.00	401.72	1.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0568.TX0

Chromatogram

Sample Name : 2.5ppm std
FileName : C:\TC4\LC151\A36_145.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 145 Page 1 of 1
Date : 9/11/02 15:12
Time of Injection: 9/11/02 14:00
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 2.5ppm std
Sample Number: 145
Operator :

Time : 9/11/02 15:12
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 14:00
Delay Time : 0.00 min.
End Time : 8.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_145.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

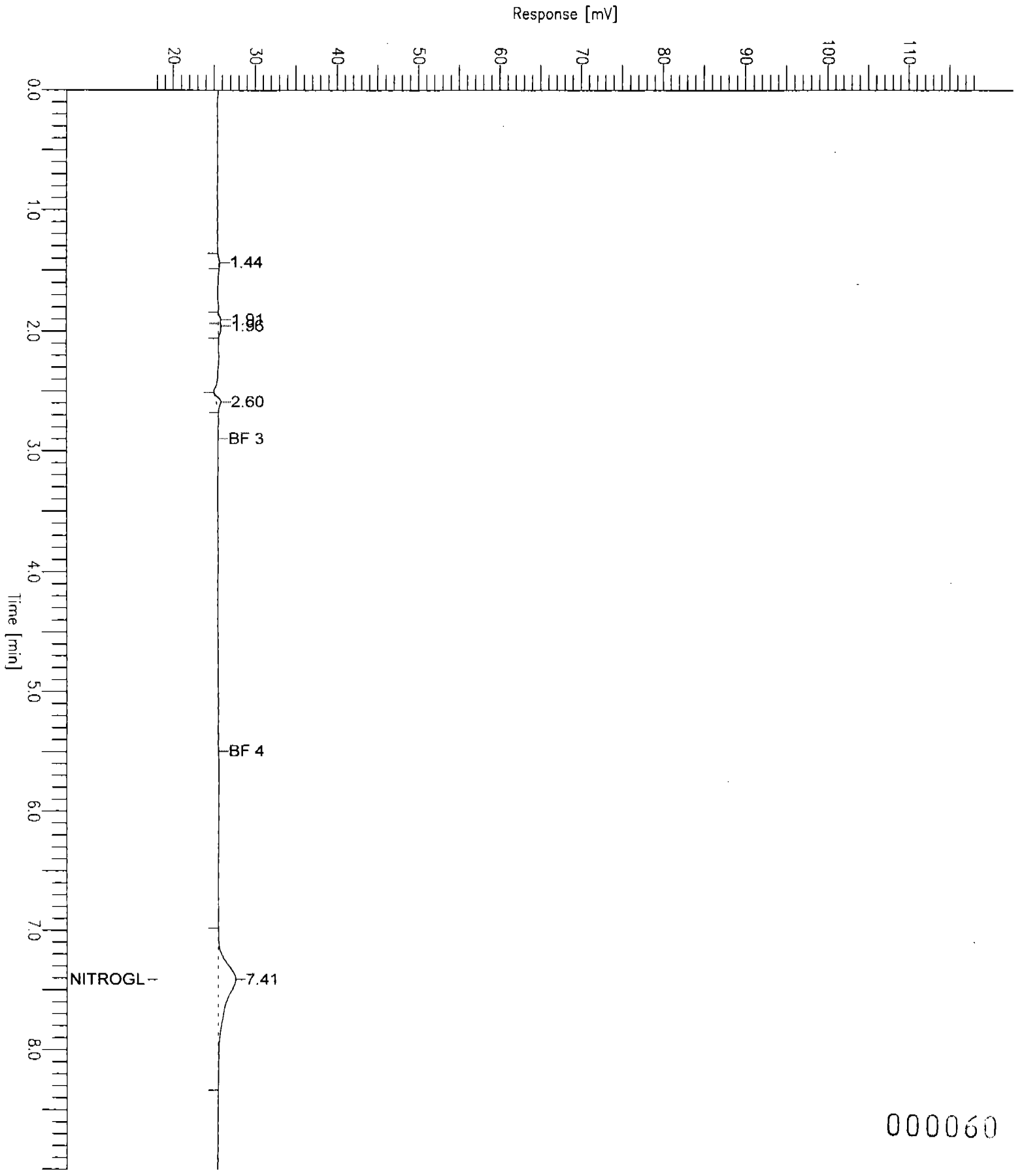
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.402	NITROGLYCERIN	2.3494	23854.50	1053.09	2.50	93.97
			23854.50	1053.09	2.50	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0568.TX0

Chromatogram

Sample Name : 5ppm std
FileName : C:\TC4\LC151\A36_146.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 146 Page 1 of 1
Date : 9/11/02 15:10
Time of Injection: 9/11/02 14:10
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000060

Software Version: 4.1<2F12>
Sample Name : 5ppm std
Sample Number: 146
Operator :

Time : 9/11/02 15:10
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 14:10
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_146.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

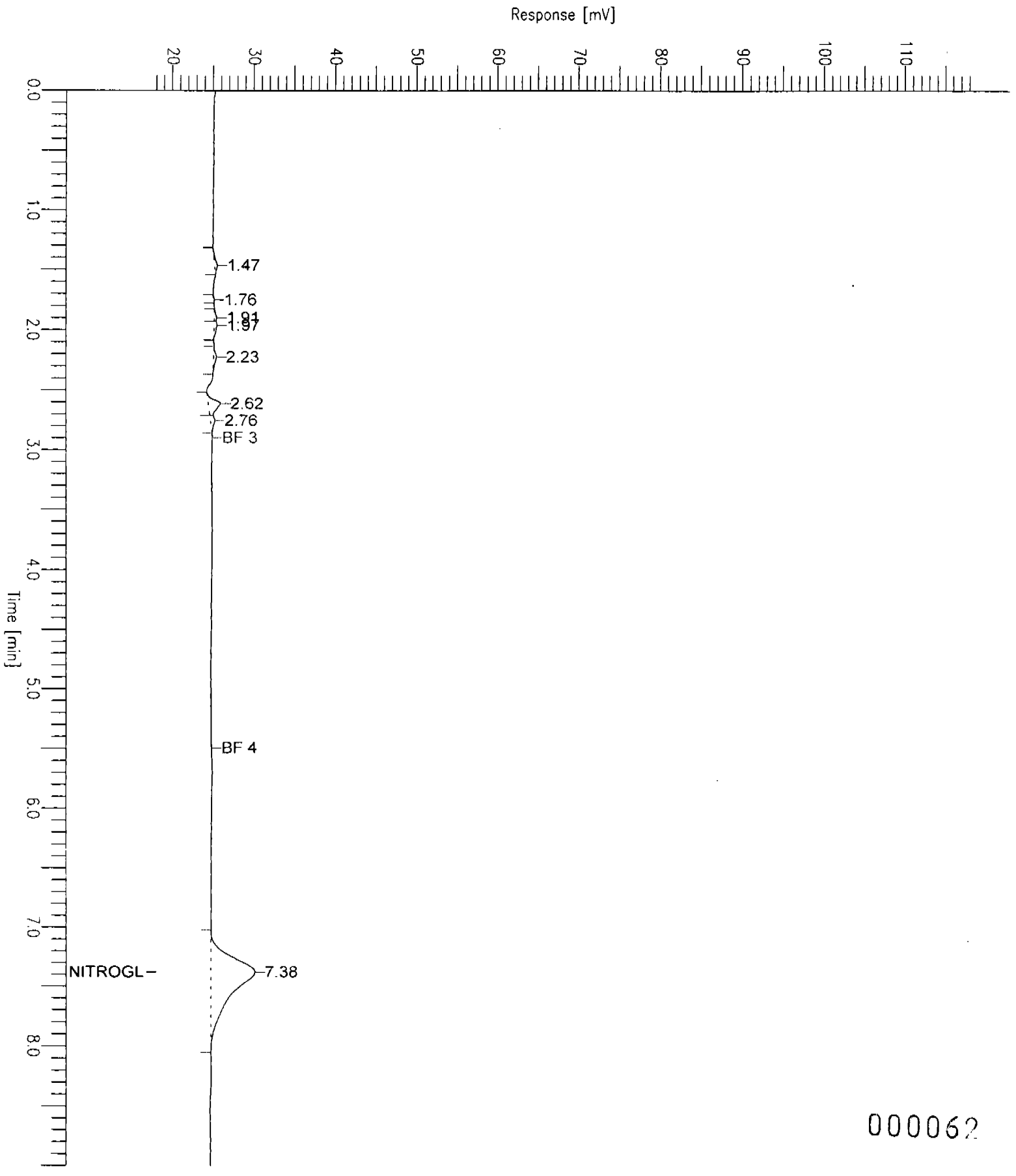
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.414	NITROGLYCERIN	4.7261	47239.50	2118.46	5.00	94.52
			47239.50	2118.46	5.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0568.TX0

Chromatogram

Sample Name : 10ppm std
FileName : C:\TC4\LC151\A36_147.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 147 Page 1 of 1
Date : 9/11/02 15:11
Time of Injection: 9/11/02 14:21
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000062

Software Version: 4.1<2F12>
Sample Name : 10ppm std
Sample Number: 147
Operator :

Time : 9/11/02 15:11
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 14:21
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_147.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

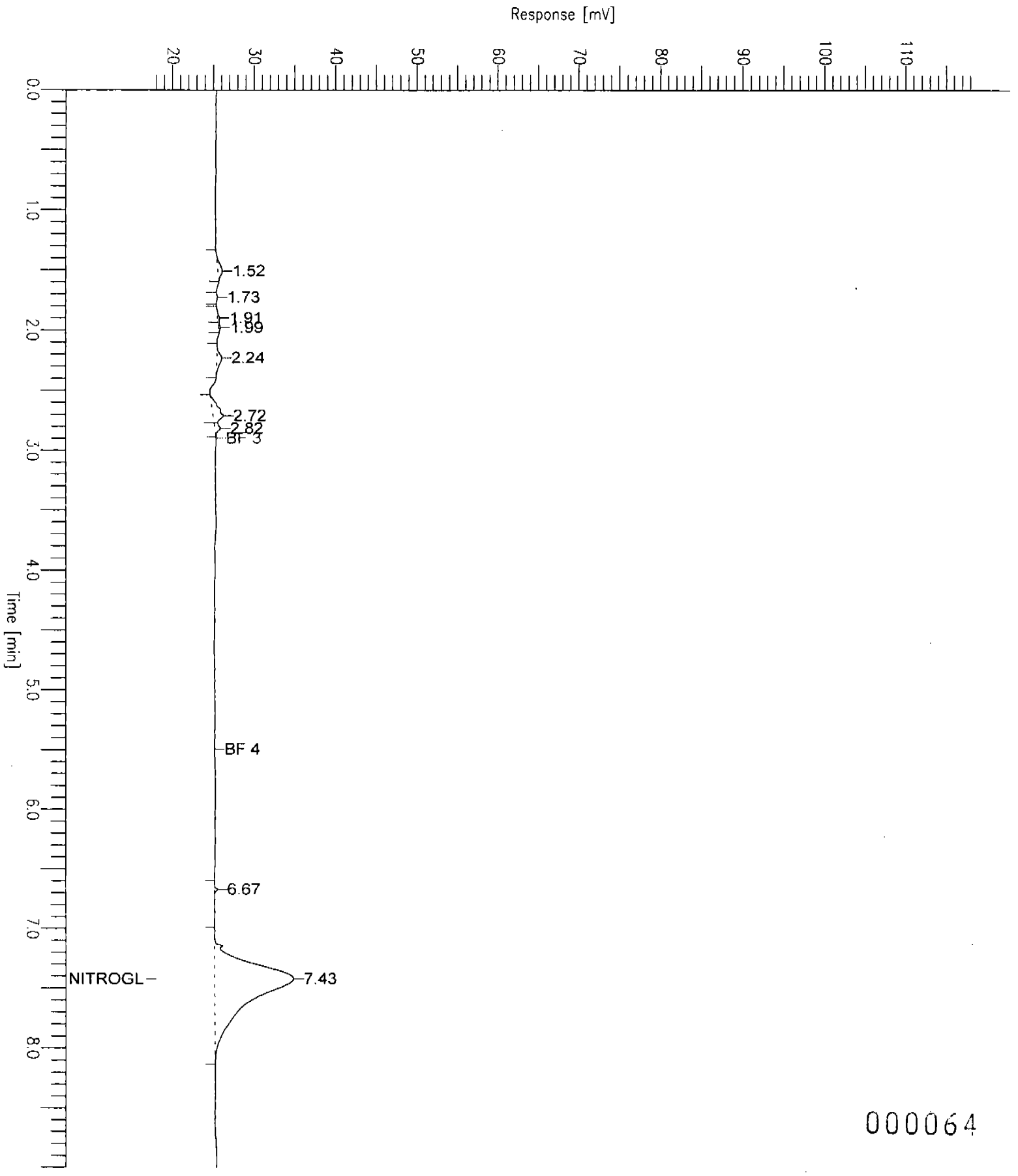
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.382	NITROGLYCERIN	12.0819	114215.75	5415.61	10.00	120.82
			114215.75	5415.61	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0568.TXO

Chromatogram

Sample Name : 20ppm std
FileName : C:\TC4\LC151\A36_148.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 148 Page 1 of 1
Date : 9/11/02 15:11
Time of Injection: 9/11/02 14:31
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000064

Software Version: 4.1<2F12>
Sample Name : 20ppm std Time : 9/11/02 15:11
Sample Number: 148 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 14:31
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_148.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

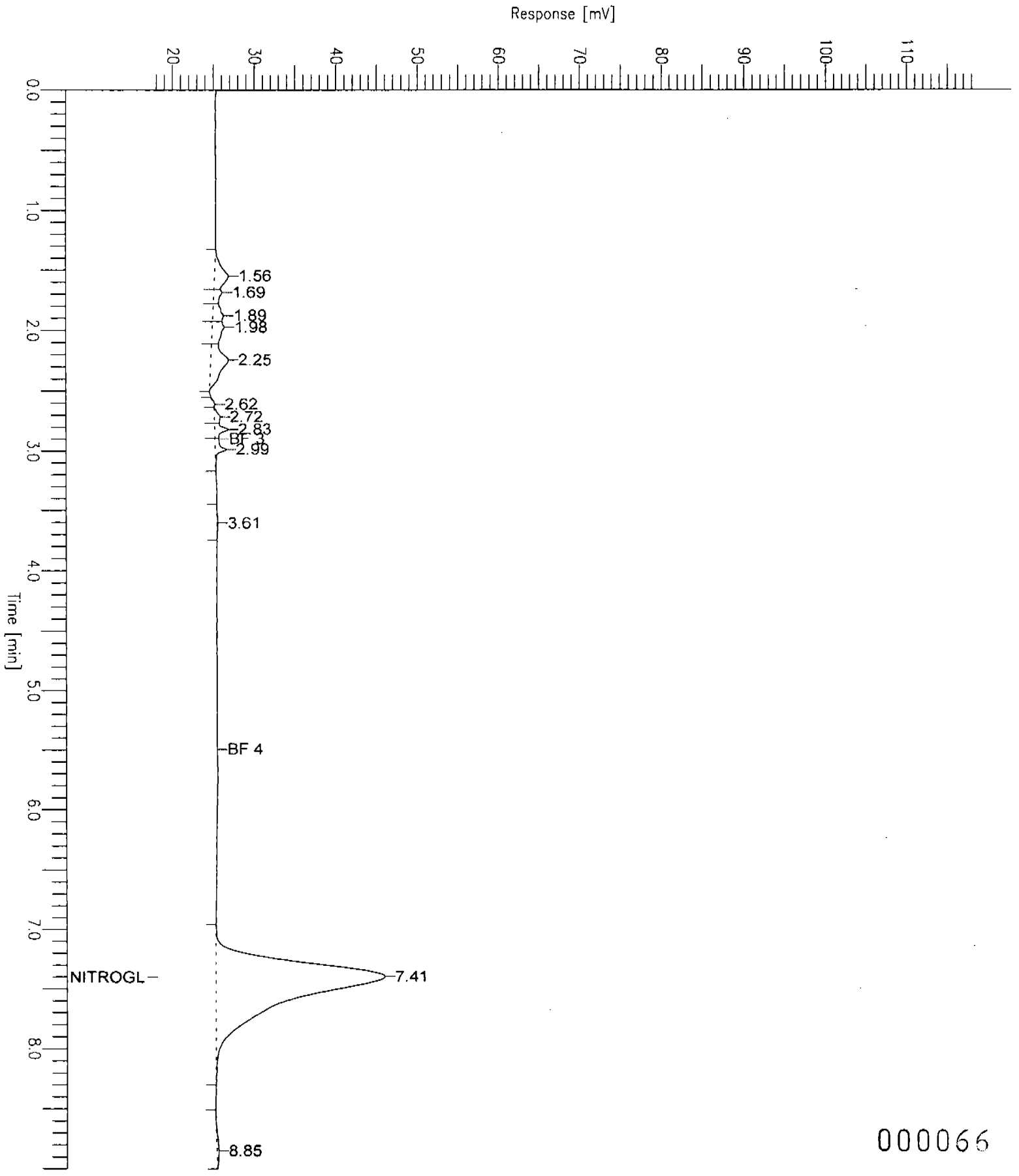
Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.425	NITROGLYCERIN	21.7090	203885.50	9730.90	20.00	108.54
			203885.50	9730.90	20.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0568.TX0

Chromatogram

Sample Name : 50ppm std
FileName : C:\TC4\LC151\A36_149.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 149 Page 1 of 1
Date : 9/11/02 15:11
Time of Injection: 9/11/02 14:42
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000066

Software Version: 4.1<2F12>
Sample Name : 50ppm std
Sample Number: 149
Operator :

Time : 9/11/02 15:11
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 14:42
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_149.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.405	NITROGLYCERIN	46.2589	433236.00	20735.24	50.00	92.52
			433236.00	20735.24	50.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0568.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_09.mth Date: 9/11/02
Std. Level: Std. 4 CCV Filename: A36_160 Time: 16:48

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	7.39	511.91	448.24	14.20%	YES

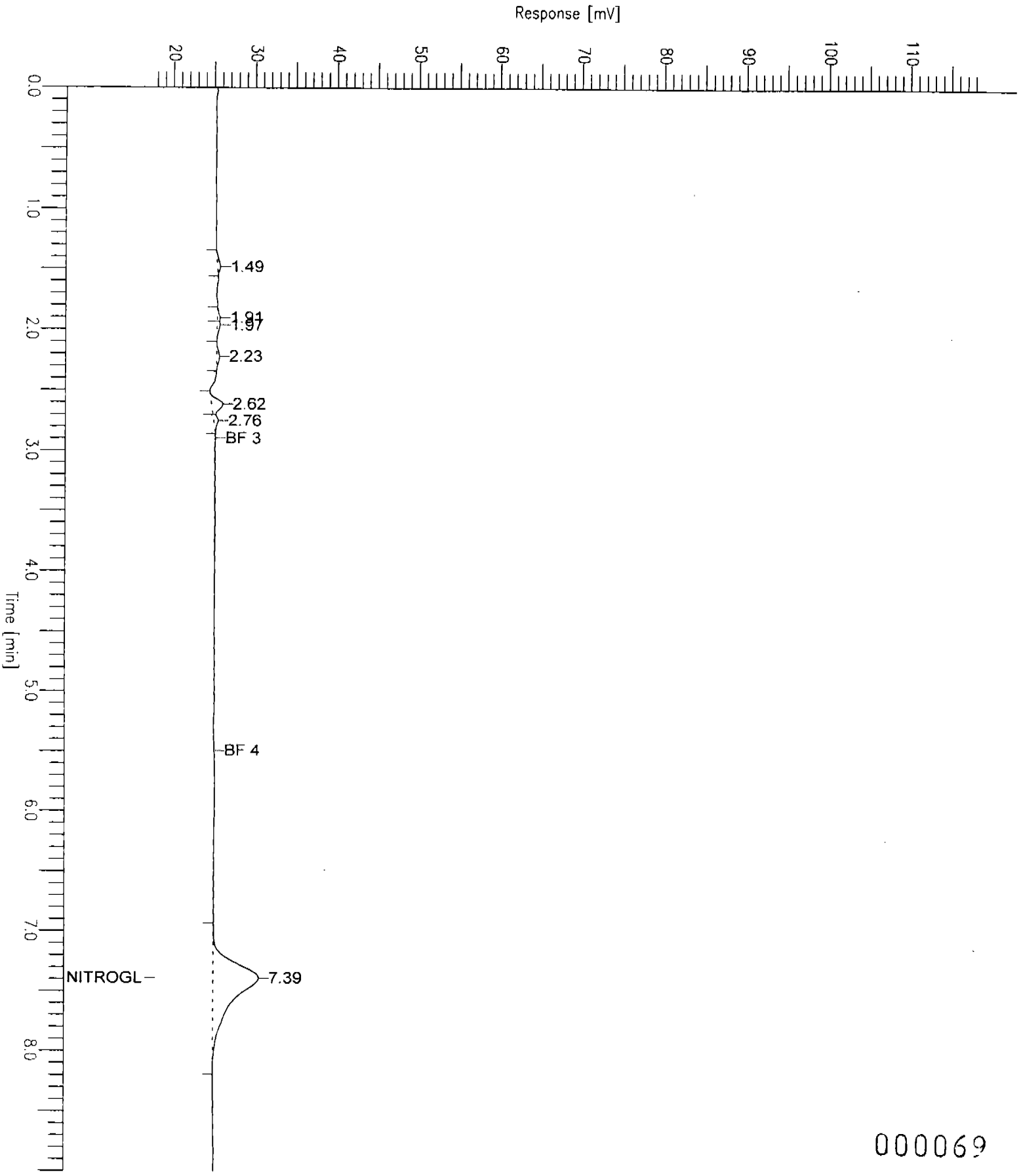
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10ppm std
FileName : C:\TC4\LC151\A36_160.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 160 Page 1 of 1
Date : 9/11/02 17:19
Time of Injection: 9/11/02 16:48
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 10ppm std
Sample Number: 160
Operator :

Time : 9/11/02 17:19
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 16:48
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_160.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.392	NITROGLYCERIN	11.4204	94322.00	5119.13	10.00	114.20
			94322.00	5119.13	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0568.TX0

FORM 7

NITROGLYCERINE BY 8332
CONTINUING CALIBRATION VERIFICATION

Instrument ID: 151 Method: 8332_09.mth Date: 9/11/02
Std. Level: Std. 4 CCV Filename: A36_162 Time: 17:21

COMPOUND	PEAK RT	CCV CF	CURVE AVG CF	% DIFF	ACCEPTABLE?
Nitroglycerine	7.39	504.47	448.24	12.54%	YES

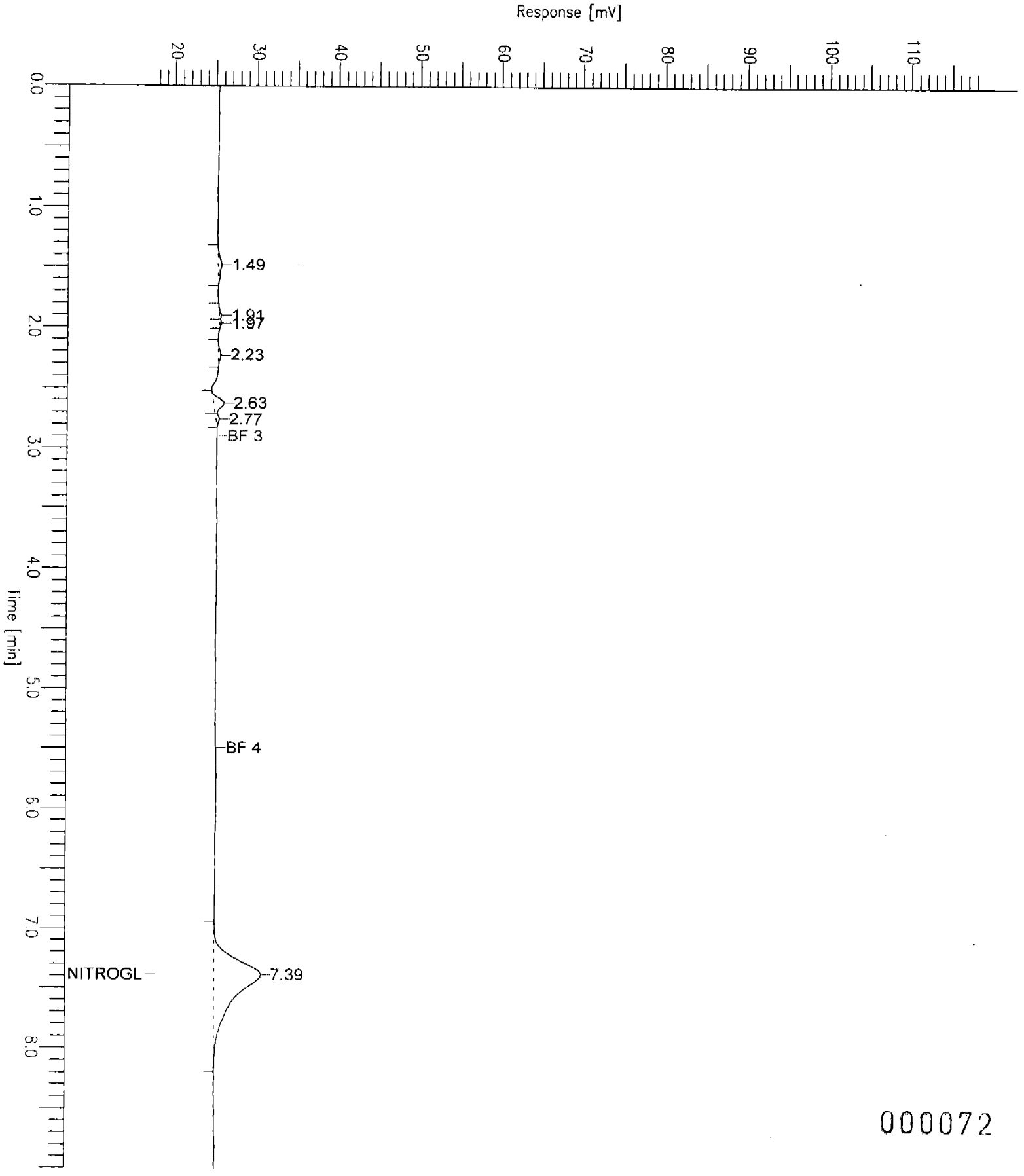
NOTE: %DIFF must be < or = 15% for quantitation.

%DIFF is calculated as follows: ABS((CCV CF - AVG CF)/AVG CF)

Chromatogram

Sample Name : 10ppm std
FileName : C:\TC4\LC151\A36_162.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 162 Page 1 of 1
Date : 9/11/02 17:32
Time of Injection: 9/11/02 17:21
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



000072

Software Version: 4.1<2F12>
Sample Name : 10ppm std
Sample Number: 162
Operator :

Time : 9/11/02 17:31
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 17:21
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_162.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Laboratories LC151 Standard Quant. Report

Time [min]	Component Name	Amount (ug/ml)	Area [µV·s]	Height [µV]	Theorctical Value	Percent Recovery
7.390	NITROGLYCERIN	11.2543	90165.75	5044.65	10.00	112.54
			90165.75	5044.65	10.00	

Report stored in ASCII file: C:\WINDOWS\TEMP\~RST0568.TXO

SECTION - C

RAW QUALITY CONTROL DATA

NITROGLYCERINE DATA

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -3	Parameter	Nitroglycerine
Instrument ID	151	Ref. Cit.	USEPA-8332
		Matrix	SOIL
		Units	mg/kg dry

Batch	Blank QC Type	Sequence No.	Amount Found
78597	Method Preparation	1	<25

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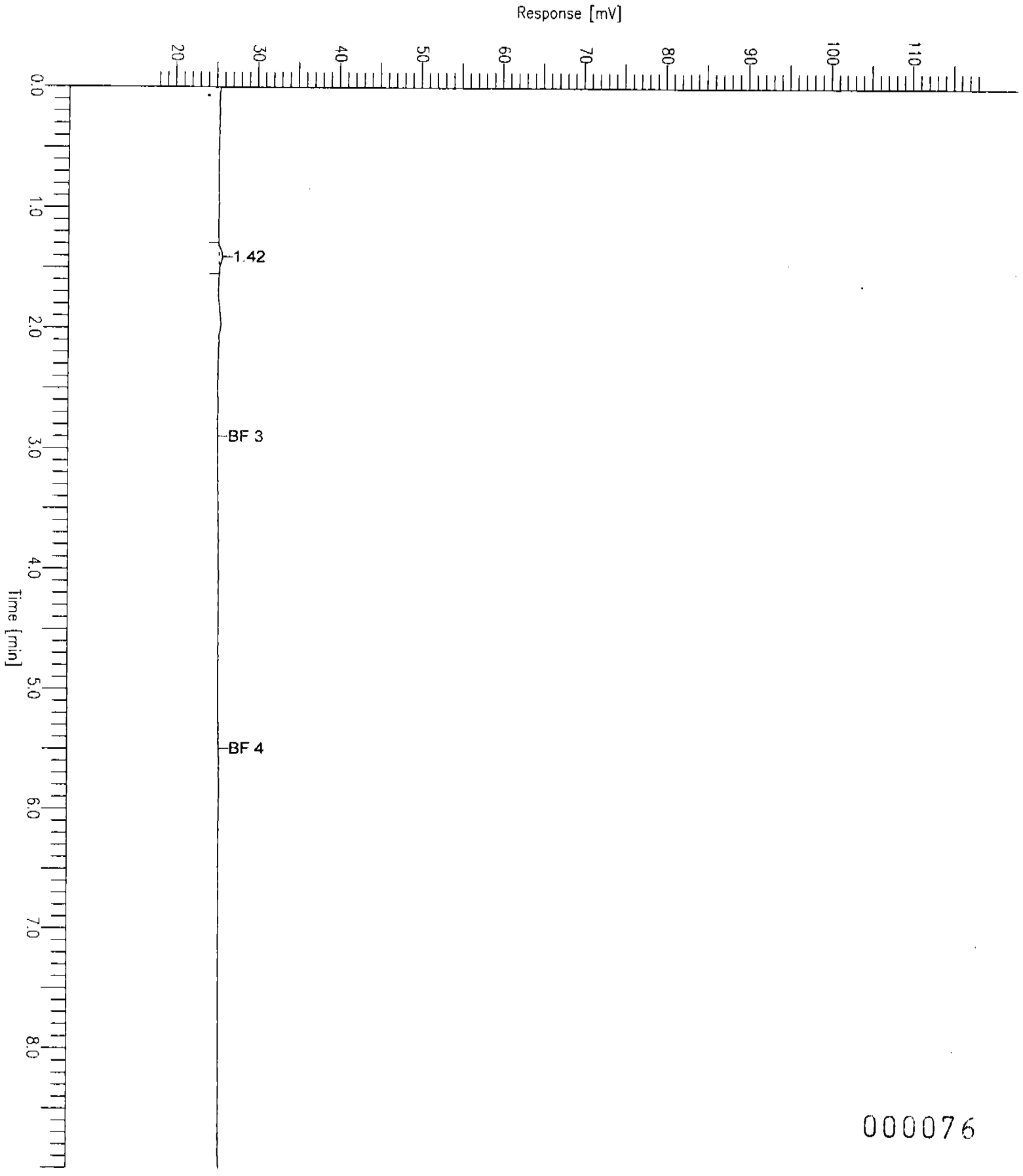
Chromatogram

Sample Name : mpb109
FileName : C:\TC4\LC151\A36_150.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 150
Date : 9/11/02 15:26
Time of Injection: 9/11/02 15:04
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : mpb109 Time : 9/11/02 15:26
Sample Number: 150 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 15:04
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_150.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

No peaks available to report

TriMatrix Laboratories, Inc.

QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -3
Sample ID. BD3C
Matrix SOIL
Lab Sample No. 314778
Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitroglycerine	70 - 130	52.0	<25	U	50	104	
Nitroglycerine	70 - 130	51.4	<25	U	50	103	

000078

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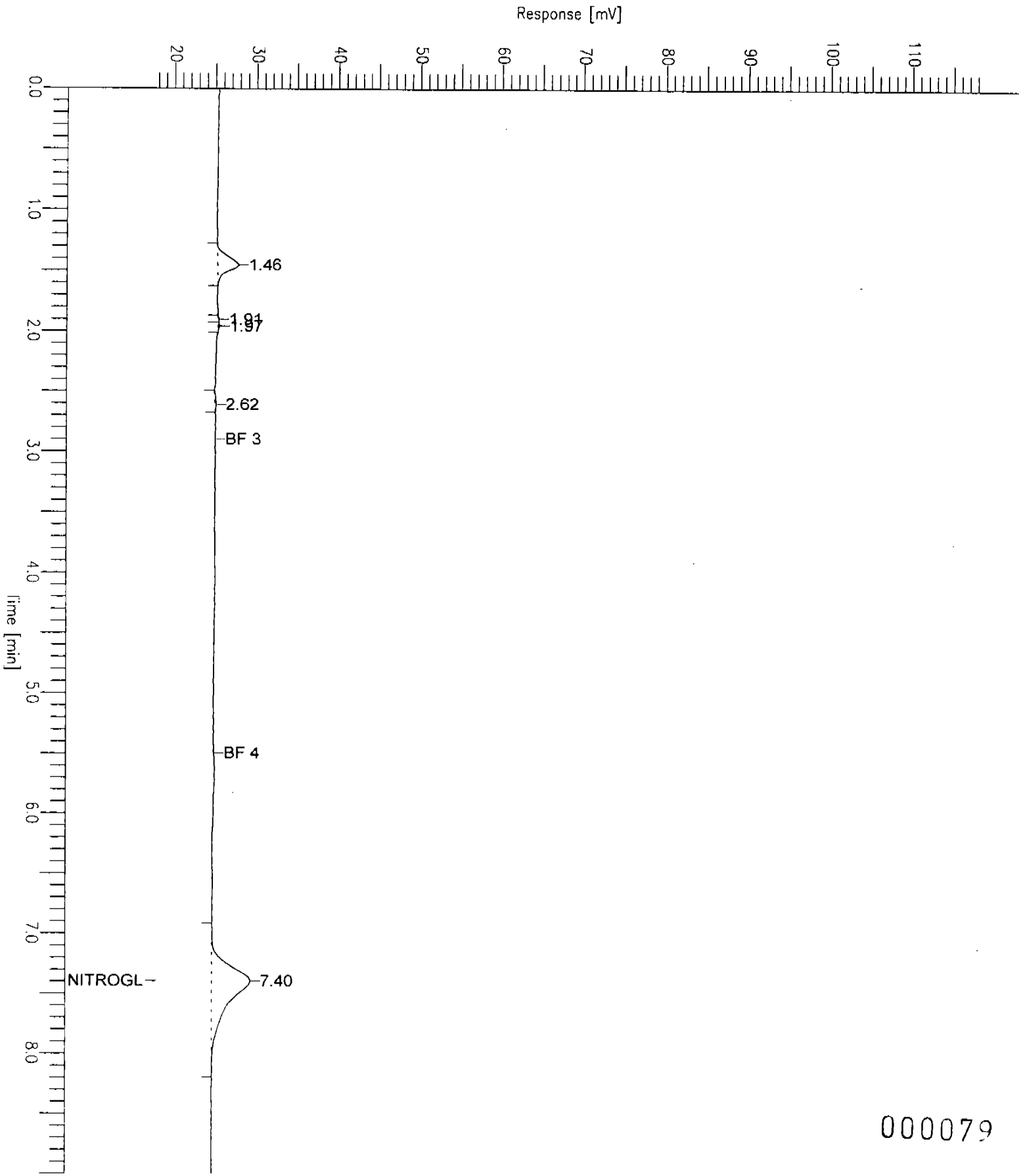
Chromatogram

Sample Name : 314778ms
FileName : C:\TC4\LC151\A36_159.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 159 Page 1 of 1
Date : 9/11/02 17:17
Time of Injection: 9/11/02 16:38
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 314778ms
Sample Number: 159
Operator :

Time : 9/11/02 17:17
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 16:38
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_159.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

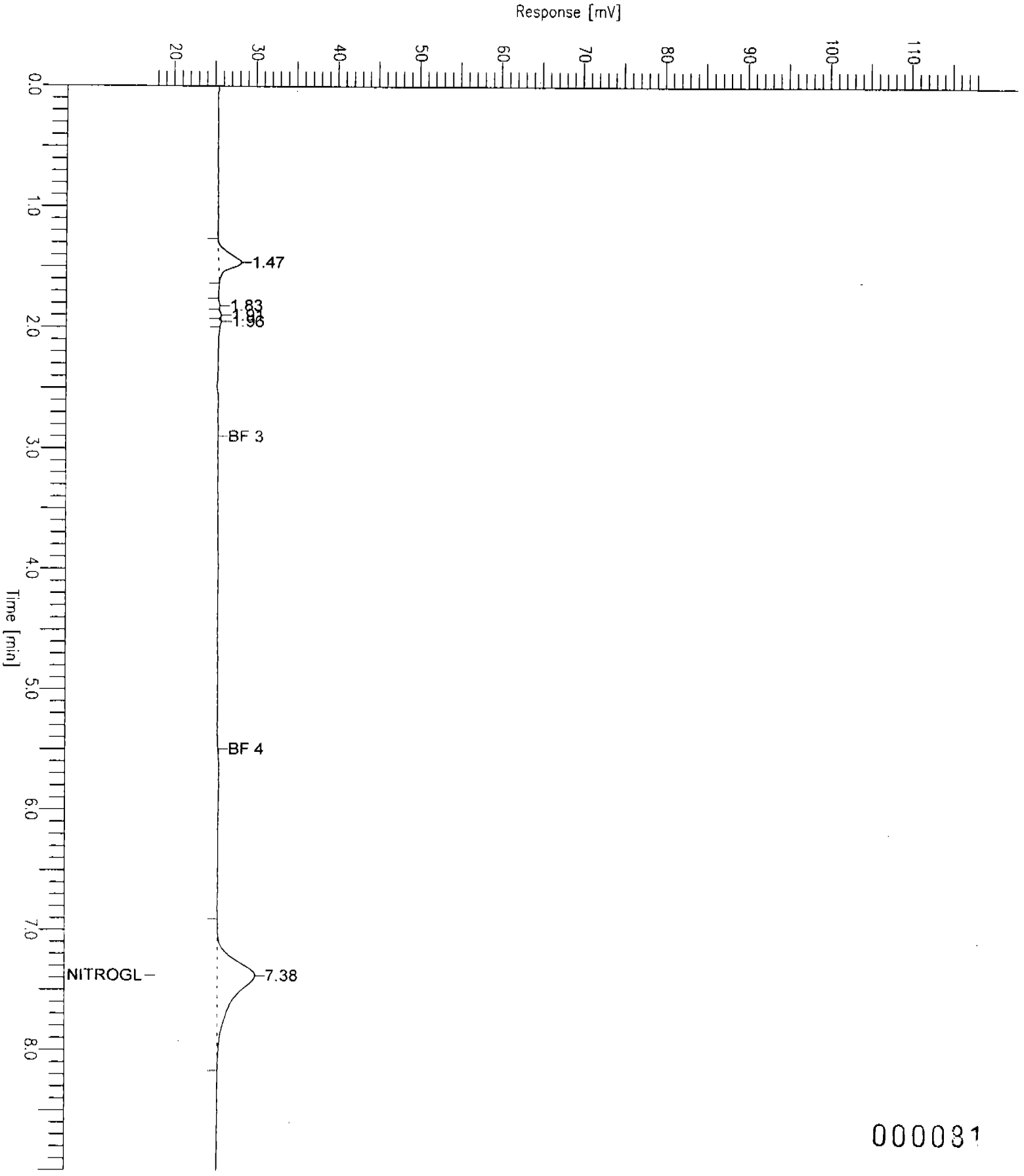
Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
7.395	NITROGLYCERIN	10.4183	96835.75	4669.91	2.00	10.0	52.0913
		10.4183	96835.75	4669.91	2.00	10.0	52.0913

Chromatogram

Sample Name : 314778md
FileName : C:\TC4\LC151\A36_161.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 161 Page 1 of 1
Date : 9/11/02 17:19
Time of Injection: 9/11/02 16:58
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : 314778md
Sample Number: 161
Operator :

Time : 9/11/02 17:19
Study : 8332

Instrument : LC151
AutoSampler :
Rack/Vial : 0/0

Channel : A A/D mV Range : 1000

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 16:58
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_161.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG
Sample Amount : 1.0000

Area Reject : 0.000000
Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
7.381	NITROGLYCERIN	10.2761	97341.25	4606.18	2.00	10.0	51.3804
		10.2761	97341.25	4606.18	2.00	10.0	51.3804

TriMatrix Laboratories, Inc.

QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No. 35988 -3 Units mg/kg dry

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitrocellulose	78577	39	35	70 - 130	90
Nitroglycerine	78597	50	43.4	70 - 130	87

000083

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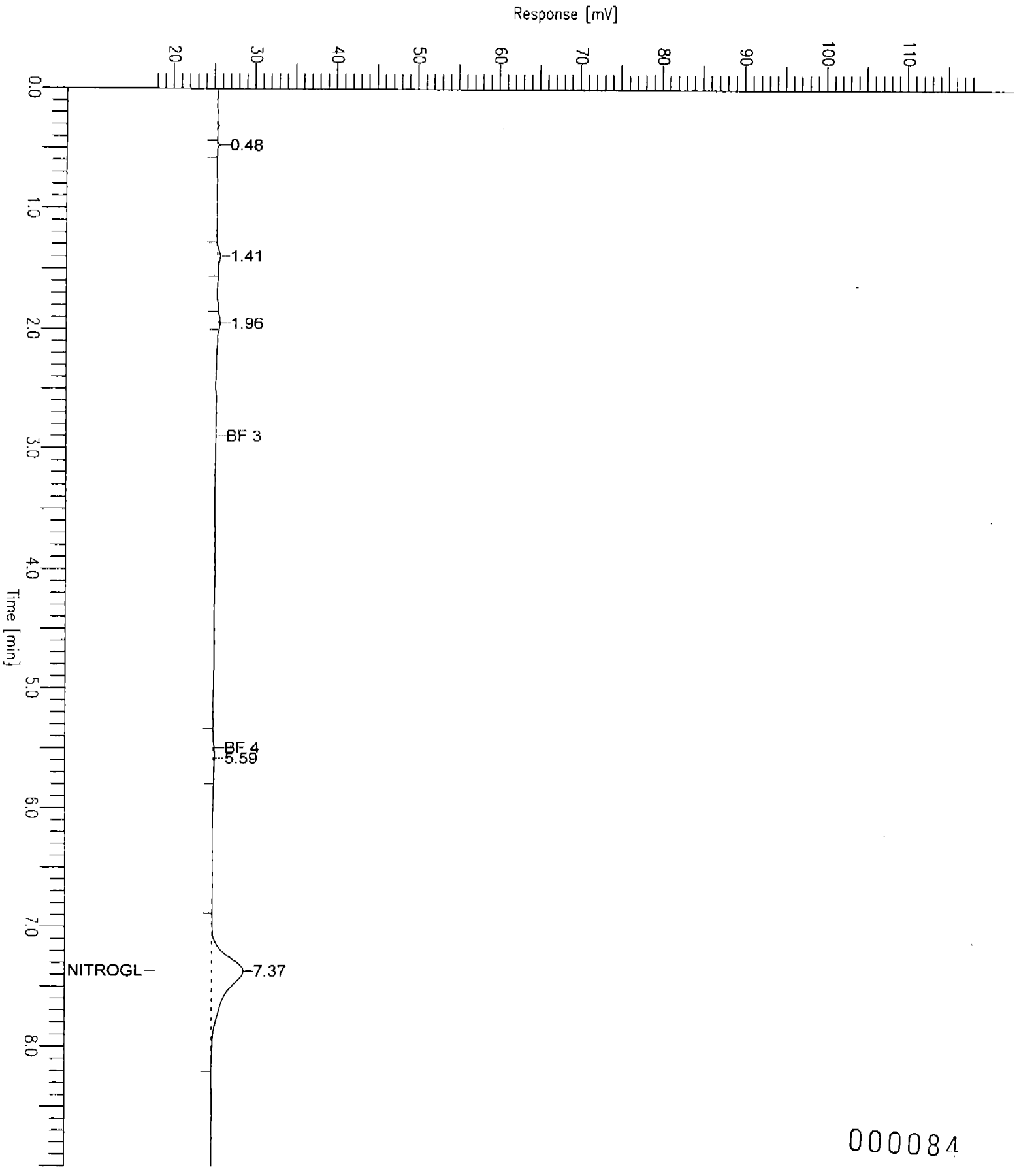
Chromatogram

Sample Name : 1fb109
FileName : C:\TC4\LC151\A36_151.RAW
Method : 8332_09.MTH
Start Time : 0.00 min End Time : 9.00 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 151
Date : 9/11/02 15:26
Time of Injection: 9/11/02 15:14
Low Point : 18.00 mV High Point : 118.00 mV
Plot Scale: 100.0 mV



Software Version: 4.1<2F12>
Sample Name : lfb109 Time : 9/11/02 15:26
Sample Number: 151 Study : 8332
Operator :

Instrument : LC151 Channel : A A/D mV Range : 1000
AutoSampler :
Rack/Vial : 0/0

Interface Serial # : 9270571460 Data Acquisition Time: 9/11/02 15:14
Delay Time : 0.00 min.
End Time : 9.00 min.
Sampling Rate : 2.0000 pts/sec

Raw Data File : C:\TC4\LC151\A36_151.RAW
Result File : C:\WINDOWS\TEMP\~RST0568.RST
Inst Method : C:\TC4\LC151\8332_07 from C:\WINDOWS\TEMP\~RST0568.RST
Proc Method : C:\TC4\LC151\8332_09.MTH
Calib Method : C:\TC4\LC151\8332_09.MTH
Sequence File : C:\TC4\LC151\A36.SEQ

Sample Volume : 1.0000 UG Area Reject : 0.000000
Sample Amount : 1.0000 Dilution Factor : 1.00

Trimatrix Labs. LC151 Sample Quant. Report - Soil

Time [min]	Component Name	Raw Amount	Area [µV·s]	Height [µV]	Initial (g)	Final (ml)	Conc. (mg/kg)
7.369	NITROGLYCERIN	8.6785	82882.00	3890.06	2.00	10.0	43.3923
		8.6785	82882.00	3890.06	2.00	10.0	43.3923

SECTION - C

PREPARATION LOGS / MISCELLANEOUS

NITROGLYCERINE DATA

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17-SEP-02

EXTRACTION LAB EXTRACTION SUMMARY

PAGE 1

Prepared by: DGM

Time spent: _____

Lims Batch: 190740/108

Extract locations
BNA: _____
PEST/PCB: _____
HERB: _____
OTHER: _____

Batch Information
Owner: GJB
Opened Date: 9/8/02
Sequence: 1

EXTRACTION METHOD
1. liquid/liquid
2. sonication
3. soxlet
4. _____

000087

Client [Test number] Parameter	Submittal	Sample QC COC Method	Date Ext	Amt Ext	Final Vol	% Sol	pH	Dil	CL-UP	Nd Type
Stone & Webster Engineering Corp 35988- 3 314760 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332			9/8/02	2.0g	10.0ml	100				
Stone & Webster Engineering Corp 35988- 3 314761 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332				2.0g		100				
Stone & Webster Engineering Corp 35988- 3 314766 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332				2.0g		96				
Stone & Webster Engineering Corp 35988- 3 314769 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332				2.0g		98				
Stone & Webster Engineering Corp 35988- 3 314771 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332				2.0g		98				
Stone & Webster Engineering Corp 35988- 3 314774 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332				2.0g		97				
Stone & Webster Engineering Corp 35988- 3 314778 LV5 [1930.01- 543.02] EXTRACT: 8332 NITROGLYCRN EX/NG/HPLC/SOIL NITROGLYCERINE USEPA-8332				2.0g		100				
		MPB108		2.0g						
		314778MS		2.0g						
		314778MSD		2.0g						
		LFB108		2.0g						

********** QUALITY CONTROL DATA **********

Type	Amt Ext	Final Volume	Surrogates Standard	Surrogates Amount	Spikes Standard	Spikes Amount	Spikes Standard	Spikes Amount
MPB								
DUP								
SPK#								
MSD#								
LCS								
(Sample Notes)								

	Type	Date done	# times
1	Nitrogen Blowdown		
2	Alumina		
3	Copper/Sulf. Acid		
4	Small Florisil		
5	Lg. Florisil Col.		
6	Silica Gel		
7	GPC		

000088

TriMatrix Laboratories, Inc.

Instrument ID: Perkin Elmer LC235 151	Date: 9/11/12	Sequence #: A36	Date Archived, Disk ID

Instrument Settings/Injection Vol.	Quantitation Information	Pump Programs	
Column: Pinnacle Ultra C18	Curve Date: 9/11/12	(Programs listed in front of book)	Notes:
Column Heater Temp: 25°	Curve Type: Regression or Avg. CF	8315 ___ Acrylamide ___	
Injection Volume: 20 ul	Quantitated By: Curve	8310 ___ Phenytoin ___	
Initial Pressure: 1410	ICV/CCV Std: CC 2-5.18	8330 ___ Other X	8332-Nitroglycerin
UV Detector Wavelength: 214 nm			

Analyst	Run ID	File ID	Inj. Time	Method	Client	Matrix	Dilution	ICV/CCV Check (85-115)	Sample Notes, Std. Numbers, Anal. Batch Info, etc.
[illegible]	instrblk	A36 143	13:30	8332-07			SW		
	1ppm std	144	13:50				SW		
	2.5ppm std	145	14:00						
	5ppm std	146	14:10						
	10ppm std	147	14:21						new curve
	20ppm std	148	14:31						
	50ppm std	149	14:42						
	MPB109	150	15:04		S+W	Soil	SW		
	LFB109	151	15:14						
	314760	152	15:25						
	314761	153	15:35						
	314766	154	15:45						
	314769	155	15:56						
	314771	156	16:06						
	314774	157	16:17						
	314778	158	16:27						
	314778MS	159	16:38						
	10ppm std	160	16:48						
	314778MD	161	16:58		S+W	Soil	SW	passes	
	10ppm std	162	17:21				SW	passes	

file: 151_run.XLS

revision: 0.0

000089

TriMatrix Laboratories, Inc.

Row #	Standard Number	Standard Description	Analyte(s) (and/or Stock Standard Number for dilutions)	Manufacturer and Lot Numbers	Exp. Date	Ampule or Stock Standard Concentration	Initial Weight/ Volume	Solvent Used/ Lot #	Final Volume	Final Concentration	Made or Opened By	Date Made or Opened	Date Expires	Math Check By
1	GC2. -1	Hudson River Proj. Arochlors 1248	AROCHLOR 1248	Absolute 70019 LOT # 111000	11/10/05	1000 ug/mL	100uL	Hexane 003841	10mL	10 ug/mL	JAZ	8/19/2	2/19/3	
2	GC2. -2	" 1254	Arochlor 1254	Absolute 70020 LOT # 020100	02/01/05	1000 ug/mL	100uL	Hexane 003841	10mL	10 ug/mL	JAZ	8/19/2	2/19/3	
3	GC2. -3	" 1260	Arochlor 1260	Absolute 70021 LOT # 051600	051605	1000 ug/mL	100uL	Hexane 003841	10mL	10 ug/mL	JAZ	8/19/2	2/19/3	
4	GC2. -4	" Surrogates	TCMX + DCB (prd by prep lab)			10 ug/mL DCB 1 ug/mL TCMX	1000 uL TCMX 1000 uL DCB	Hexane 003841	2 mL	5/.5 ug/mL	JAZ	8/19/2	2/19/3	
5	GC2. -5	" 1221	Arochlor 1221	Absolute 030598 (only label)	030603	1000 ug/mL	100uL	Hexane 003841	10mL	10 ug/mL	JAZ	8/19/2	2/19/3	
6	GC2. -6	Hudson River Proj. 2nd Source CCV's	Arochlor 1242 ~~1221~~ 8/20/2	NSI 132M-11-02	09/04	1000 ug/mL	15.0 ~~12.5~~ uL 8/20/2	Hexane 003841	25mL	0.60 ~~0.50~~ ug/mL	JAZ	8/20/2	2/20/3	
7	GC2. -7	↓	Arochlor 1221 ~~1242~~ 8/20/2	NSI 126M-07-02	09/03	1000 ug/mL	12.5 uL	Hexane 003841	25mL	0.50 ug/mL	JAZ	8/20/2	2/20/3	
8	GC2. -8	↓	Arochlor 1254	NSI 135M-11-02	09/04	1000 ug/mL	15 uL ~~12.5 uL~~ 8/20/2	Hexane 003841	25mL	0.60 ug/mL	JAZ	8/20/2	2/20/3	
9	GC2. 5 -9	TCE + CCl_4 + $CHCl_3$	TCE			Neat	0.1985g	$MeCl_2$	100mL	2000 ug/mL	JAZ	8/28/2	8/28/3	
10	GC2. -10		CCl_4			Neat	0.1997g							
11	GC2. -11		$CHCl_3$			Neat	0.1989g							
12	GC2. 5 -12	#2 Diesel SPIKE	Comp. #2 Diesel fuel	Ultra Sc. R60-616 LOT: P-1316	9/03	50000 ug/mL	1000 uL	Acetone	50mL	1000 ug/mL	JAZ	9/6/2	12/6/2	
13	GC2. 5 -13	1016/1260 Calibration Std.	Arochlor 1016	Absolute 70015 Lot # 040901	4.9.06	1000 ug/mL	80uL	Hexane 003841	50mL	1.6 ~~0.16~~ ug/mL	JDM	9.7.02	3.7.03	
14	GC2. -14		Arochlor 1260	Absolute 70021 Lot # 051600	5.16.05	↓	↓	↓	↓	↓	↓	↓	↓	
15	GC2. -15		TCMX+DCB	PL2.10-17	7.27.03	1.0 ug/mL	10mL	↓	↓	0.2 ug/mL	↓	↓	↓	
16	GC2. 5 -16	#2 Diesel ~~working~~ CCV STOCK/OTP	Composite #2 Diesel fuel	Ultra Sc. R60-616 LOT P-1316	9/03	50000 ug/mL	1000uL ~~50 mL~~	$MeCl_2$	50mL	1000 ug/mL	JAZ	9/9/2	9/9/3	
17	GC2. -17		O-Terphenyl	Ultra Sc. IST-480 LOT P-1550	11/03	2000 ug/mL	1000uL	$MeCl_2$	↓	20 ug/mL	JAZ	9/9/2	9/9/3	
18	GC2. 5 -18	Stock Nitroglycerin	Nitroglycerin	Accustd. B2070-7K	7/9/3	0.1mg/mL				0.1mg/mL	JMKI	9/10/2	7/9/3	

000090

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration

COC: YES
Proj Chemist: LMH

Lab due date: 18-SEP-02
QC: LV5
Safety: NO
Hazards: F=0 R=0 C=0 H=0

Submittal: 3 August 2002 Soils

Received Date: 06-SEP-02

Sample	Sample Names / Parameter	Description / Ref Cit	Appl	Unit	Hold Date	Test Type	Frac Num
314760	RH8E NITROGLYCERINE 160	17 USEPA-8332	SOIL	mg/kg dry	07-OCT-02	STD TEST	
314761	RH6F NITROGLYCERINE 100	17 USEPA-8332	SOIL	mg/kg dry	07-OCT-02	STD TEST	
314766	BB5C NITROGLYCERINE 96	17 USEPA-8332	SOIL	mg/kg dry	08-OCT-02	STD TEST	
314769	BB3B/C NITROGLYCERINE 76	17 USEPA-8332	SOIL	mg/kg dry	08-OCT-02	STD TEST	
314771	BB3D NITROGLYCERINE 96	17 USEPA-8332	SOIL	mg/kg dry	08-OCT-02	STD TEST	
314774	BB1D NITROGLYCERINE 97	17 USEPA-8332	SOIL	mg/kg dry	08-OCT-02	STD TEST	
314778	BD3C NITROGLYCERINE 150	17 USEPA-8332	SOIL	mg/kg dry	08-OCT-02	STD TEST	

========== CLIENT NARRATIVES ==========

Date	User	Text
03-FEB-00	LMH	EDD and data within 20 days of sample receipt
03-FEB-00	LMH	LV-5 package must include MDLs and IDL (metals) sheets
21-MAY-02	LMH	--
21-MAY-02	LMH	prep lab: for soil BNAs please extract for Ion trap
21-MAY-02	LMH	extract 30g to 1 ml

========== PROJECT NARRATIVES ==========

Date	User	Text
13-MAY-02	LMH	LV5 - Wisconsin reportable
13-MAY-02	LMH	please J flag between MDL (LOD) and 3.333xMDL (LOQ)
13-MAY-02	LMH	-
13-MAY-02	LMH	PREP LAB: extract all SVOCs for ion trap
13-MAY-02	LMH	--

000091

Client: Stone & Webster Engineering Corp
Project: 35988 ESTCP Demonstration

Submittal: 3 August 2002 Soils

COC: YES
Proj Chemist: LMH

Received Date: 06-SEP-02

Lab due date: 18-SEP-02
QC: LV5
Safety: NO
Hazards: F=0 R=0 C=0 H=0

========== SUBMITTAL NARRATIVES ==========

Date	User	Text
06-SEP-02	LMH	you chose which sample to run MS/MSD please

========== SAMPLE NARRATIVES ==========

Sample	Date	User	Text

SECTION - J

WET CHEMISTRY DATA

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SECTION - J

SAMPLE RESULT SUMMARIES

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		RH8E		LOD	LOQ	Units
	Lab Sample No:	314760				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	1.4	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	0.54		0.08	0.25	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/28/02
Time Sampled:	14:00
Date Received:	09/06/02
Time Received:	09:50

000094

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		RH6F		LOD	LOQ	Units
	Lab Sample No:	314761				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	2.4		0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	1.5		0.08	0.25	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/28/02
Time Sampled:	14:15
Date Received:	09/06/02
Time Received:	09:50

000095

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BL6B		LOD	LOQ	Units
	Lab Sample No:	314762				
E-1047	Percent Solids	99		NA	0.1	%
9004-70-0	Nitrocellulose	1.8	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	4.2		0.08	0.25	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/28/02
Time Sampled:	14:30
Date Received:	09/06/02
Time Received:	09:50

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		HH4B		LOD	LOQ	Units
	Lab Sample No:	314763				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	1.7	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	23		0.38	1.25	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/28/02
Time Sampled:	14:45
Date Received:	09/06/02
Time Received:	09:50

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BL2A		LOD	LOQ	Units
	Lab Sample No:	314764				
E-1047	Percent Solids	97		NA	0.1	%
9004-70-0	Nitrocellulose	1.7	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	49		0.39	1.3	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/28/02
Time Sampled:	15:00
Date Received:	09/06/02
Time Received:	09:50

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		RH3C		LOD	LOQ	Units
	Lab Sample No:	314765				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	1.8	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	0.97		0.08	0.26	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/28/02				
Time Sampled:		15:15				
Date Received:		09/06/02				
Time Received:		09:50				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB5C		LOD	LOQ	Units
	Lab Sample No:	314766				
E-1047	Percent Solids	96		NA	0.1	%
9004-70-0	Nitrocellulose	4.1		0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	12		0.39	1.3	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/29/02				
Time Sampled:		08:00				
Date Received:		09/06/02				
Time Received:		09:50				

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Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB5A		LOD	LOQ	Units
	Lab Sample No:	314767				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	2.2	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	3.4		0.08	0.26	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/29/02
Time Sampled:	08:15
Date Received:	09/06/02
Time Received:	09:50

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		HH1C		LOD	LOQ	Units
	Lab Sample No:	314768				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	1.8	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	8.3		0.08	0.26	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/29/02				
Time Sampled:		08:30				
Date Received:		09/06/02				
Time Received:		09:50				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB3B/C		LOD	LOQ	Units
	Lab Sample No:	314769				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	2.9		0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	8.0		0.08	0.26	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/29/02				
Time Sampled:		08:45				
Date Received:		09/06/02				
Time Received:		09:50				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB2B		LOD	LOQ	Units
	Lab Sample No:	314770				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	1.9	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	9.6		0.39	1.3	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/29/02				
Time Sampled:		09:00				
Date Received:		09/06/02				
Time Received:		09:50				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB3D		LOD	LOQ	Units
	Lab Sample No:	314771				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	1.5	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	5.1		0.08	0.26	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/29/02				
Time Sampled:		09:15				
Date Received:		09/06/02				
Time Received:		09:50				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BT2D		LOD	LOQ	Units
	Lab Sample No:	314772				
E-1047	Percent Solids	99		NA	0.1	%
9004-70-0	Nitrocellulose	1.8	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	14		0.38	1.25	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/29/02				
Time Sampled:		09:30				
Date Received:		09/06/02				
Time Received:		09:50				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		HH4D		LOD	LOQ	Units
	Lab Sample No:	314773				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	1.6	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	97		0.78	2.6	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/29/02				
Time Sampled:		10:00				
Date Received:		09/06/02				
Time Received:		09:50				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BB1D		LOD	LOQ	Units
	Lab Sample No:	314774				
E-1047	Percent Solids	97		NA	0.1	%
9004-70-0	Nitrocellulose	2.0	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	1.7		0.08	0.26	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/29/02
Time Sampled:	10:15
Date Received:	09/06/02
Time Received:	09:50

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BD1A	LOD	LOQ	Units
	Lab Sample No:	314775			
E-1047	Percent Solids	98	NA	0.1	%
9004-70-0	Nitrocellulose	2.7	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	10	0.39	1.3	mg/kg dry
Sampled by:		D. Close			
Date Sampled:		08/29/02			
Time Sampled:		10:30			
Date Received:		09/06/02			
Time Received:		09:50			

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BD1B		LOD	LOQ	Units
	Lab Sample No:	314776				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	1.6	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	112		1.56	5.2	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/29/02				
Time Sampled:		10:45				
Date Received:		09/06/02				
Time Received:		09:50				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BD4D		LOD	LOQ	Units
	Lab Sample No:	314777				
E-1047	Percent Solids	98		NA	0.1	%
9004-70-0	Nitrocellulose	1.9	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	19		0.39	1.3	mg/kg dry

Sampled by:	D. Close
Date Sampled:	08/29/02
Time Sampled:	11:00
Date Received:	09/06/02
Time Received:	09:50

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils

Submittal Number: 35988- 3
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		BD3C		LOD	LOQ	Units
	Lab Sample No:	314778				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	2.3		0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	1.6		0.08	0.25	mg/kg dry
55-63-0	Nitroglycerine	ND	U	2.01	6.69	mg/kg dry
Sampled by:		D. Close				
Date Sampled:		08/29/02				
Time Sampled:		11:15				
Date Received:		09/06/02				
Time Received:		09:50				

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SECTION - J

QUALITY CONTROL SUMMARIES

WET CHEMISTRY DATA

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QUALITY CONTROL REPORT
INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV-CCV)
USEPA CLP FORM 2A

SDG No.	35988 -3	Parameter	Nitrogen, Nitrate
Batch No.	191218		
Instrument ID	189	Ref. Cit.	353.2/4500 NO3F
		Matrix	WATER
		Units	mg/L

Verification QC Type	True Value	Amount Found	% Recovery	Acceptance Window-%	Date	Analyst
ICV 1	0.50	0.49	98	85 - 115	09/10/02	JLB
CCV 1	0.50	0.49	98	85 - 115	09/10/02	JLB
CCV 2	0.50	0.50	100	85 - 115	09/10/02	JLB
CCV 3	0.50	0.50	100	85 - 115	09/10/02	JLB
CCV 4	0.50	0.50	100	85 - 115	09/10/02	JLB
CCV 5	0.50	0.50	100	85 - 115	09/10/02	JLB
CCV 6	0.50	0.50	100	85 - 115	09/10/02	JLB

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QUALITY CONTROL REPORT
INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV-CCV)
USEPA CLP FORM 2A

SDG No.	35988 -3	Parameter	Nitrocellulose
Batch No.	191298		
Instrument ID	120	Ref. Cit.	USARMY BR&D Lab
		Matrix	WATER
		Units	mg/L

Verification QC Type	True Value	Amount Found	% Recovery	Acceptance Window-%	Date	Analyst
ICV 1	0.25	0.24	96	70 - 130	09/11/02	JLB
CCV 1	0.25	0.24	96	70 - 130	09/11/02	JLB
CCV 2	0.25	0.24	96	70 - 130	09/11/02	JLB
CCV 3	0.25	0.24	96	70 - 130	09/11/02	JLB
CCV 4	0.25	0.26	104	70 - 130	09/11/02	JLB

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QUALITY CONTROL REPORT
CRDL STANDARD
USEPA CLP FORM 2B

SDG No.	35988 -3	Matrix	WATER
		Units	mg/L

Analyte	Analytical Batch	True Value	Amount Found	% Recovery
Nitrocellulose	191298	0.05	0.049	98
Nitrogen, Nitrate	191218	0.05	0.053	106

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -3	Parameter	Nitrogen, Nitrate
Instrument ID	189	Ref. Cit.	353.2/4500 NO3F
		Matrix	WATER
		Units	mg/L

Batch	Blank QC Type	Sequence No.	Amount Found
191218	Initial Calibration	1	<0.05
191218	Continuing Calibration	1	<0.05
191218	Continuing Calibration	2	<0.05
191218	Continuing Calibration	3	<0.05
191218	Continuing Calibration	4	<0.05
191218	Continuing Calibration	5	<0.05
191218	Continuing Calibration	6	<0.05
191218	Instrument	1	<0.05

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -3	Parameter	Nitrocellulose
Instrument ID	120	Ref. Cit.	USARMY BR&D Lab
		Matrix	WATER
		Units	mg/L

Batch	Blank QC Type	Sequence No.	Amount Found
191298	Initial Calibration	1	<0.05
191298	Continuing Calibration	1	<0.05
191298	Continuing Calibration	2	<0.05
191298	Continuing Calibration	3	<0.05
191298	Continuing Calibration	4	<0.05
191298	Instrument	1	<0.05

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -3	Parameter	Nitrocellulose
Instrument ID	120	Ref. Cit.	USARMY BR&D Lab
		Matrix	SOIL
		Units	mg/kg dry

Batch	Blank QC Type	Sequence No.	Amount Found
78577	Method Preparation	1	<4.0

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -3	Parameter	Percent Solids
Instrument ID	210	Ref. Cit.	SW-846 3550B
		Matrix	SOIL
		Units	%

Batch	Blank QC Type	Sequence No.	Amount Found
191265	Instrument	1	<0.1

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -3

Sample ID. RH8E

Matrix SOIL
Lab Sample No. 314760
Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitrocellulose	30 - 90	16	1.4	J	39	37	

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -3

Sample ID. BB2B

Matrix SOIL
Lab Sample No. 314770
Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result	Spike Added	%R	M
Nitrogen, Nitrate+Nitr	71 - 125	14	9.6	4.9	90	AC

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -3	Matrix	SOIL
		Lab Sample No.	314760
Sample ID.	RH8E	Units	%

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Percent Solids	0 - 20	100	100	0	G

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No. 35988 -3
Sample ID. RH8E

Matrix SOIL
Lab Sample No. 314760
Units mg/kg dry

Analyte	Control Limit	Sample Result		Duplicate Result	RPD	M
Nitrocellulose	0 - 30	1.4	J	1.4	0	

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Individual sample results relate only to the sample tested.
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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No. 35988 -3
Sample ID. RH6F

Matrix SOIL
Lab Sample No. 314761
Units %

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Percent Solids	0 - 20	100	100	0	G

000125

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No. 35988 -3
Sample ID. BB2B

Matrix SOIL
Lab Sample No. 314770
Units mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Nitrogen, Nitrate+Nitrite	0 - 20	9.6	9.7	1	AC

000126

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE
USEPA CLP FORM 7

SDG No. 35988 -3 Units mg/L

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitrocellulose	191298	0.25	0.26	70 - 130	104
Nitrogen, Nitrate	191218	6.93	6.47	90 - 110	93
Nitrogen, Nitrate	191218	0.693	0.676	90 - 110	98

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QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No. 35988 -3 Units mg/kg dry

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitrocellulose	78577	39	35	70 - 130	90
Nitroglycerine	78597	50	43.4	70 - 130	87

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SECTION - J

SAMPLE RAW DATA

WET CHEMISTRY DATA

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NLB 9-18-02

Due 9-18-02 V by cc

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 4.0
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: 1911298 NLB 9/18

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #: 120
Benchsheet ID: 298023
Owner: NLB
Batch Opened Date: 9-11-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location / Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk W6.68.8									0.24	0.05		0.25	
ICB:									<0.05	0.05		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 314768 * HH1C	YES	LV5								4.0		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 314769 * BB3B/C	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- 3 314770 * BB2B	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- 3 314771 * BB3D	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- 3 314772 * BT2D	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- 3 314773 * HH4D	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- 3 314774 * BB1D	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- 3 314775 * BD1A	YES	LV5								4.0			
CCV: Stk ____ Rep ___													
CCB: ____ Rep ___												XXXXXXXX	

000130

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY ** QC **

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 4.0
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Instrument #:
Benchsheet ID: 276023
Owner: WB
Batch Opened Date: 9-11-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:							<0.05	0.05		XXXXXXXX	
LCS: Stk W6.68.14							0.26	0.05		0.25	
SPK1: Stk Smp											
SPK2: Stk Smp											
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
SPK1: Stk Smp										XXXXXXXX	
SPK2: Stk Smp										XXXXXXXX	
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
MPB: QCB# Same as above batch							<4.0			XXXXXXXX	
LFB: Stk W5.3 QCB#							<0.05	4.0		XXXXXXXX	
CRDL: Stk W6.68.11							35	4.0		39	
							0.049	0.049		0.05	

QC Type	Range	Lower	Upper
LFB (wtr)	1		
SPK	1		

00001371

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL
Ref. Cit.: USARMY BR&D Lab
ODL: 4.0
Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296024
Owner: WB
Batch Opened Date: 9-11-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

MDL 0.705 mg/kg

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk W6.68.8			Rep1							0.24	0.05		025	
CCB:			Rep1							<0.05	0.05		XXXXXXXX	
Stone & Webster Engineering Corp 35988- RH8E	3 314760 *	YES	LV5							1.4J	4.0 2.3		XXXXXXXX	
Stone & Webster Engineering Corp 35988- RH6F	3 314761 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BL6B	3 314762 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- HH4B	3 314763 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BL2A	3 314764 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- RH3C	3 314765 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BB5C	3 314766 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BB5A	3 314767 *	YES	LV5								4.0			
CCV: Stk _____ Rep ___														
CCB: _____ Rep ___													XXXXXXXX XXXXXXXX	

000132

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY ** QC **

Test#: 1931 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL
Ref. Cit.: USARMY BR&D Lab

ODL: 4.0
Unit: mg/kg dry

Instrument #:
Benchsheet ID: 296025
Owner: JLB
Batch Opened Date: 9-11-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:											
LCS: Stk											
SPK1: Stk Smp											
SPK2: Stk Smp											
MSD: Smp		XXXXXXX XXXXXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXX XXXXXXXX	XXXX XXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXX XXXXXXXX		XXXXXXXX XXXXXXXX	
DUP: Smp 314760							1.4			XXXXXXXX	
SPK1: Stk WS.3 Smp 314760							16			39	
SPK2: Stk Smp											
MSD: Smp		XXXXXXX XXXXXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXX XXXXXXXX	XXXX XXXX	XXXXXXXXXX XXXXXXXXXX	XXXXXXXX XXXXXXXX		XXXXXXXX XXXXXXXX	
DUP: Smp										XXXXXXXX	
MPB: QCB#										XXXXXXXX	
LFB: Stk QCB#										XXXXXXXX	
CRDL: Stk											

QC Type	Range	Lower	Upper
LFB (wtr)	1		
SPK	1		

0001133

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 4.0
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296023
Owner: JLB
Batch Opened Date: 9-11-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

MDL 0.705 mg/kg dry

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____														
ICB:													XXXXXXXX	
Stone & Webster Engineering Corp 35988- RH8E	3 314760 *	YES	LV5								~~4.0~~ 2.2 JLB 9-18-02		XXXXXXXX	
Stone & Webster Engineering Corp 35988- RH6F	3 314761 *	YES	LV5							2.4	~~4.0~~ 2.3	J		
Stone & Webster Engineering Corp 35988- BL6B	3 314762 *	YES	LV5							1.8 J	~~4.0~~ 2.3	J		
Stone & Webster Engineering Corp 35988- HH4B	3 314763 *	YES	LV5								~~4.0~~ ~~2.8~~ JLB 9-18-02			
Stone & Webster Engineering Corp 35988- BL2A	3 314764 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- RH3C	3 314765 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BB5C	3 314766 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BB5A	3 314767 *	YES	LV5								4.0			
CCV: Stk W6688 Rep 2										0.24			0.25	
CCB: _____ Rep 2										<0.05			XXXXXXXX	
													XXXXXXXX	

000134

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 4.0
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296025
Owner: JB
Batch Opened Date: 9-11-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____														
ICB: _____													XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 RH8E	314760	*	YES	LV5									XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 RH6F	314761	*	YES	LV5							4.0			
Stone & Webster Engineering Corp 35988- 3 BL6B	314762	*	YES	LV5							4.0			
Stone & Webster Engineering Corp 35988- 3 HH4B	314763	*	YES	LV5							4.0			
Stone & Webster Engineering Corp 35988- 3 BL2A	314764	*	YES	LV5						1.7 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- 3 RH3C	314765	*	YES	LV5						1.7 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- 3 BB5C	314766	*	YES	LV5						1.8 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- 3 BB5A	314767	*	YES	LV5						4.1	~~4.0~~ 2.3			
										2.2 J	~~4.0~~ 2.3			
CCV: Stk _____ Rep ___														
CCB: _____ Rep ___													XXXXXXXX	
													XXXXXXXX	

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 4.0
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296024
Owner: JLB
Batch Opened Date: 9-11-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client.....

Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____														
ICB:													XXXXXXXX	
Stone & Webster Engineering Corp 35988- HH1C	3 314768 *	YES	LV5								XXXXXXXX			
Stone & Webster Engineering Corp 35988- BB3B/C	3 314769 *	YES	LV5							1.8 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- BB2B	3 314770 *	YES	LV5							2.9	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- BB3D	3 314771 *	YES	LV5							1.9 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- BT2D	3 314772 *	YES	LV5							1.5 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- HH4D	3 314773 *	YES	LV5							1.8 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- BB1D	3 314774 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BD1A	3 314775 *	YES	LV5								4.0			
CCV: Stk 1216.68.8 Rep 3										0.24	0.05		0.25	
CCB: _____ Rep 3										<0.05	0.05		XXXXXXXX	
													XXXXXXXX	

TRIMATRIX LABORATORIES, INC.

0001136

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 4.0
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 293025
Owner: JLB
Batch Opened Date: 9-11-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____														
ICB: _____													XXXXXXXX	
Stone & Webster Engineering Corp 35988- HH1C	3 314768 *	YES	LV5										XXXXXXXX	
Stone & Webster Engineering Corp 35988- BB3B/C	3 314769 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BB2B	3 314770 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BB3D	3 314771 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BT2D	3 314772 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- HH4D	3 314773 *	YES	LV5								4.0			
Stone & Webster Engineering Corp 35988- BB1D	3 314774 *	YES	LV5							1.6 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- BD1A	3 314775 *	YES	LV5							2.0 J	~~4.0~~ 2.3			
										2.7	~~4.0~~ 2.3			
CCV: Stk _____ Rep ___														
CCB: _____ Rep ___													XXXXXXXX	
													XXXXXXXX	

0001377

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL
Ref. Cit.: USARMY BR&D Lab

ODL: 4.0
Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296024
Owner: JLB
Batch Opened Date: 9-11-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client / Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk														
ICB:													XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 BD1B	314776 *	YES	LV5							1.6 J	~~4.0~~ 2.3		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 BD4D	314777 *	YES	LV5							1.9 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- 3 BD3C	314778 *	YES	LV5							2.3 J	~~4.0~~ 2.3			

JLB 9-18-02

CCV: Stk W6.68.8	Rep 4									0.26			0.25	
CCB:	Rep 4									<0.05			XXXXXXXX	

TRIMATRIX LABORATORIES, INC.

000138

15m7 J66t15m7 J66t

JLB 9-19-02

2002-SEP-18 17:15

BATCH DETAIL REPORT -- INORGANIC LABORATORY

ANALYTICAL BATCH # 191298

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
191298	11-SEP-02	JLB	1	NO	YES	NC/AUTOAN/WTR	WATER	USARMY BR&D Lab	19	1	1	1	4	4

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc		Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	09/11/02	JLB		WATER	0.05		0.24		0.25	NITROCELLULOSE	ICV- 1	96						USARMY BR&D Lab
v	2.000	-	-	09/11/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	ICB- 1	0						USARMY BR&D Lab
v	3.000	-	-	09/11/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	BLK- 1	0						USARMY BR&D Lab
v	4.000	-	-	09/11/02	JLB		WATER	0.05		0.26		0.25	NITROCELLULOSE	LCS- 1	104						USARMY BR&D Lab
v	5.000	-	191298-111	09/11/02	JLB		SOIL	4.0		<4.0			NITROCELLULOSE	MPB- 1	0						USARMY BR&D Lab
v	6.000	-	191298-111	09/11/02	JLB		SOIL	4.0		35		39	NITROCELLULOSE	LFB- 1	90						USARMY BR&D Lab
v	7.000	-	-	09/11/02	JLB		WATER	0.049		0.049		0.05	NITROCELLULOSE	CRL- 1	98						USARMY BR&D Lab
v	8.000	-	-	09/11/02	JLB		WATER	0.05		0.24		0.25	NITROCELLULOSE	CCV- 1	96						USARMY BR&D Lab
v	9.000	-	-	09/11/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 1	0						USARMY BR&D Lab
v	10.000	-	191298-111	09/11/02	JLB	314760	SOIL	2.3		1.4		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	11.000	- 10	191298-111	09/11/02	JLB	314760	SOIL	2.3	1.4	1.4			NITROCELLULOSE	DUP- 1	0						USARMY BR&D Lab
v	12.000	- 10	191298-111	09/11/02	JLB	314760	SOIL	2.3	1.4	16		39	NITROCELLULOSE	SPK- 1	37						USARMY BR&D Lab
v	13.000	-	191298-111	09/11/02	JLB	314761	SOIL	2.3		2.4			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	14.000	-	191298-111	09/11/02	JLB	314762	SOIL	2.3		1.8		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	15.000	-	-	09/11/02	JLB		WATER	0.05		0.24		0.25	NITROCELLULOSE	CCV- 2	96						USARMY BR&D Lab
v	16.000	-	-	09/11/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 2	0						USARMY BR&D Lab
v	17.000	-	191298-111	09/11/02	JLB	314763	SOIL	2.3		1.7		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	18.000	-	191298-111	09/11/02	JLB	314764	SOIL	2.3		1.7		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	19.000	-	191298-111	09/11/02	JLB	314765	SOIL	2.3		1.8		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	20.000	-	191298-111	09/11/02	JLB	314766	SOIL	2.3		4.1			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	21.000	-	191298-111	09/11/02	JLB	314767	SOIL	2.3		2.2		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	22.000	-	191298-111	09/11/02	JLB	314768	SOIL	2.3		1.8		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	23.000	-	191298-111	09/11/02	JLB	314769	SOIL	2.3		2.9			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	24.000	-	191298-111	09/11/02	JLB	314770	SOIL	2.3		1.9		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	25.000	-	191298-111	09/11/02	JLB	314771	SOIL	2.3		1.5		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	26.000	-	191298-111	09/11/02	JLB	314772	SOIL	2.3		1.8		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	27.000	-	-	09/11/02	JLB		WATER	0.05		0.24		0.25	NITROCELLULOSE	CCV- 3	96						USARMY BR&D Lab
v	28.000	-	-	09/11/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 3	0						USARMY BR&D Lab
v	29.000	-	191298-111	09/11/02	JLB	314773	SOIL	2.3		1.6		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	30.000	-	191298-111	09/11/02	JLB	314774	SOIL	2.3		2.0		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	31.000	-	191298-111	09/11/02	JLB	314775	SOIL	2.3		2.7			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	32.000	-	191298-111	09/11/02	JLB	314776	SOIL	2.3		1.6		J	NITROCELLULOSE	REG- 1							USARMY BR&D Lab

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc		Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	33.000	-	191298-111	09/11/02	JLB	314777	SOIL	2.3		1.9	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	34.000	-	191298-111	09/11/02	JLB	314778	SOIL	2.3		2.3			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	35.000	-	-	09/11/02	JLB		WATER	0.05		0.26		0.25	NITROCELLULOSE	CCV- 4	104	---	---	---			USARMY BR&D Lab
v	36.000	-	-	09/11/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 4	0						USARMY BR&D Lab

Nitrocellulose Worksheet

TriMatrix Laboratories, Inc.

Sample Number	weight grams	volume mls	N-NO2 mg/L	% Solids	N-NO2 mg/kg-dry	**Nitrocellulose-NO2 mg/kg-dry**
MDL1	10	100	0.0492	100	0.492	**3.876**
MDL2	10	100	0.0488	100	0.488	**3.845**
MDL3	10	100	0.0488	100	0.488	**3.845**
MDL4	10	100	0.0492	100	0.492	**3.876**
MDL5	10	100	0.0493	100	0.493	**3.884**
MDL6	10	100	0.0561	100	0.561	**4.420**
MDL7	10	100	0.0531	100	0.531	**4.184**
MPB	10	100	0.01	100	0.100	**0.788**
LFB 1	10	100	0.4407	100	4.407	**34.722**
LFB 2	10	100	0.4234	100	4.234	**33.359**
LFB 3	10	100	0.4303	100	4.303	**33.902**
LFB 4	10	100	0.4481	100	4.48	**35.305**
314760	10	100	0.0177	100	0.18	**1.395**
314760DUP	10	100	0.0179	100	0.18	**1.410**
314760SPK	10	100	0.1971	100	1.97	**15.529**
314761	10	100	0.0301	100	0.30	**2.372**
314762	10	100	0.0223	99	0.23	**1.775**
314763	10	100	0.0215	100	0.22	**1.694**
314764	10	100	0.0206	97	0.21	**1.673**
314765	10	100	0.0221	98	0.23	**1.777**
314766	10	100	0.0495	96	0.52	**4.063**
314767	10	100	0.0279	98	0.28	**2.243**
314768	10	100	0.0223	98	0.23	**1.793**
314769	10	100	0.0355	98	0.36	**2.854**
314770	10	100	0.0235	98	0.24	**1.889**
314771	10	100	0.0182	98	0.19	**1.463**
314772	10	100	0.0231	99	0.23	**1.838**
314773	10	100	0.0204	98	0.21	**1.640**
314774	10	100	0.0243	97	0.25	**1.974**
314775	10	100	0.0333	98	0.34	**2.677**
314776	10	100	0.0203	98	0.21	**1.632**
314777	10	100	0.0238	98	0.24	**1.913**
314778	10	100	0.0292	100	0.29	**2.301**

0.705 MDL

Nitrocellulose Worksheet

TriMatrix Laboratories, Inc.

					#VALUE!	#VALUE!
MDL AMT	10	100	0.05	100	0.50	3.939
LFB AMT	10	100	0.5	100	5.00	39.394
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#VALUE!	#VALUE!
					#DIV/0!	#DIV/0!
LFB SPK AMT	5	50	0.5	100	5.00	39.394
)05052 PK AM	4.6604	50	0.5	100	5.36	42.265
05325 SPK AM	5.1417	50	0.5	100	4.86	38.308
05346 SPK AM	4.6366	50	0.5	100	5.39	42.482
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
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					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!

11/Sep/02 10:23:12

[redacted]

520.0nm	0.358A

No.	Conc.	ABS
1	0.0000	0.000
2	0.0100	0.003
3	0.0500	0.028
4	0.1000	0.057
5	0.2500	0.169
6	0.5000	0.358

No.	ABS

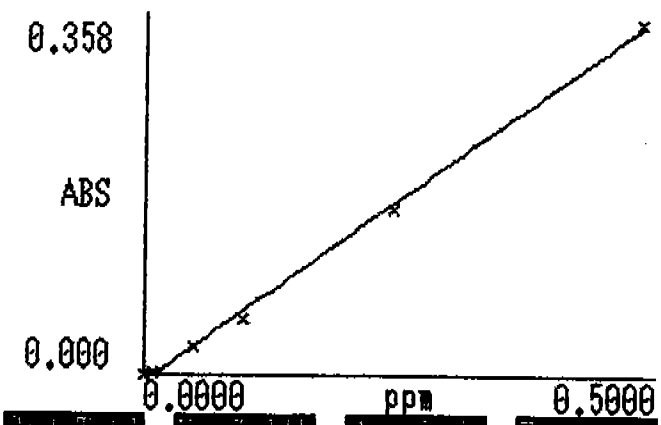
[redacted] [redacted] [redacted] [redacted]

Nitrocellulose
JB
9-11-02

11/Sep/02 10:23:31

[redacted]

520.0nm	-0.038A



[redacted] [redacted] [redacted] [redacted]

11/Sep/02 10:23:45

[redacted]

$$ABS = K3C^3 + K2C^2 + K1C + K0$$

K3 = 0.0000

K2 = 0.0000

K1 = 0.7222

K0 = -0.0072

r^2 = 0.9984

Nitrocellulose 9-11-02 JWB

~~2~~	~~0.169~~	~~0.2446~~	~~JWB 9/11/02~~
1	0.169	0.2446	ICV
2	0.001	0.0108	ICB
3	0.001	0.0111	BLK
4	0.182	0.2615	LCS
5	0.028	0.0487	CRL
6	0.028	0.0492	MDL1
7	0.028	0.0488	2
8	0.028	0.0488	3
9	0.028	0.0492	4
10	0.028	0.0493	5
11	0.033	0.0561	6
12	0.031	0.0531	7
13	0.169	0.2439	CCV1
14	0.001	0.0113	CCB1
15	0.000	0.0100	MPB
16	0.311	0.4407	LFB1
17	0.299	0.4234	2
18	0.304	0.4303	3
19	0.316	0.4481	4
20	0.006	0.0177	314760
21	0.006	0.0179	314760 dup
22	0.135	0.1971	314760 spk
23	0.015	0.0301	314761
JWB 9/11/02 ~~24~~	~~0.014~~	~~0.0297~~	
24	0.009	0.0223	314762
25	0.168	0.2427	CCV2
26	0.001	0.0113	CCB2
27	0.008	0.0215	314763
28	0.008	0.0206	314764
29	0.009	0.0221	314765
30	0.029	0.0495	314766
31	0.013	0.0279	314767
32	0.009	0.0223	314768
33	0.018	0.0355	314769
34	0.010	0.0235	314770
35	0.006	0.0182	314771
36	0.010	0.0231	314772
37	0.168	0.2422	CCV3
38	0.003	0.0144	CCB3
39	0.008	0.0204	314773
40	0.010	0.0243	314774
41	0.017	0.0333	314775
42	0.007	0.0203	314776
43	0.010	0.0238	314777
44	0.014	0.0292	314778
45	0.182	0.2620	CCV4
46	0.002	0.0123	CCB4

all samples
10g → 100mL
(took 2mL of this)

Shimadzu

Test: Nitrocellulose Date: 9-11-02 Operator: JWB

1.	ICV	21.	314760 dup
2.	ICB	22.	314760 SPK
3.	BLK	23.	314761
4.	LCS	24.	314762
5.	crdl 0.05	25.	CCV 2
6.	MDL 1	26.	CCB 2
7.	2	27.	314763
8.	3	28.	314764
9.	4	29.	314765
10.	5	30.	314766
11.	6	31.	314767
12.	~~7 CCV~~ MDL 7 (0.05)	32.	314768
13.	~~LFB m~~ JWB CCV	33.	314769
14.	CCV 1	34.	314770
15.	CCB 1	35.	314771
16.	MPB	36.	314772
17.	LFB 1	37.	CCV 3
18.	2	38.	CCB 3
19.	3	39.	314773
20.	4	40.	314774

314760

0001 45

Shimadzu

Test:_____ Date:_____ Operator:_____

41.	314775	21.	
42.	314776	22.	
43.	314777	23.	
44.	314778	24.	
45.	CCV 4	25.	
46.	CCB 4	26.	
47.		27.	
8.		28.	
9.		29.	
10.		30.	
11.		31.	
12.		32.	
13.		33.	
14.		34.	
15.		35.	
16.		36.	
17.		37.	
18.		38.	
19.		39.	
20.		40.	

09-SEP-02 WET CHEM PRETREATMENT BENCHSHEET PAGE 1

NMB 9-13-02 PA2 9/17

Due 9-16-02

Test #: 394.01- 540.01
Parameter: INORGANIC PRETREATMENT
Method: MSA/EXC/EXT/SOL
Ref. cit.: MSA 33-3.2

Thermometer #: ____ | ____
Initial Deg C: ____ | ____
Final Deg C: ____ | ____

Est anal hrs: 9.5
Act anal hrs: _____
Stock std #: _____

Owner: NB
Date run: 9-10-02
Supervisor:
QC Batch #: 190983-110

Comments: _____

Client Submittal Location	Sample	COC	QC	Anl. (90sol.)	Date Treated	Initial wt/vol	Final wt/vol	Interference	chk/val	Interference	chk/val	Qu
Stone & Webster Engineering Corp 35988- RH8E	3 314760 *	YES	LV5	100		10.0g (was 10g)	100mL					
Stone & Webster Engineering Corp 35988- RH6F	3 314761 *	YES	LV5	100		10.1						
Stone & Webster Engineering Corp 35988- BL6B	3 314762 *	YES	LV5	99		10.0						
Stone & Webster Engineering Corp 35988- HH4B	3 314763 *	YES	LV5	100		10.0						
Stone & Webster Engineering Corp 35988- BL2A	3 314764 *	YES	LV5	97		10.0						
Stone & Webster Engineering Corp 35988- RH3C	3 314765 *	YES	LV5	98		10.0						
Stone & Webster Engineering Corp 35988- BB5C	3 314766 *	YES	LV5	96		10.9						
Stone & Webster Engineering Corp 35988- BB5A	3 314767 *	YES	LV5	98		10.5						
Stone & Webster Engineering Corp 35988- HH1C	3 314768 *	YES	LV5	98		10.0g	100mL					

	Anl.	Date Treated	Initial wt/vol	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
MPB: _____									
LFB: Stk _____									
SPK1: Stk _____ Smp _____									
SPk2: Stk _____ Smp _____									
DUP: _____ Smp _____									

TRIMATRIX LABORATORIES, INC.

0.076

0001147

Test #: 394.01- 540.01
Parameter: INORGANIC PRETREATMENT
Method: MSA/EXC/EXT/SOL
Ref. cit.: MSA 33-3.2

Thermometer #: ____ | ____
Initial Deg C: ____ | ____
Final Deg C: ____ | ____

Est anal hrs: 9.5
Act anal hrs: ____
Stock std #: ____

Owner: JB
Date run: 9-10-02
Supervisor:
QC Batch #: 190983-110

Comments: ____

Client.....

Submittal Location	Sample	COC	QC	Anl. (90 sol)	Date Treated	Initial wt/vol	Final wt/vol	Interference	chk/val	Interference	chk/val	Qu
Stone & Webster Engineering Corp 35988- BB3B/C	3 314769 *	YES	LV5	98		10.0g	100ml					
Stone & Webster Engineering Corp 35988- BB2B	3 314770 *	YES	LV5	98		10.4g						
Stone & Webster Engineering Corp 35988- BB3D	3 314771 *	YES	LV5	98		10.0						
Stone & Webster Engineering Corp 35988- BT2D	3 314772 *	YES	LV5	99		11.0						
Stone & Webster Engineering Corp 35988- HH4D	3 314773 *	YES	LV5	98		10.4						
Stone & Webster Engineering Corp 35988- BB1D	3 314774 *	YES	LV5	97		10.0						
Stone & Webster Engineering Corp 35988- BD1A	3 314775 *	YES	LV5	98		9.9						
Stone & Webster Engineering Corp 35988- BD1B	3 314776 *	YES	LV5	98		10.6						
Stone & Webster Engineering Corp 35988- BD4D	3 314777 *	YES	LV5	98		10.6g	100ml					

	Anl.	Date Treated	Initial wt/vol	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
MPB: ____									
LFB: Stk ____									
SPK1: Stk ____ Smp ____									
SPk2: Stk ____ Smp ____									
DUP: ____ Smp ____									

Test #: 394.01- 540.01
Parameter: INORGANIC PRETREATMENT
Method: MSA/EXC/EXT/SOL
Ref. cit.: MSA 33-3.2

Thermometer #: ____ | ____
Initial Deg C: ____ | ____
Final Deg C: ____ | ____

Est anal hrs: 9.5
Act anal hrs: ____
Stock std #: ____

Owner: JWB
Date run: 9-10-02
Supervisor:
QC Batch #: 190185-110

Comments: _____

Client Submittal Location	Sample	COC	QC	Anl. (90501)	Date Treated	Initial wt/vol	Final wt/vol	Interference	chk/val	Interference	chk/val	Qu
Stone & Webster Engineering Corp 35988- 3 BD3C	314778 *	YES	LV5	100		10.8 g	100mL					

	Anl.	Date Treated	Initial wt/vol	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
MPB:									
LFB: Stk									
SPK1: Stk ____ Smp ____									
SPk2: Stk ____ Smp ____									
DUP: ____ Smp ____									

000149

15m7 J66t15m7 J66t

JLB 9-18-02 LVS

2002-SEP-17 15:48 BATCH DETAIL REPORT -- INORGANIC LABORATORY ANALYTICAL BATCH # 190983 PAGE 1 OF 1

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
190983	10-SEP-02	JLB	1	NO	YES	MSA/EXC/EXT/SOL	SOIL	MSA 33-3.2	0	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-110	09/10/02	JLB	314760	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	2.000	-	-110	09/10/02	JLB	314761	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	3.000	-	-110	09/10/02	JLB	314762	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	4.000	-	-110	09/10/02	JLB	314763	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	5.000	-	-110	09/10/02	JLB	314764	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	6.000	-	-110	09/10/02	JLB	314765	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	7.000	-	-110	09/10/02	JLB	314766	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	8.000	-	-110	09/10/02	JLB	314767	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	9.000	-	-110	09/10/02	JLB	314768	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	10.000	-	-110	09/10/02	JLB	314769	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	11.000	-	-110	09/10/02	JLB	314770	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	12.000	-	-110	09/10/02	JLB	314771	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	13.000	-	-110	09/10/02	JLB	314772	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	14.000	-	-110	09/10/02	JLB	314773	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	15.000	-	-110	09/10/02	JLB	314774	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	16.000	-	-110	09/10/02	JLB	314775	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	17.000	-	-110	09/10/02	JLB	314776	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	18.000	-	-110	09/10/02	JLB	314777	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	19.000	-	-110	09/10/02	JLB	314778	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2

000150

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry
Batch: 191218 Lmr 9-17-02

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #: 189
Benchsheet ID: 296045
Owner: JLB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client / Submittal / Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk 1106.68.1										0.49			0.50	
ICB:										<0.05			XXXXXXXX	
													XXXXXXXX	
Stone & Webster Engineering Corp 35988- BD1B	3 314776 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- BD4D	3 314777 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- BD3C	3 314778 *	YES	LV5								0.5			
CCV: Stk ____ Rep ___														
CCB: ____ Rep ___													XXXXXXXX	
													XXXXXXXX	

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Instrument #:
Benchsheet ID: 296045
Owner: JL
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:							<0.05			XXXXXXXX	
LCS: Stk W6.38.16				1X			6.47	0.50		6.93	
SPK1: Stk Smp											
SPK2: Stk Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp										XXXXXXXX	
SPK1: Stk Smp											
SPK2: Stk Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp										XXXXXXXX	
MPB: QCB#										XXXXXXXX	
~~LFB~~ LCS: Stk W6.38.17 QCB#							0.676			0.693	
CRDL: Stk W6.68.4							0.053			0.05	

QC Type	Range	Lower	Upper
DUP	1		20
DUP	2		20
~~LCS~~ (wtr)	1	90	110
~~LFB~~ (wtr)	1	90	110
MSD	1		20
MSD	2		20
SPK	1	71	125

12-SEP-02 INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY PAGE 1

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296043
Owner: JB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
CCV: Stk	W6.68.1		Rep1							0.49			0.50	
CCB:			Rep1							<0.05			XXXXXXXX XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 RH8E	314760 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 RH6F	314761 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BL6B	314762 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 RH4B	314763 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BL2A	314764 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 RH3C	314765 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB5C	314766 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB5A	314767 *	YES	LV5								0.5			
CCV: Stk	W6.68.1		Rep 2							0.50			0.50	
CCB:			Rep 2							<0.05			XXXXXXXX XXXXXXXX	

00015?

12-SEP-02 INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY PAGE 1

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296044
Owner: JB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk_____													XXXXXXXX	
ICB:													XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 RH8E	314760 *	YES	LV5			10.0/100		0.0538	100	0.54	~~0.5~~ 0.25			
Stone & Webster Engineering Corp 35988- 3 RH6F	314761 *	YES	LV5			10.1/100		0.1517	100	1.5	~~0.5~~ 0.25			
Stone & Webster Engineering Corp 35988- 3 BL6B	314762 *	YES	LV5			10.0/100		0.4194	99	4.2	~~0.5~~ 0.25			
Stone & Webster Engineering Corp 35988- 3 HH4B	314763 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BL2A	314764 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 RH3C	314765 *	YES	LV5			10.0/100		0.0955	98	0.97	~~0.5~~ 0.26			
Stone & Webster Engineering Corp 35988- 3 BB5C	314766 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB5A	314767 *	YES	LV5			10.5/100		0.3540	98	3.4	~~0.5~~ 0.26			
CCV: Stk _____ Rep ___													XXXXXXXX	
CCB: _____ Rep ___													XXXXXXXX	

MDL 0.076 – LOQ ×3.333 = 0.25 ~~timeloadis~~ then correct for % solid

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296043
Owner: JJB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____														
ICB: _____													XXXXXXXX XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 HH1C	314768 *	YES	LV5			10.0/100		0.8115	98	8.3	~~0.5~~ 0.26			
Stone & Webster Engineering Corp 35988- 3 BB3B/C	314769 *	YES	LV5			10.0/100		0.7796	98	8.0	~~0.5~~ 0.26			
Stone & Webster Engineering Corp 35988- 3 BB2B	314770 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB3D	314771 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BT2D	314772 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 HH4D	314773 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB1D	314774 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BD1A	314775 *	YES	LV5								0.5			
ICV: Stk WG68-1 Rep 3										0.50			0.50	
CCB: _____ Rep 3										<0.05			XXXXXXXX XXXXXXXX	

12-SEP-02 INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY PAGE 2

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296044
Owner: JWB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____														
ICB:													XXXXXXXX	
Stone & Webster Engineering Corp 35988-3 HH1C	314768 *	YES	LV5								0.5		XXXXXXXX	
Stone & Webster Engineering Corp 35988-3 BB3B/C	314769 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988-3 BB2B	314770 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988-3 BB3D	314771 *	YES	LV5			100/100		0.5017	98	5.1	~~0.5~~ 0.26			
Stone & Webster Engineering Corp 35988-3 BT2D	314772 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988-3 HH4D	314773 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988-3 BB1D	314774 *	YES	LV5			10.0/100		0.1686	97	1.7	~~0.5~~ 0.26			
Stone & Webster Engineering Corp 35988-3 BD1A	314775 *	YES	LV5								0.5			
CCV: Stk WG68.1 Rep 4										0.50			0.50	
CCB: _____ Rep 4										<0.05			XXXXXXXX	

V-by cc

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296043
Owner: JAB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk														
ICB:													XXXXXXXX	
													XXXXXXXX	
Stone & Webster Engineering Corp 35988-BD1B	3 314776 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988-BD4D	3 314777 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988-BD3C	3 314778 *	YES	LV5			10.8/100		0.1709	100	1.6	~~0.5~~ 0.25			
CCV: Stk _____ Rep ___														
CCB: _____ Rep ___													XXXXXXXX	
													XXXXXXXX	

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296045
Owner: JB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client / Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk														
ICB:													XXXXXXXX XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 RH8E	314760 *	YES	LV5				~~5x~~ JB 9/12/02	~~2.2719~~			0.5			
Stone & Webster Engineering Corp 35988- 3 RH6F	314761 *	YES	LV5				~~5x~~ JB 9/12/02	~~4.7284~~			0.5			
Stone & Webster Engineering Corp 35988- 3 BL6B	314762 *	YES	LV5				~~5~~ JB 9/12/02				0.5			
Stone & Webster Engineering Corp 35988- 3 HH4B	314763 *	YES	LV5			10.0/100	5x	2.2719	100	23	~~0.5~~ 1.25			
Stone & Webster Engineering Corp 35988- 3 BL2A	314764 *	YES	LV5			10.0/100	5x	4.7284	97	49	~~0.5~~ 1.3			
Stone & Webster Engineering Corp 35988- 3 RH3C	314765 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB5C	314766 *	YES	LV5			10.9/100	5x	1.2636	96	12	~~0.5~~ 1.3			
Stone & Webster Engineering Corp 35988- 3 BB5A	314767 *	YES	LV5								0.5			
CCV: Stk _____ Rep ___														
CCB: _____ Rep ___													XXXXXXXX XXXXXXXX	

TRIMATRIX LABORATORIES, INC.

000158

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 298045
Owner: WB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk														
ICB:													XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 HH1C	314768 *	YES	LV5								0.5		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 BB3B/C	314769 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB2B	314770 *	YES	LV5			10.4/100	5x	0.9751	98	9.6	ND 9-12-02 0.5 0.26 (1.3)			
Stone & Webster Engineering Corp 35988- 3 BB3D	314771 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BT2D	314772 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 HH4D	314773 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB1D	314774 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BD1A	314775 *	YES	LV5								0.5			
CCV: Stk _____ Rep ___														
CCB: _____ Rep ___													XXXXXXXX	

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY ** QC **

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Instrument #:
Benchsheet ID: 296043
Owner: JLB
Batch Opened Date: 9.10.02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:										XXXXXXXX	
LCS: Stk										XXXXXXXX	
SPK1: Stk Smp											
SPK2: Stk Smp											
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp 314770			10.4/100	5x	0.9928	98	9.7			XXXXXXXX	
SPK1: Stk WS.77.10 Smp 314770			10.4/100	5x	1.4732	98	14			XXXXXXXX	
SPK2: Stk Smp										4.9	
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp										XXXXXXXX	
MPB: QCB#										XXXXXXXX	
LFB: Stk QCB#										XXXXXXXX	
CRDL: Stk											

QC Type	Range	Lower	Upper
DUP	1		20
DUP	2		20
LCS (wtr)	1	90	110
LFB (wtr)	1	90	110
MSD	1		20
MSD	2		20
SPK	1	71	125

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296048
Owner: JWB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk														
ICB:													XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 HH1C	314768 *	YES	LV5								0.5		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 3 BB3B/C	314769 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB2B	314770 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BB3D	314771 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BT2D	314772 *	YES	LV5			11.0/100	5X	1.5535	99	14	1.25			
Stone & Webster Engineering Corp 35988- 3 HH4D	314773 *	YES	LV5			10.1/100	10X	9.8372	98	97	2.6			
Stone & Webster Engineering Corp 35988- 3 BB1D	314774 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 3 BD1A	314775 *	YES	LV5			9.9/100	5X	0.9796	98	10	1.3			
CCV: Stk W6.68.1 Rep 5										0.50			0.50	
CCB: Rep 5										<0.05			XXXXXXXX	

12-SEP-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 296044
Owner: MB
Batch Opened Date: 9-10-02
Supervisor:
Est anal hrs: 19
Act anal hrs:
Samples in batch: 19
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk _____														
ICB: _____													XXXXXXXX	
Stone & Webster Engineering Corp 35988-BD1B	3 314776 *	YES	LV5								0.5		XXXXXXXX	
Stone & Webster Engineering Corp 35988-BD4D	3 314777 *	YES	LV5			10.6/100	5X	2.0111	98	19	NB 1.3			
Stone & Webster Engineering Corp 35988-BD3C	3 ~~314778~~ 314776 *	YES	LV5			10.6/100	20X	11.6245	98	112	0.5 5.2 NB 9-13-02			

CCV: Stk W6.68.1 Rep 6 | | | | | | | | 0.50 | | | 0.50 | |
CCB: _____ Rep 6 | | | | | | | | <0.05 | | | XXXXXXXX | |

0001162

15m7 J66t15m7 J66t

JLB 9-18-02 LVS

2002-SEP-17 18:04 BATCH DETAIL REPORT -- INORGANIC LABORATORY ANALYTICAL BATCH # 191218

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
191218	10-SEP-02	JLB	2	NO	YES	NO3/AUTOAN/WTR	WATER	353.2/4500 NO3F	19	1	1	2	6	6

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	09/10/02	JLB		WATER	0.05		0.49	0.50	NITROGEN, NITRATE	ICV- 1	98	85	115				353.2/4500 NO3F
v	2.000	-	-	09/10/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	ICB- 1	0						353.2/4500 NO3F
v	3.000	-	-	09/10/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	BLK- 1	0						353.2/4500 NO3F
v	4.000	-	-	09/10/02	JLB		WATER	0.50		6.47	6.93	NITROGEN, NITRATE	LCS- 1	93	90	110				353.2/4500 NO3F
v	5.000	-	-	09/10/02	JLB		WATER	0.05		0.676	0.693	NITROGEN, NITRATE	LCS- 2	98	90	110				353.2/4500 NO3F
v	6.000	-	-	09/10/02	JLB		WATER	0.05		0.053	0.05	NITROGEN, NITRATE	CRL- 1	106	77	115				353.2/4500 NO3F
v	7.000	-	-	09/10/02	JLB		WATER	0.05		0.49	0.50	NITROGEN, NITRATE	CCV- 1	98	85	115				353.2/4500 NO3F
v	8.000	-	-	09/10/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	CCB- 1	0						353.2/4500 NO3F
v	9.000	-	-	09/10/02	JLB		WATER	0.05		0.50	0.50	NITROGEN, NITRATE	CCV- 2	100	85	115				353.2/4500 NO3F
v	10.000	-	-	09/10/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	CCB- 2	0						353.2/4500 NO3F
v	11.000	-	190983-110	09/10/02	JLB	314760	SOIL	0.25		0.54		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	12.000	-	190983-110	09/10/02	JLB	314761	SOIL	0.25		1.5		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	13.000	-	190983-110	09/10/02	JLB	314762	SOIL	0.25		4.2		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	14.000	-	190983-110	09/10/02	JLB	314765	SOIL	0.26		0.97		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	15.000	-	190983-110	09/10/02	JLB	314767	SOIL	0.26		3.4		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	16.000	-	190983-110	09/10/02	JLB	314768	SOIL	0.26		8.3		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	17.000	-	190983-110	09/10/02	JLB	314769	SOIL	0.26		8.0		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	18.000	-	-	09/10/02	JLB		WATER	0.05		0.50	0.50	NITROGEN, NITRATE	CCV- 3	100	85	115				353.2/4500 NO3F
v	19.000	-	-	09/10/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	CCB- 3	0						353.2/4500 NO3F
v	20.000	-	190983-110	09/10/02	JLB	314771	SOIL	0.26		5.1		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	21.000	-	190983-110	09/10/02	JLB	314774	SOIL	0.26		1.7		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	22.000	-	-	09/10/02	JLB		WATER	0.05		0.50	0.50	NITROGEN, NITRATE	CCV- 4	100	85	115				353.2/4500 NO3F
v	23.000	-	-	09/10/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	CCB- 4	0						353.2/4500 NO3F
v	24.000	-	190983-110	09/10/02	JLB	314778	SOIL	0.25		1.6		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	25.000	-	190983-110	09/10/02	JLB	314763	SOIL	1.25		23		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	26.000	-	190983-110	09/10/02	JLB	314764	SOIL	1.3		49		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	27.000	-	190983-110	09/10/02	JLB	314766	SOIL	1.3		12		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	28.000	-	190983-110	09/10/02	JLB	314770	SOIL	1.3		9.6		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	29.000	- 28	190983-110	09/10/02	JLB	314770	SOIL	1.3	9.6	9.7		NITROGEN, NITRATE+NITRITE	DUP- 1	1		20				353.2/4500 NO3F
v	30.000	- 28	190983-110	09/10/02	JLB	314770	SOIL	1.3	9.6	14	4.9	NITROGEN, NITRATE+NITRITE	SPK- 1	90	71	125				353.2/4500 NO3F
v	31.000	-	190983-110	09/10/02	JLB	314772	SOIL	1.25		14		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	32.000	-	190983-110	09/10/02	JLB	314773	SOIL	2.6		97		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F

0001623

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	33.000	-	190983-110	09/10/02	JLB	314775	SOIL	1.3		10		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	34.000	-	-	09/10/02	JLB		WATER	0.05		0.50	0.50	NITROGEN, NITRATE	CCV- 5	100	85	115				353.2/4500 NO3F
v	35.000	-	-	09/10/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	CCB- 5	0						353.2/4500 NO3F
v	36.000	-	190983-110	09/10/02	JLB	314777	SOIL	1.3		19		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	37.000	-	190983-110	09/10/02	JLB	314776	SOIL	5.2		112		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	38.000	-	-	09/10/02	JLB		WATER	0.05		0.50	0.50	NITROGEN, NITRATE	CCV- 6	100	85	115				353.2/4500 NO3F
v	39.000	-	-	09/10/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	CCB- 6	0						353.2/4500 NO3F

Creator: Heather Brady
Creation Date: Apr 4, 2002 10:32:37
Last Modified: Apr 24, 2002 12:03:36
Description: no3+no2 calibration

Cup #	Sample ID	Manual Dilution	Sample Type	
1	STD 1	1.0000	CalStd	
2	STD 2	1.0000	CalStd	
3	STD 3	1.0000	CalStd	
4	STD 4	1.0000	CalStd	
5	STD 5	1.0000	CalStd	
6	STD 6	1.0000	CalStd	
7	STD 7	1.0000	CalStd	
8	STD 8	1.0000	CalStd	
9	STD 9	1.0000	CalStd	
10	STD 10	1.0000	CalStd	
11	STD 11	1.0000	CalStd	
12	STD 12	1.0000	CalStd	

Creator: Jodi Blouw
Creation Date: Sep 10, 2002 6:00:46
Last Modified: Sep 10, 2002 6:00:46
Description: None

Cup #	Sample ID	Manual Dilution	Sample Type	
1	blk	1.0000	Unknown	
2	lcs no3 6.93 in6.38.16	1.0000	Unknown	
3	lcs no3 0.693 in6.38.17	1.0000	Unknown	
4	lcs no2 0.50	1.0000	Unknown	
5	crl no3 0.05	1.0000	Unknown	
6	crl no2 0.01	1.0000	Unknown	
7	residential	1.0000	Unknown	

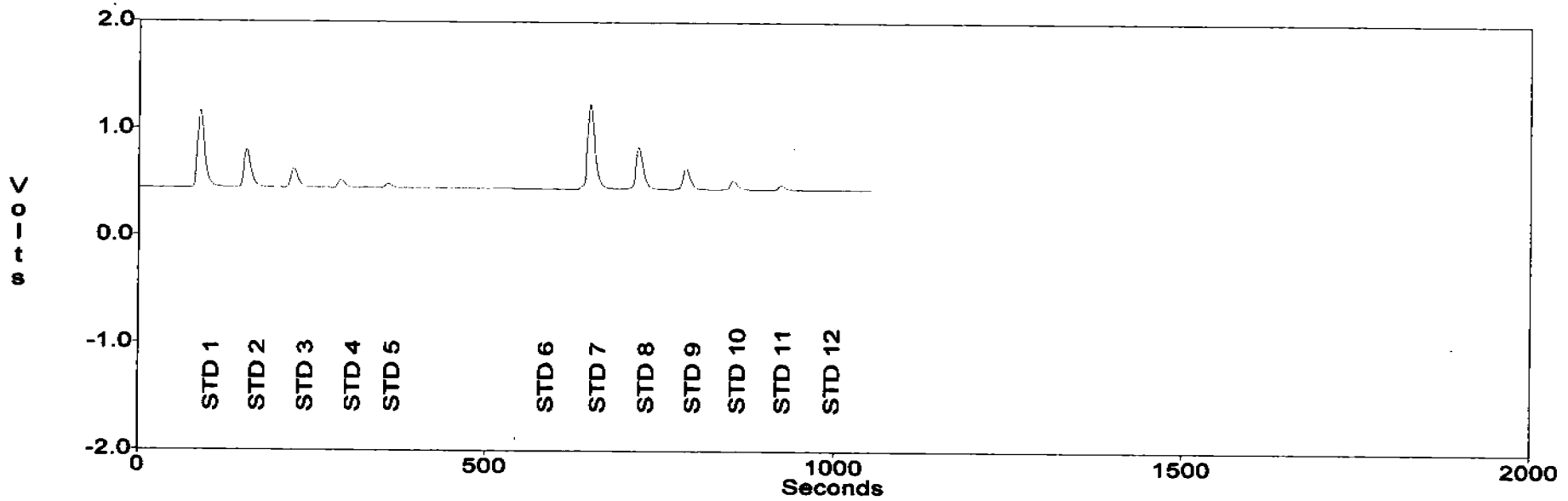
Creator: Jodi Blouw
Creation Date: Sep 10, 2002 6:34:16
Last Modified: Sep 10, 2002 6:34:27
Description: None

Cup #	Sample ID	Manual Dilution	Sample Type	
8	1ppm no3	1.0000	Unknown	
7	residential	1.0000	Unknown	

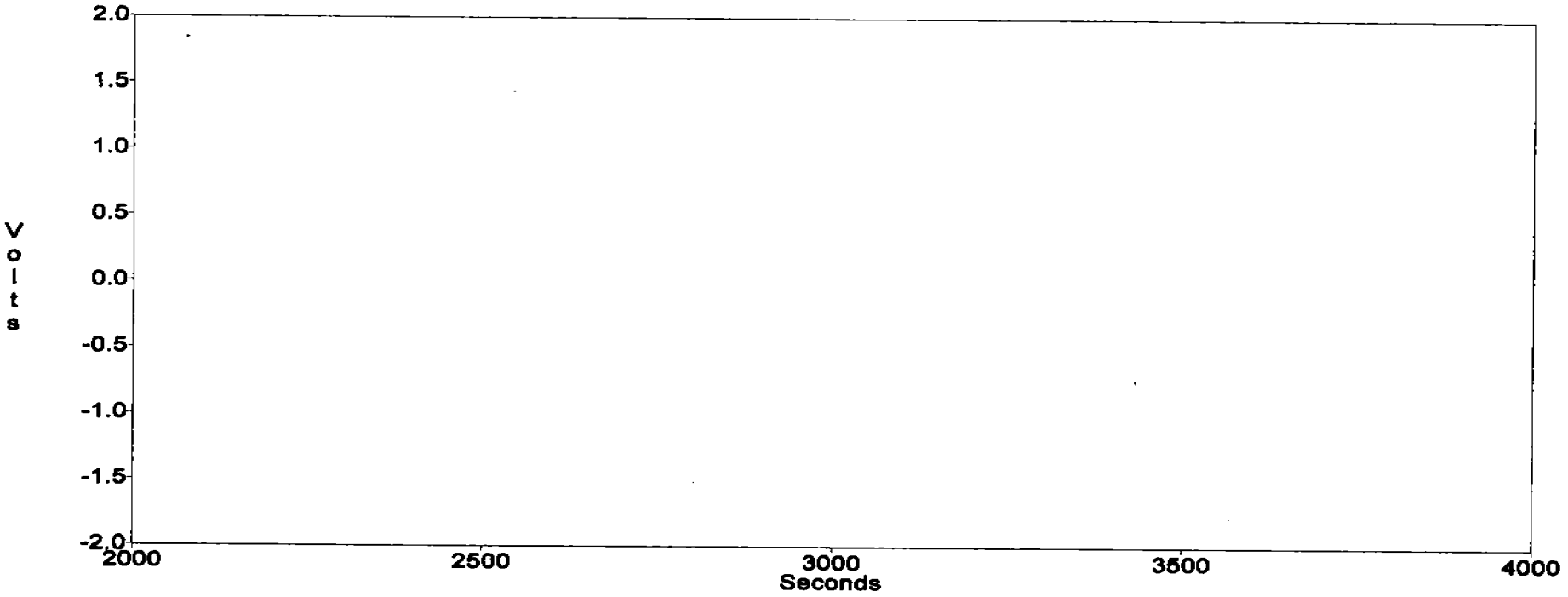
OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002N.FDT
TRAY FILENAME: C:\OMNION\TRAYS\NO3NO2CA.TRA

0001168

Channel 1 - Nitrate+Nitrite



Channel 1 - Nitrate+Nitrite

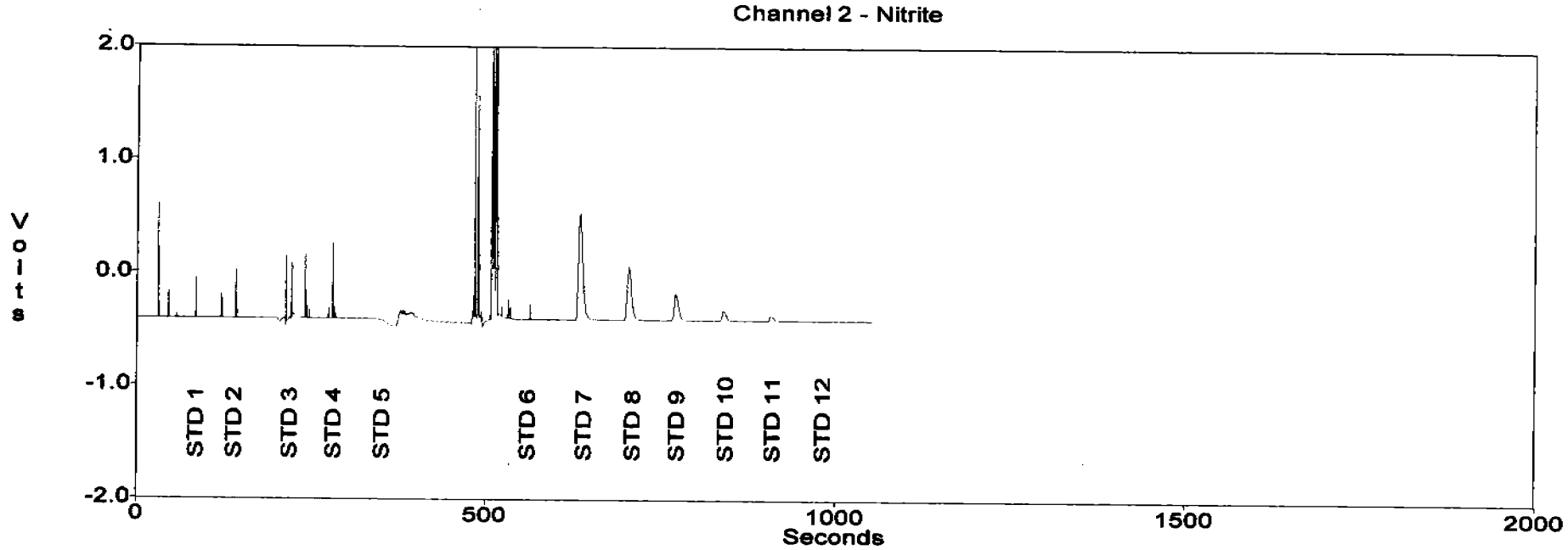


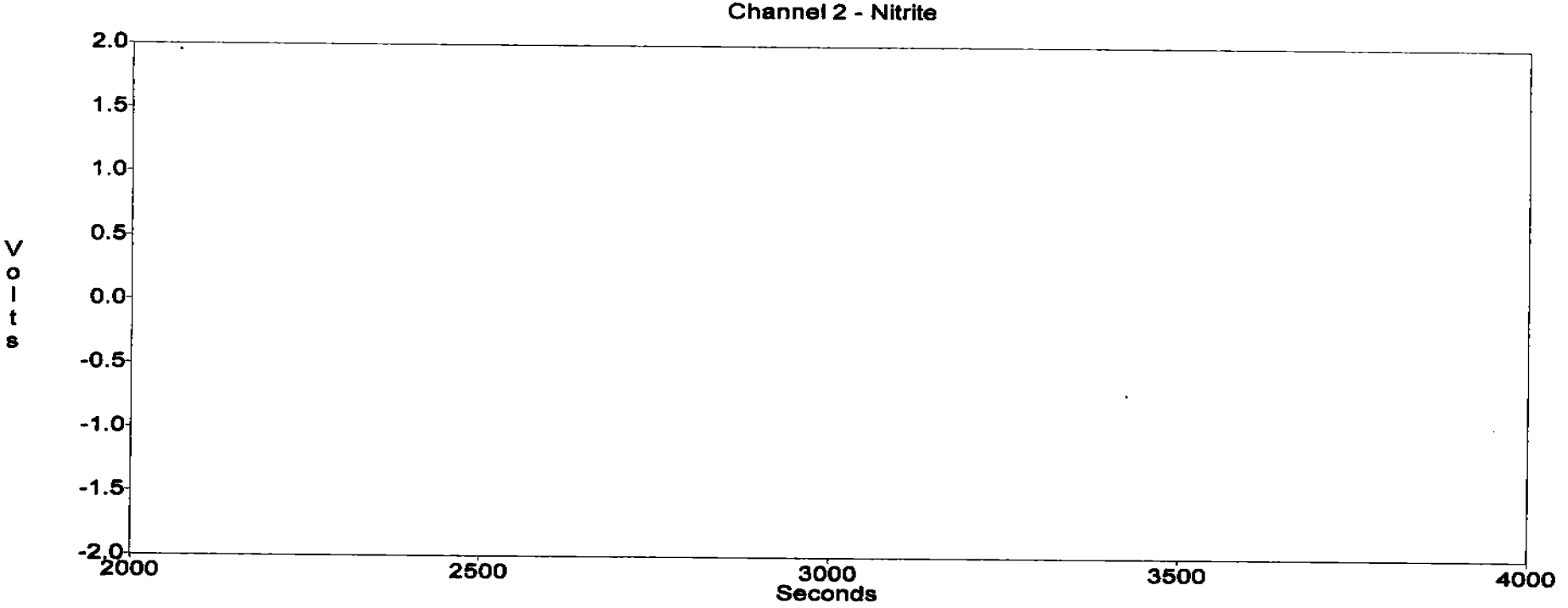
Creator: Jodi Blouw
Creation Date: Sep 10, 2002 10:49:46
Last Modified: Sep 10, 2002 12:08:40
Description: None

Cup #	Sample ID	Manual Dilution	Sample Type	
1	314760 sw	1.0000	Unknown	
2	314761	1.0000	Unknown	
3	314762	1.0000	Unknown	
4	314763	1.0000	Unknown	
5	314764	1.0000	Unknown	
6	314765	1.0000	Unknown	
7	314766	1.0000	Unknown	
8	314767	1.0000	Unknown	
9	314768	1.0000	Unknown	
10	314769	1.0000	Unknown	
11	314770	1.0000	Unknown	
12	314770 dup	1.0000	Unknown	
13	314770 spk	1.0000	Unknown	
14	314771	1.0000	Unknown	
15	314772	1.0000	Unknown	
16	314773	1.0000	Unknown	
17	314774	1.0000	Unknown	
18	314775	1.0000	Unknown	
19	314776	1.0000	Unknown	
20	314777	1.0000	Unknown	
21	314778	1.0000	Unknown	
4	314763	1.0000	Unknown	
5	314764	1.0000	Unknown	
7	314766	1.0000	Unknown	
11	314770	1.0000	Unknown	
12	314770 dup	1.0000	Unknown	
13	314770 spk	1.0000	Unknown	
15	314772	1.0000	Unknown	
16	314773	1.0000	Unknown	
18	314775	1.0000	Unknown	
19	314776	1.0000	Unknown	
20	314777	1.0000	Unknown	
22	1ppm no3	1.0000	Unknown	
23	10ppm no3	1.0000	Unknown	
19	314776	1.0000	Unknown	

OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002N.FDT

000170





OPERATOR: Jodi Blouw
ACQ. TIME: Sep 10, 2002 5:49:59
DATA FILENAME: C:\OMNION\DATA\091002N.FDT

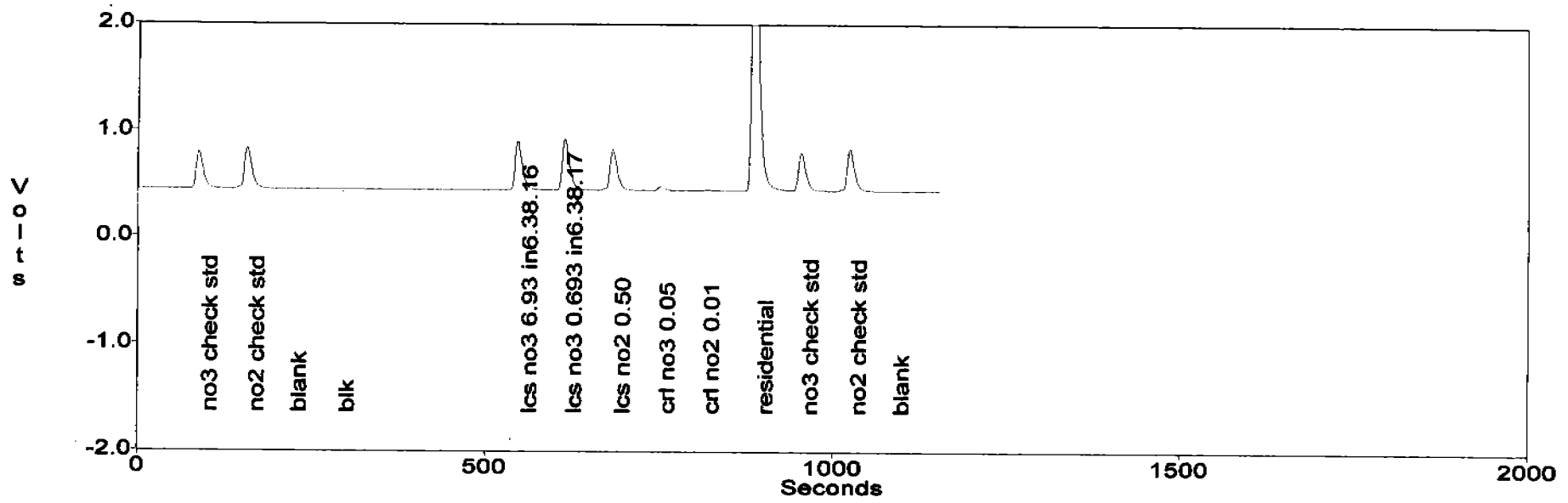
Multi-Channel Table
Type: Calibration Standards
Channel Range: 1 to 8 – Cup Range: 1 to 50

Cup	Sample ID	Sampling Date	Rep #	Nitrate+Nitrite (uv-s)	Nitrite (uv-s)
1	STD 1	10 Sep 2002	1	8662355.000	77534.000
2	STD 2	10 Sep 2002	1	4258119.000	88145.000
3	STD 3	10 Sep 2002	1	2158026.000	901712.000
4	STD 4	10 Sep 2002	1	855626.000	11770.000
5	STD 5	10 Sep 2002	1	455458.000	0.000
6	STD 6	10 Sep 2002	1	0.000	28738.000
7	STD 7	10 Sep 2002	1	9788016.000	6706486.000
8	STD 8	10 Sep 2002	1	4881277.000	3406050.000
9	STD 9	10 Sep 2002	1	2436973.000	1637102.000
10	STD 10	10 Sep 2002	1	981011.000	653134.000
11	STD 11	10 Sep 2002	1	493534.000	331482.000
12	STD 12	10 Sep 2002	1	0.000	0.000

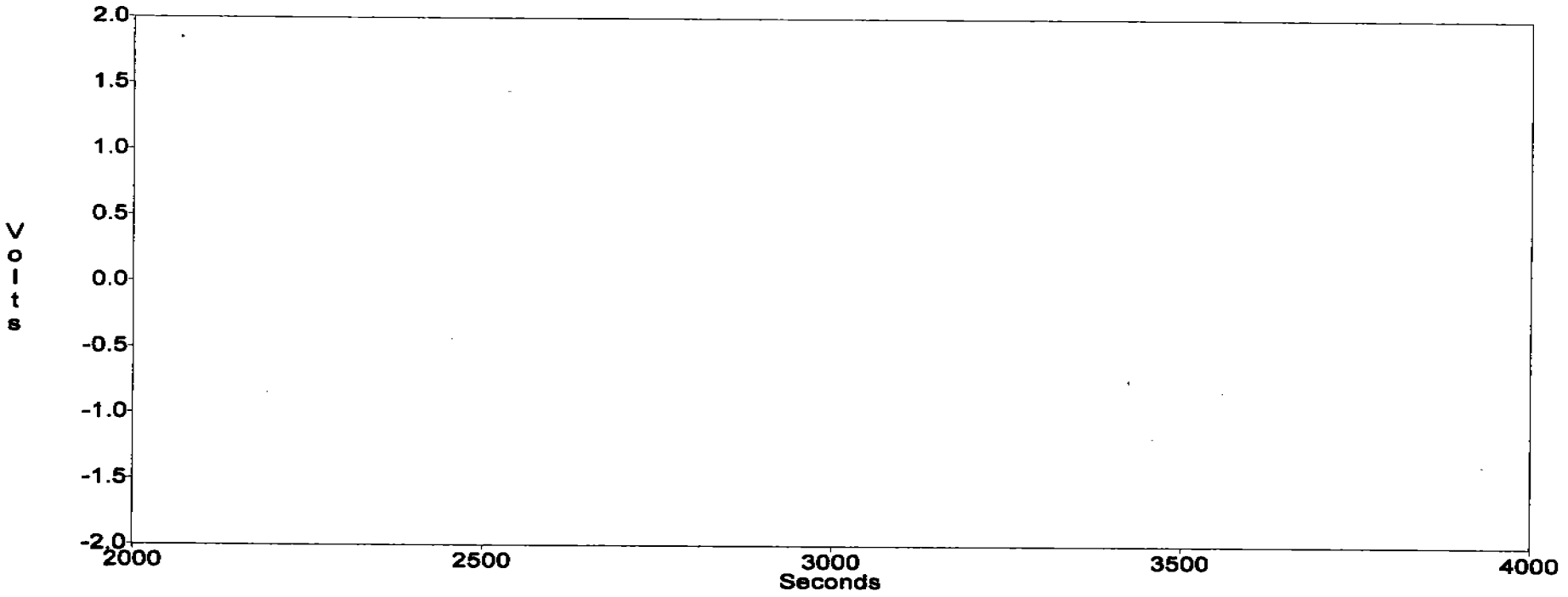
OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NA.FDT
TRAY FILENAME: C:\OMNION\TRAYS\091002NA.TRA

000172

Channel 1 - Nitrate+Nitrite

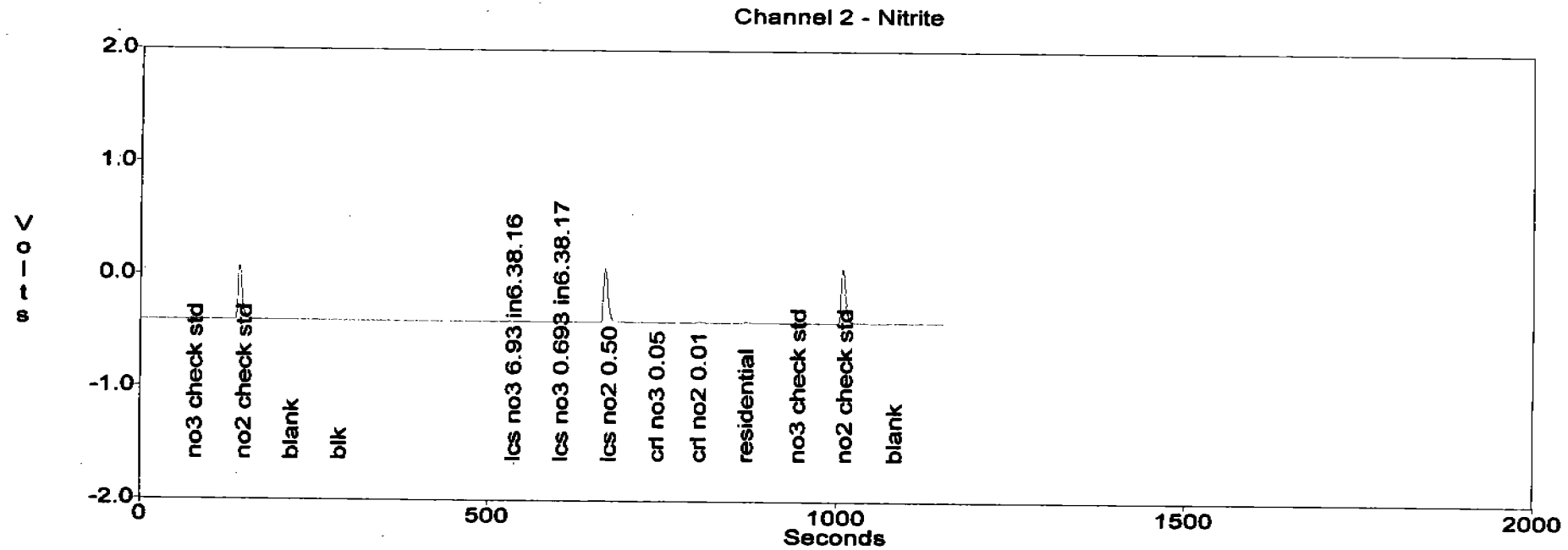


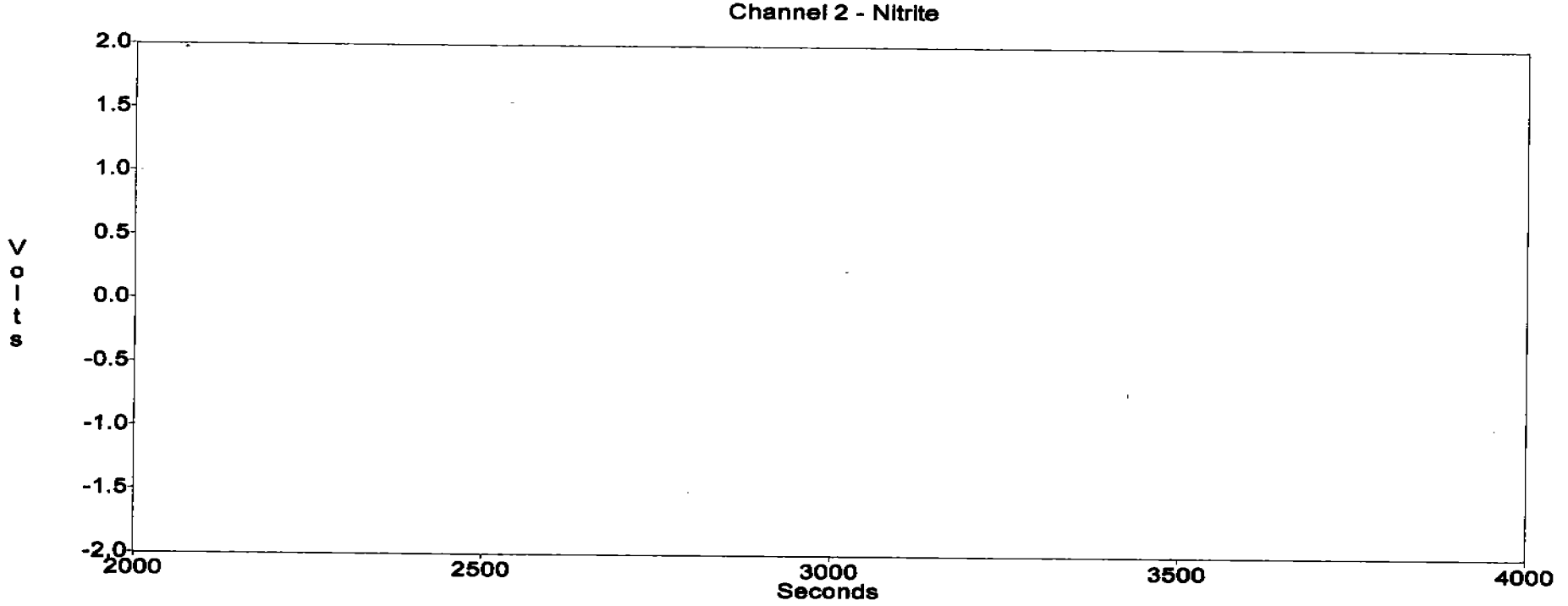
Channel 1 - Nitrate+Nitrite



OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NA.FDT

000173





OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NA.FDT

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 12

Cup	Sample ID	Sample Type	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
2	no3 check st	RelChkStd	10 Sep 2002	1	0.494	0.001	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		-1.253	0.000	
2	no3 check st	RelChkStd	10 Sep 2002	1	0.494	0.001	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		-1.178	0.000	
8	no2 check st	RelChkStd	10 Sep 2002	1	0.568	0.509	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	1.888	
8	no2 check st	RelChkStd	10 Sep 2002	1	0.573	0.508	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	1.581	
12	blank	Blank	10 Sep 2002	1	0.001	0.001	1.00
12	blank	Blank	10 Sep 2002	1	0.001	0.001	1.00

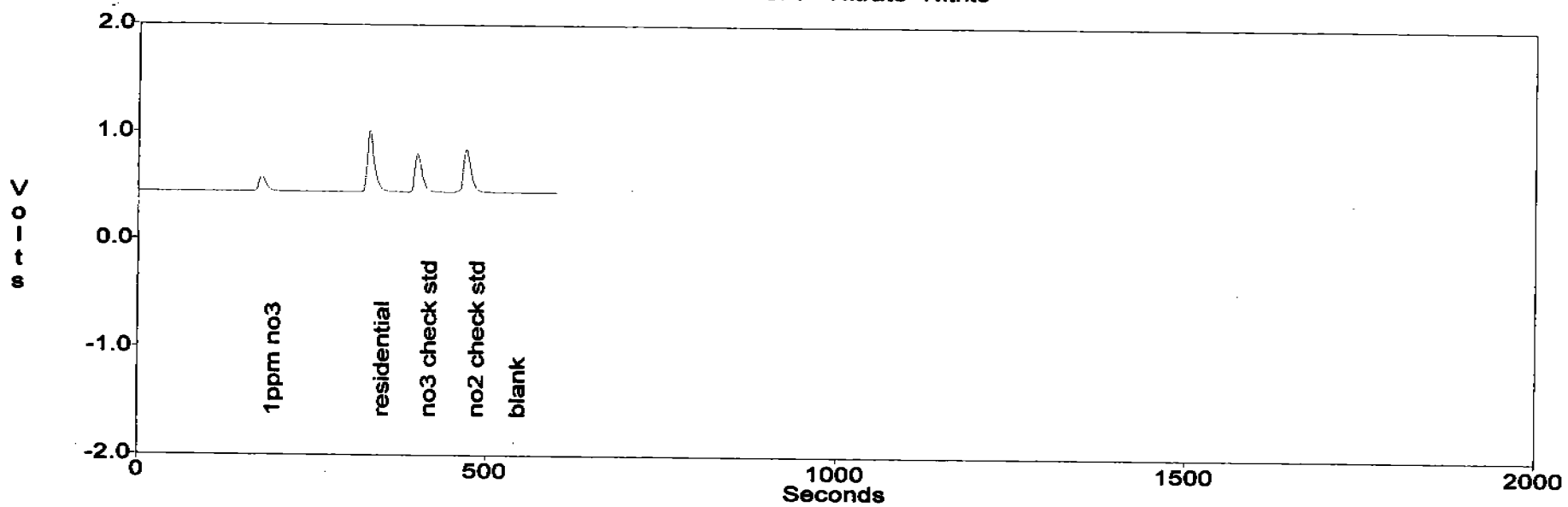
Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 90

Cup	Sample ID	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
1	blk	10 Sep 2002	1	0.001	0.001	1.00
2	lcs no3 6.93 in	10 Sep 2002	1	6.466	0.014	10.00
3	lcs no3 0.693 i	10 Sep 2002	1	0.675	0.001	1.00
4	lcs no2 0.50	10 Sep 2002	1	0.557	0.509	1.00
5	crl no3 0.05	10 Sep 2002	1	0.053	0.001	1.00
6	crl no2 0.01	10 Sep 2002	1	0.011	0.009	1.00
7	residential	10 Sep 2002	1	3.875	0.011	1.00

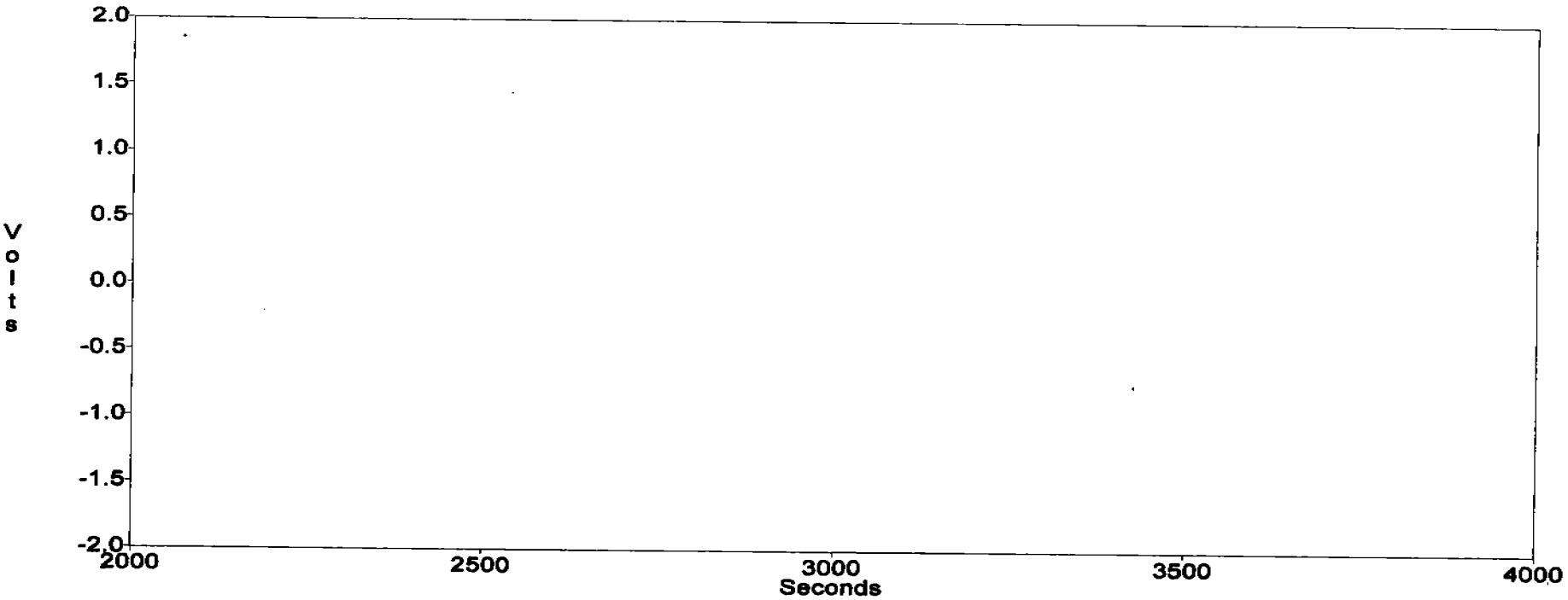
OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NB.FDT
TRAY FILENAME: C:\OMNION\TRAYS\091002NB.TRA

0001176

Channel 1 - Nitrate+Nitrite

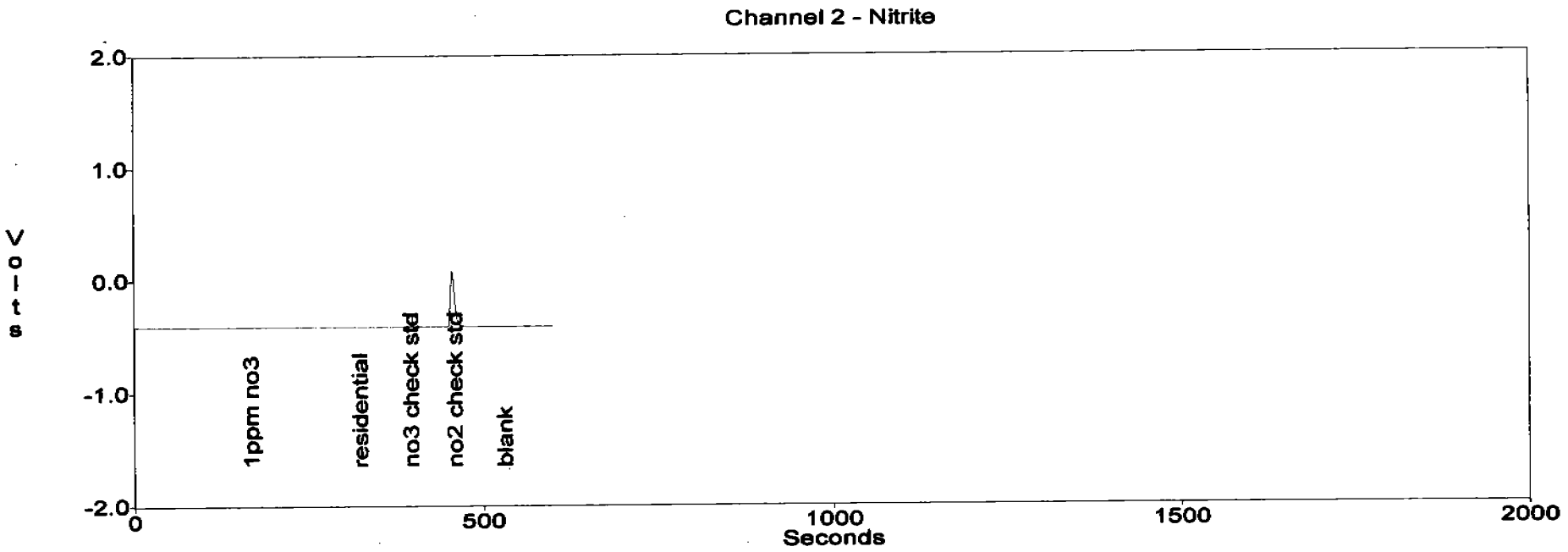


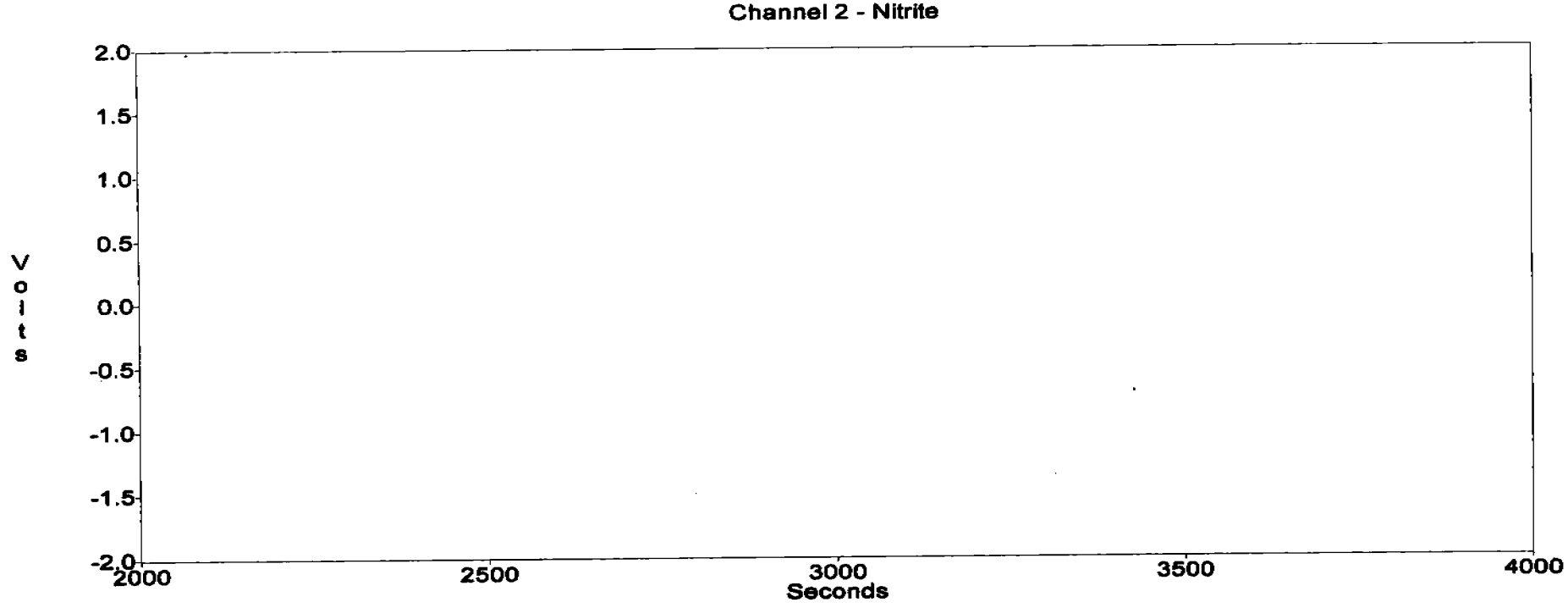
Channel 1 - Nitrate+Nitrite



OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NB.FDT

0001177





OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NB.FDT

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 12

Cup	Sample ID	Sample Type	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
2	no3 check st	RelChkStd	10 Sep 2002	1	0.501	0.005	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		0.102	0.000	
8	no2 check st	RelChkStd	10 Sep 2002	1	0.574	0.511	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	2.270	
12	blank	Blank	10 Sep 2002	1	0.001	0.001	1.00

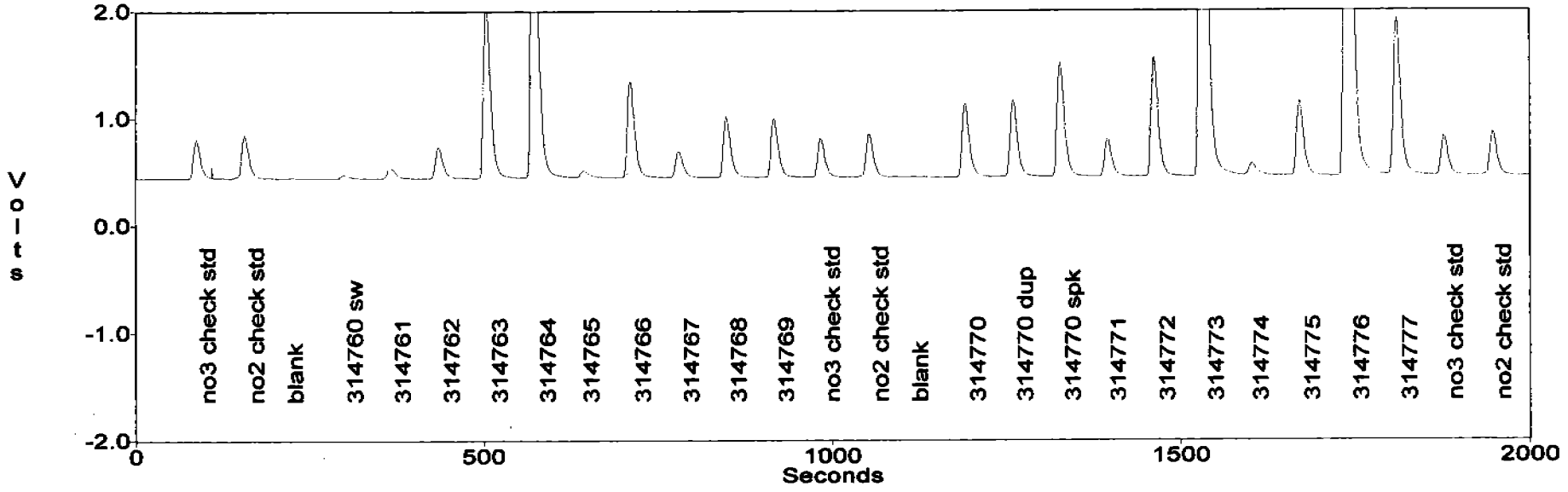
Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 90

Cup	Sample ID	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
7	residential	10 Sep 2002	1	3.962	0.007	5.00
8	1ppm no3	10 Sep 2002	1	0.991	0.007	5.00

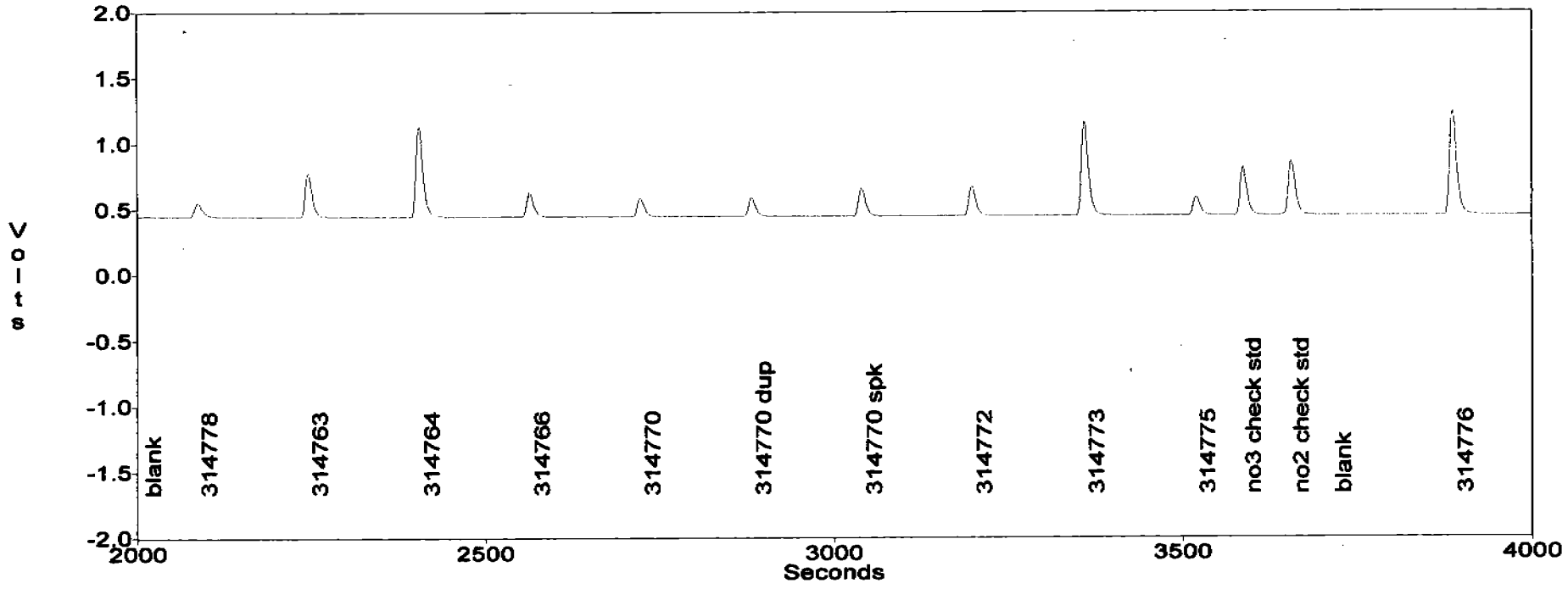
OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NC.FDT
TRAY FILENAME: C:\OMNION\TRAYS\091002NC.TRA

0001130

Channel 1 - Nitrate+Nitrite

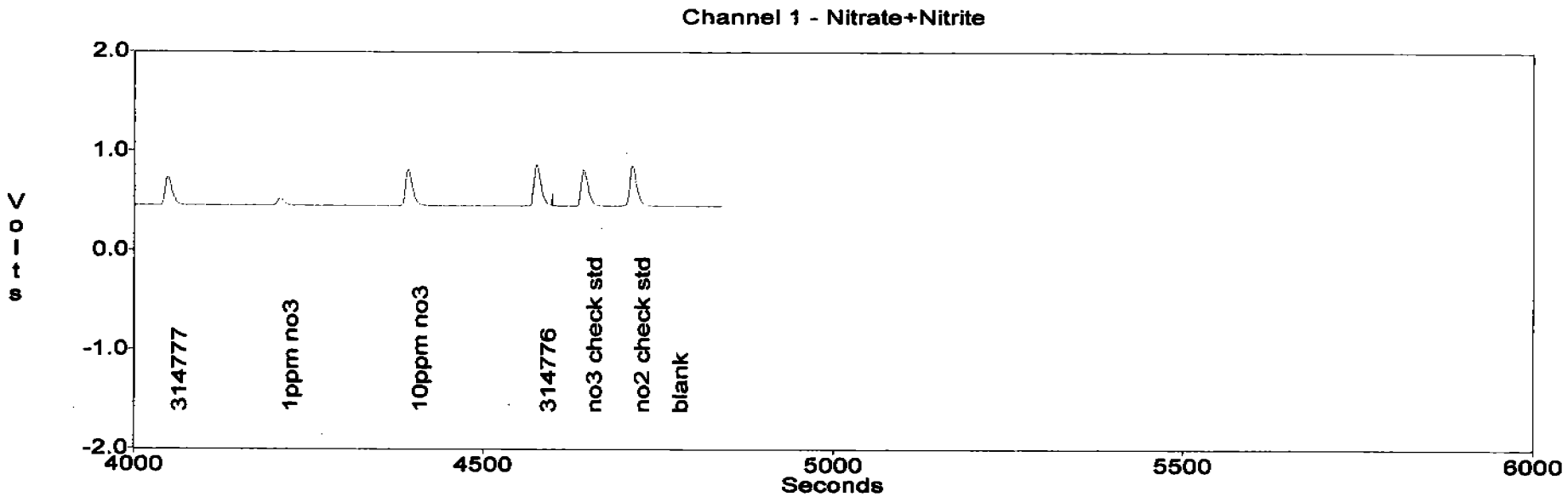


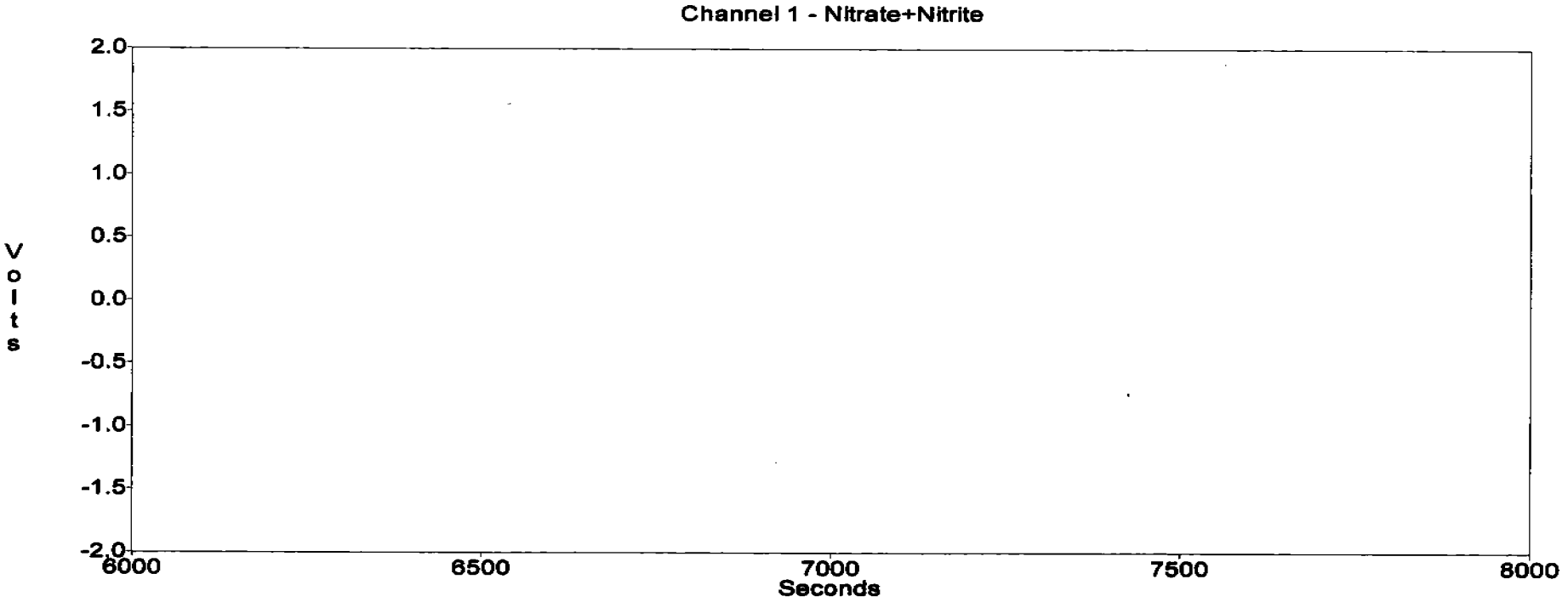
Channel 1 - Nitrate+Nitrite



OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NC.FDT
METHOD FILENAME: C:\OMNION\METHODS\NO3NO2.MET

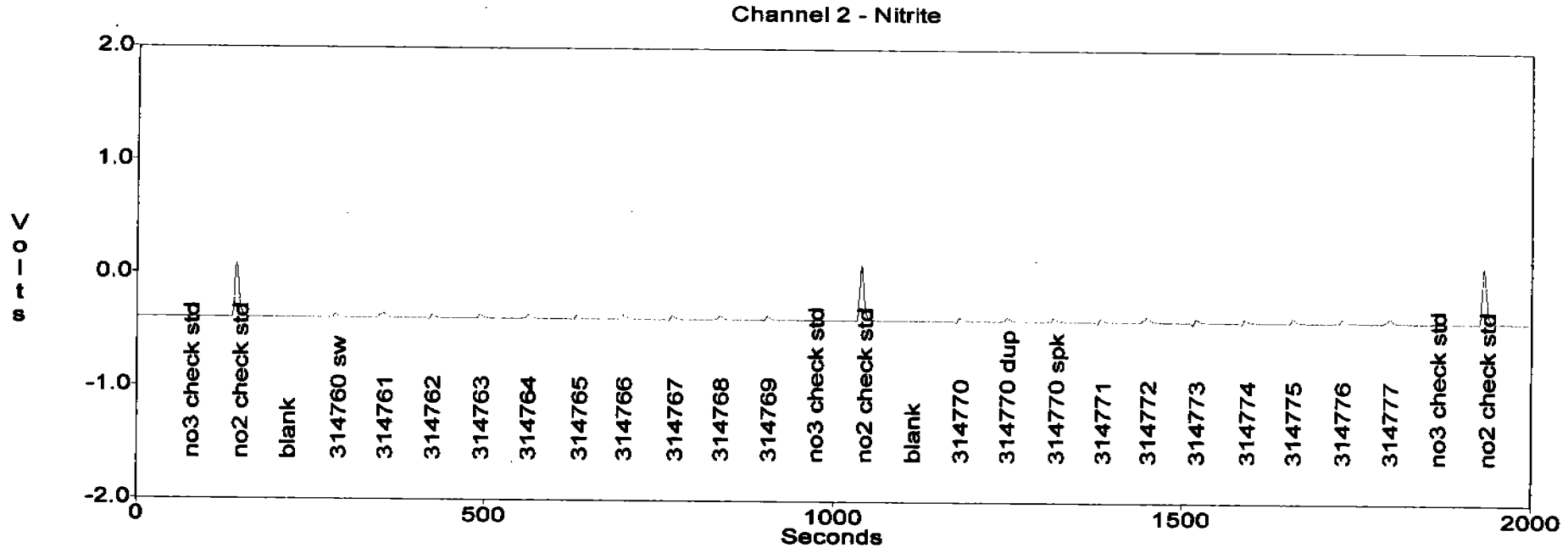
000018

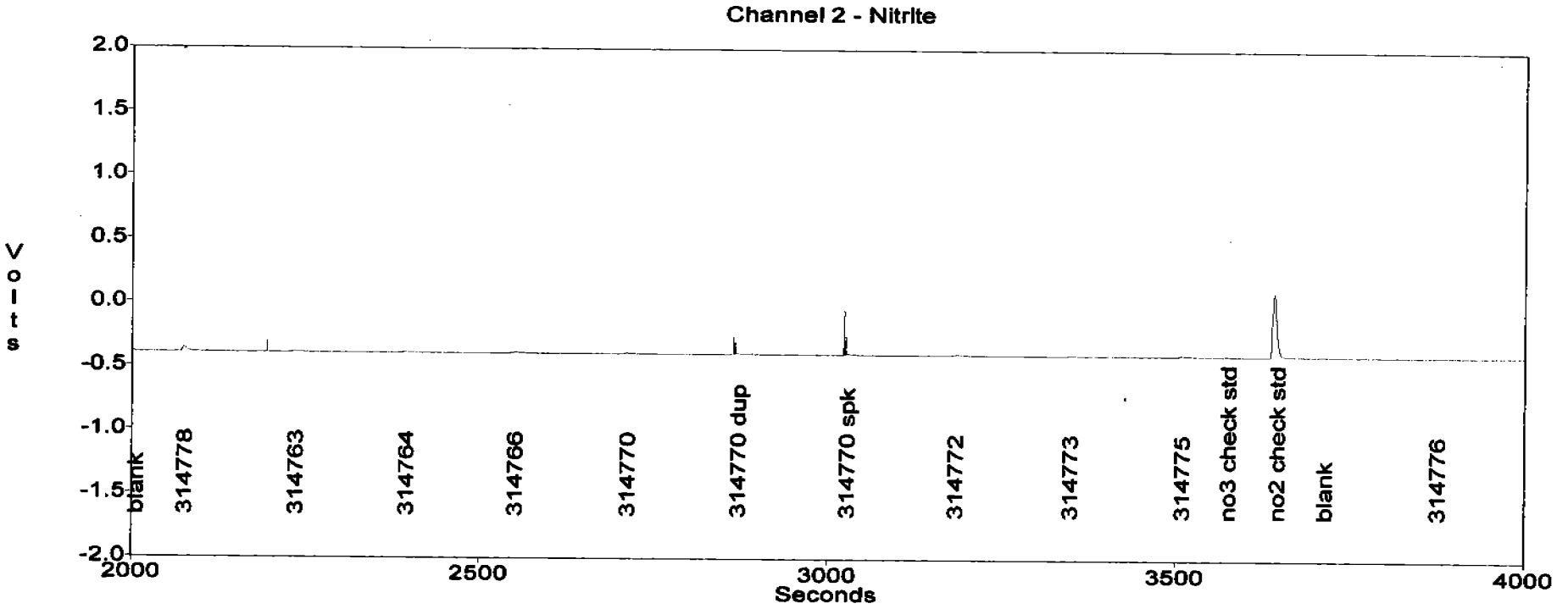




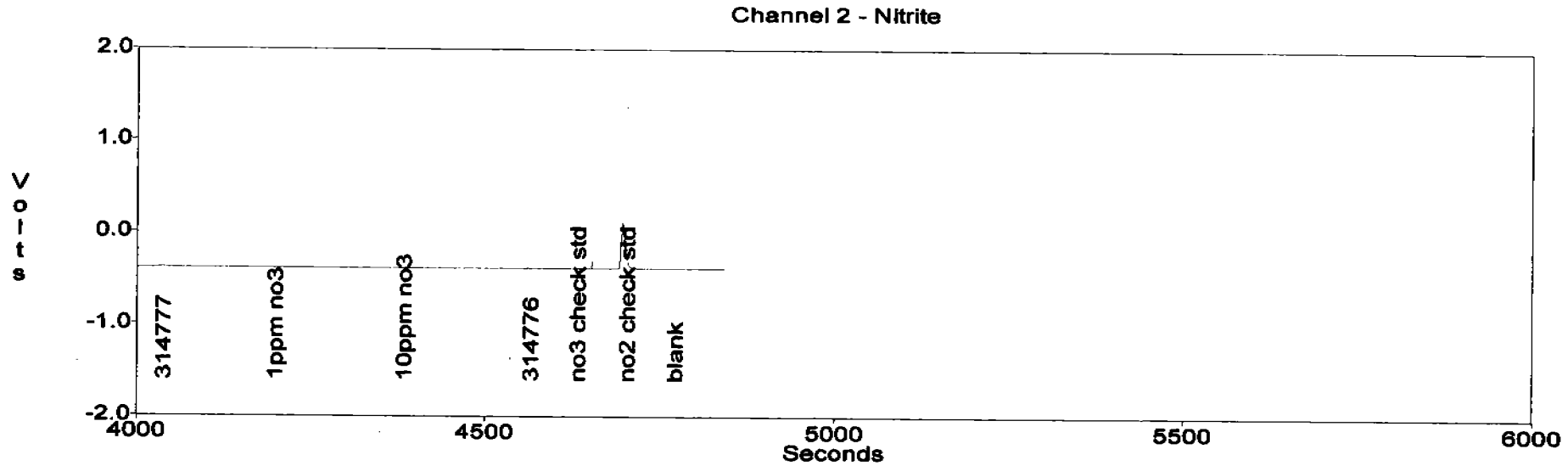
OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NC.FDT

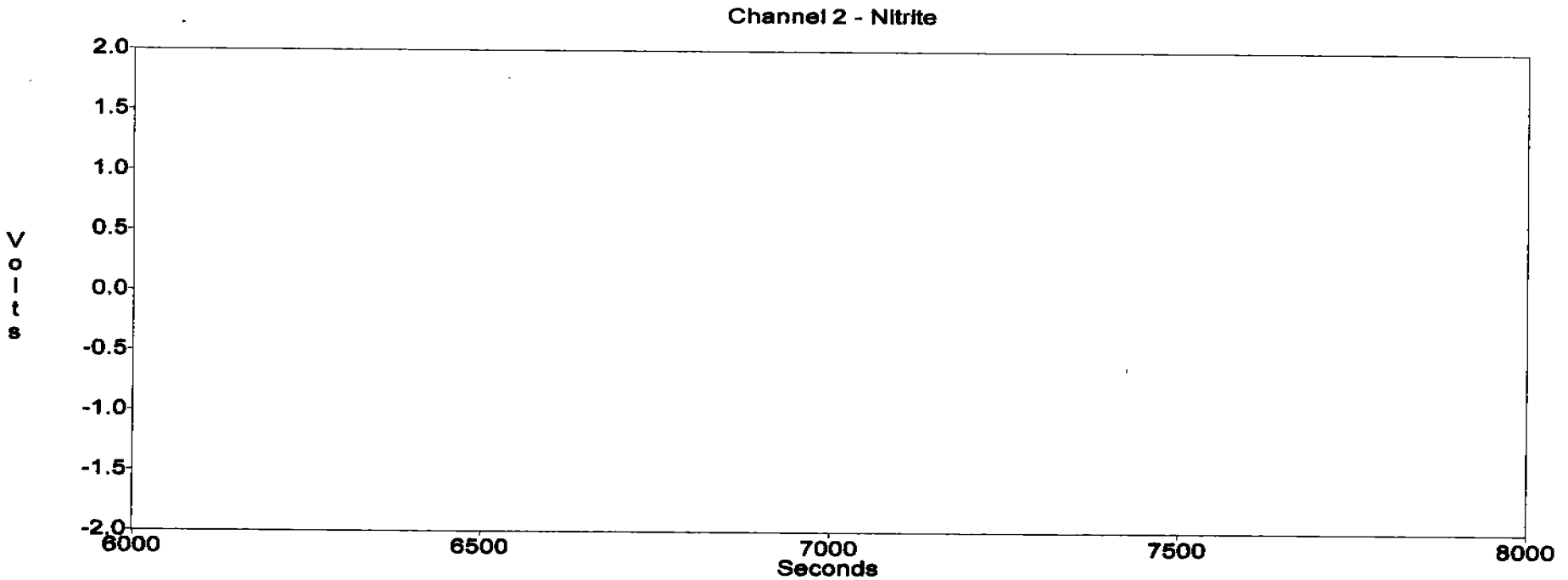
0001822





OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NC.FDT
METHOD FILENAME: C:\OMNION\METHODS\NO3NO2.MET





OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\091002NC.FDT

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 12

Cup	Sample ID	Sample Type	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
2	no3 check st	RelChkStd	10 Sep 2002	1	0.501	0.001	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		0.248	0.000	
2	no3 check st	RelChkStd	10 Sep 2002	1	0.503	0.001	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		0.562	0.000	
2	no3 check st	RelChkStd	10 Sep 2002	1	0.504	0.001	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		0.801	0.000	
2	no3 check st	RelChkStd	10 Sep 2002	1	0.504	0.001	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		0.704	0.000	
2	no3 check st	RelChkStd	10 Sep 2002	1	0.503	0.001	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		0.506	0.000	
8	no2 check st	RelChkStd	10 Sep 2002	1	0.567	0.509	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	1.810	
8	no2 check st	RelChkStd	10 Sep 2002	1	0.572	0.513	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	2.534	
8	no2 check st	RelChkStd	10 Sep 2002	1	0.575	0.512	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	2.303	
8	no2 check st	RelChkStd	10 Sep 2002	1	0.574	0.515	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	2.995	
8	no2 check st	RelChkStd	10 Sep 2002	1	0.573	0.511	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	2.208	
12	blank	Blank	10 Sep 2002	1	0.003	0.001	1.00
12	blank	Blank	10 Sep 2002	1	0.003	0.001	1.00
12	blank	Blank	10 Sep 2002	1	0.004	0.001	1.00
12	blank	Blank	10 Sep 2002	1	0.001	0.001	1.00
12	blank	Blank	10 Sep 2002	1	0.003	0.001	1.00

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 90

Cup	Sample ID	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
1	314760 sw	10 Sep 2002	1	0.054	0.052	1.00
2	314761	10 Sep 2002	1	0.152	0.070	1.00
3	314762	10 Sep 2002	1	0.419	0.052	1.00
4	314763	10 Sep 2002	1	2.259	0.045	1.00
4	314763	10 Sep 2002	1	2.272	0.007	5.00
5	314764	10 Sep 2002	1	4.493	0.047	1.00
5	314764	10 Sep 2002	1	4.728	0.007	5.00
6	314765	10 Sep 2002	1	0.095	0.065	1.00
7	314766	10 Sep 2002	1	1.265	0.059	1.00
7	314766	10 Sep 2002	1	1.264	0.041	5.00
8	314767	10 Sep 2002	1	0.354	0.058	1.00
9	314768	10 Sep 2002	1	0.812	0.050	1.00
10	314769	10 Sep 2002	1	0.780	0.048	1.00
11	314770	10 Sep 2002	1	0.979	0.056	1.00
11	314770	10 Sep 2002	1	0.975	0.007	5.00
12	314770 dup	10 Sep 2002	1	1.016	0.042	1.00
12	314770 dup	10 Sep 2002	1	0.993	0.007	5.00
13	314770 spk	10 Sep 2002	1	1.506	0.048	1.00
13	314770 spk	10 Sep 2002	1	1.473	0.056	5.00
14	314771	10 Sep 2002	1	0.502	0.074	1.00
15	314772	10 Sep 2002	1	1.572	0.068	1.00
15	314772	10 Sep 2002	1	1.553	0.030	5.00
16	314773	10 Sep 2002	1	8.135	0.064	1.00
16	314773	10 Sep 2002	1	9.837	0.014	10.00
17	314774	10 Sep 2002	1	0.169	0.070	1.00
18	314775	10 Sep 2002	1	0.993	0.050	1.00
18	314775	10 Sep 2002	1	0.980	0.007	5.00
19	314776	10 Sep 2002	1	8.610	0.056	1.00

[redacted]

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 14 to 90

Cup	Sample ID	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Man Dil Factor	Auto Dil Factor
14	314771	10 Sep 2002	1	0.502	0.074	1.0	1.00
15	314772	10 Sep 2002	1	1.572	0.068	1.0	1.00
15	314772	10 Sep 2002	1	1.553	0.030	1.0	5.00
16	314773	10 Sep 2002	1	8.135	0.064	1.0	1.00
16	314773	10 Sep 2002	1	9.837	0.014	1.0	10.00
17	314774	10 Sep 2002	1	0.169	0.070	1.0	1.00
18	314775	10 Sep 2002	1	0.993	0.050	1.0	1.00
18	314775	10 Sep 2002	1	0.980	0.007	1.0	5.00
19	314776	10 Sep 2002	1	8.610	0.056	1.0	1.00
19	314776	10 Sep 2002	1	10.906	0.014	1.0	10.00
19	314776	10 Sep 2002	1	11.624	0.027	1.0	20.00
20	314777	10 Sep 2002	1	2.057	0.064	1.0	1.00
20	314777	10 Sep 2002	1	2.011	0.007	1.0	5.00
21	314778	10 Sep 2002	1	0.171	0.046	1.0	1.00
22	1ppm no3	10 Sep 2002	1	0.997	0.014	1.0	10.00
23	10ppm no3	10 Sep 2002	1	10.124	0.027	1.0	20.00

INSTRUMENT: Flow Injection Analysis
TRAY: NO3NO2CA.TRA METHOD: NO3NO2.MET DATAFILE: 091002N.FDT
DATE/TIME: Tue Sep 10 05:49:59 2002 OPERATOR: Jodi Blouw

*** Begin Calibration ***
Cup# 1 Sample: STD 1 Type: CalStd Level: 1 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 8662355.0 µv-s
Ch 2: Nitrite Peak Area = 77534.0 µv-s
Cup# 2 Sample: STD 2 Type: CalStd Level: 2 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 4258119.0 µv-s
Ch 2: Nitrite Peak Area = 88145.0 µv-s
Cup# 3 Sample: STD 3 Type: CalStd Level: 3 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 2158026.0 µv-s
Ch 2: Nitrite Peak Area = 901712.0 µv-s
Cup# 4 Sample: STD 4 Type: CalStd Level: 4 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 855626.0 µv-s
Ch 2: Nitrite Peak Area = 11770.0 µv-s
Cup# 5 Sample: STD 5 Type: CalStd Level: 5 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 455458.0 µv-s
Ch 2: Nitrite Peak Area = 0.0 µv-s
Cup# 6 Sample: STD 6 Type: CalStd Level: 6 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 0.0 µv-s
Ch 2: Nitrite Peak Area = 28738.0 µv-s
Cup# 7 Sample: STD 7 Type: CalStd Level: 7 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 9788016.0 µv-s
Ch 2: Nitrite Peak Area = 6706486.0 µv-s
Cup# 8 Sample: STD 8 Type: CalStd Level: 8 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 4881277.0 µv-s
Ch 2: Nitrite Peak Area = 3406050.0 µv-s
Cup# 9 Sample: STD 9 Type: CalStd Level: 9 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 2436973.0 µv-s
Ch 2: Nitrite Peak Area = 1637102.0 µv-s
Cup# 10 Sample: STD 10 Type: CalStd Level: 10 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 981011.0 µv-s
Ch 2: Nitrite Peak Area = 653134.0 µv-s
Cup# 11 Sample: STD 11 Type: CalStd Level: 11 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 493534.0 µv-s
Ch 2: Nitrite Peak Area = 331482.0 µv-s
Cup# 12 Sample: STD 12 Type: CalStd Level: 12 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 0.0 µv-s
Ch 2: Nitrite Peak Area = 0.0 µv-s
*** Updated Calibration ***
Ch 1: Nitrate+Nitrite
** 1st Order Poly Calibration **
C[0] = 1.15737e-007
C[1] = 0.000518746
r = 1.0000
Ch 2: Nitrite
** 1st Order Poly Calibration **
C[0] = 1.48565e-007
C[1] = 0.00135541
r = 0.9999
*** End Calibration Block ***
*** Calibration Passed ***
******* Tray Run Complete *******

INSTRUMENT: Flow Injection Analysis
TRAY: 091002NA.TRA METHOD: NO3NO2.MET DATAFILE: 091002NA.FDT
DATE/TIME: Tue Sep 10 06:10:48 2002 OPERATOR: Jodi Blouw

***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1 ICV 0.49
Ch 1: Nitrate+Nitrite = 0.4937 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.4937 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = -1.2535%
Test 1: Passed
Ch 2: Nitrite = 0.0014 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5684 mg N/L
Ch 2: Nitrite = 0.5094 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5684 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.5094 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = 1.8884%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0005 mg N/L ICB 0.005
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0005 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0014 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
Cup# 1 Sample: blk Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0005 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
Cup# 2 Sample: lcs no3 6.93 in6.38.16 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 6.4665 mg N/L
Ch 2: Nitrite = 0.0136 mg N/L
Cup# 3 Sample: lcs no3 0.693 in6.38.17 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.6755 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
Cup# 4 Sample: lcs no2 0.50 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5570 mg N/L
Ch 2: Nitrite = 0.5094 mg N/L
Cup# 5 Sample: crl no3 0.05 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0533 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
Cup# 6 Sample: crl no2 0.01 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0113 mg N/L
Ch 2: Nitrite = 0.0092 mg N/L
Cup# 7 Sample: residential Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 3.8753 mg N/L
Ch 2: Nitrite = 0.0107 mg N/L
***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: Nitrate+Nitrite = 0.4941 mg N/L CCV1 0.49
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.4941 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = -1.1777%
Test 1: Passed
Ch 2: Nitrite = 0.0014 mg N/L

Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: Nitrate+Nitrite = 0.5733 mg N/L
Ch 2: Nitrite = 0.5079 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5733 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.5079 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = 1.5814%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1 Repeat# 1
Ch 1: Nitrate+Nitrite = 0.0005 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0005 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0014 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
******* Tray Run Complete *******

ccb1 <0.05

INSTRUMENT: Flow Injection Analysis
TRAY: 091002NB.TRA METHOD: NO3NO2.MET DATAFILE: 091002NB.FDT
DATE/TIME: Tue Sep 10 06:34:46 2002 OPERATOR: Jodi Blouw

Cup# 8 Sample: 1ppm no3 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.9914 mg N/L
Ch 2: Nitrite = 0.0068 mg N/L
Cup# 7 Sample: residential Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 3.9625 mg N/L
Ch 2: Nitrite = 0.0066 mg N/L
***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5005 mg N/L
Ch 2: Nitrite = 0.0048 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.5005 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = 0.1023%
Test 1: Passed
Ch 2: Nitrite = 0.0048 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5744 mg N/L
Ch 2: Nitrite = 0.5113 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5744 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.5113 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = 2.2699%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0005 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0005 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0014 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
******* Tray Run Complete *******

INSTRUMENT: Flow Injection Analysis
TRAY: 091002NC.TRA METHOD: NO3NO2.MET DATAFILE: 091002NC.FDT
DATE/TIME: Tue Sep 10 10:57:20 2002 OPERATOR: Jodi Blouw

***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5012 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.5012 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 0.2484%
Test 1: Passed
Ch 2: Nitrite = 0.0014 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5669 mg N/L
Ch 2: Nitrite = 0.5091 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5669 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.5091 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 1.8103%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0026 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0026 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0014 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
Cup# 1 Sample: 314760 sw Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0538 mg N/L
Ch 2: Nitrite = 0.0518 mg N/L
Cup# 2 Sample: 314761 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.1517 mg N/L
Ch 2: Nitrite = 0.0696 mg N/L
Cup# 3 Sample: 314762 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.4194 mg N/L
Ch 2: Nitrite = 0.0520 mg N/L
Cup# 4 Sample: 314763 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 2.2586 mg N/L
Ch 2: Nitrite = 0.0449 mg N/L
Cup# 5 Sample: 314764 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 4.4936 mg N/L
Ch 2: Nitrite = 0.0470 mg N/L
Cup# 6 Sample: 314765 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0955 mg N/L
Ch 2: Nitrite = 0.0647 mg N/L
Cup# 7 Sample: 314766 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 1.2652 mg N/L
Ch 2: Nitrite = 0.0588 mg N/L
Cup# 8 Sample: 314767 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.3540 mg N/L
Ch 2: Nitrite = 0.0579 mg N/L
Cup# 9 Sample: 314768 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.8115 mg N/L
Ch 2: Nitrite = 0.0501 mg N/L
Cup# 10 Sample: 314769 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.7796 mg N/L
Ch 2: Nitrite = 0.0481 mg N/L
***** Auto DQM Begin *****

*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: Nitrate+Nitrite = 0.5028 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.5028 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 0.5622%
Test 1: Passed
Ch 2: Nitrite = 0.0014 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: Nitrate+Nitrite = 0.5724 mg N/L
Ch 2: Nitrite = 0.5127 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5724 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.5127 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 2.5341%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1 Repeat# 1
Ch 1: Nitrate+Nitrite = 0.0027 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0027 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0014 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
Cup# 11 Sample: 314770 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.9787 mg N/L
Ch 2: Nitrite = 0.0561 mg N/L
Cup# 12 Sample: 314770 dup Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 1.0162 mg N/L
Ch 2: Nitrite = 0.0424 mg N/L
Cup# 13 Sample: 314770 spk Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 1.5064 mg N/L
Ch 2: Nitrite = 0.0481 mg N/L
Cup# 14 Sample: 314771 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5017 mg N/L
Ch 2: Nitrite = 0.0739 mg N/L
Cup# 15 Sample: 314772 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 1.5722 mg N/L
Ch 2: Nitrite = 0.0677 mg N/L
Cup# 16 Sample: 314773 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 8.1346 mg N/L
Ch 2: Nitrite = 0.0638 mg N/L
Cup# 17 Sample: 314774 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.1686 mg N/L
Ch 2: Nitrite = 0.0703 mg N/L
Cup# 18 Sample: 314775 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.9934 mg N/L
Ch 2: Nitrite = 0.0498 mg N/L
Cup# 19 Sample: 314776 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 8.6105 mg N/L
Ch 2: Nitrite = 0.0563 mg N/L
Cup# 20 Sample: 314777 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 2.0573 mg N/L
Ch 2: Nitrite = 0.0638 mg N/L
***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1 Repeat# 2
Ch 1: Nitrate+Nitrite = 0.5040 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.5040 mg N/L

CCV3 0.50

CCV3

CCV4

Known Conc = 0.5000 mg/L - %Diff from Known = 0.8012%
Test 1: Passed
Ch 2: Nitrite = 0.0014 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1 Repeat# 2
Ch 1: Nitrate+Nitrite = 0.5750 mg N/L
Ch 2: Nitrite = 0.5115 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5750 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.5115 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 2.3034%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1 Repeat# 2
Ch 1: Nitrate+Nitrite = 0.0039 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0039 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0014 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
Cup# 21 Sample: 314778 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.1709 mg N/L
Ch 2: Nitrite = 0.0465 mg N/L
Cup# 4 Sample: 314763 Type: Unknown Rep# 1/1
5x Ch 1: Nitrate+Nitrite = 2.2719 mg N/L
Ch 2: Nitrite = 0.0068 mg N/L
Cup# 5 Sample: 314764 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 4.7284 mg N/L
5x Ch 2: Nitrite = 0.0068 mg N/L
Cup# 7 Sample: 314766 Type: Unknown Rep# 1/1
5x Ch 1: Nitrate+Nitrite = 1.2636 mg N/L
Ch 2: Nitrite = 0.0411 mg N/L
Cup# 11 Sample: 314770 Type: Unknown Rep# 1/1
5x Ch 1: Nitrate+Nitrite = 0.9751 mg N/L
Ch 2: Nitrite = 0.0068 mg N/L
Cup# 12 Sample: 314770 dup Type: Unknown Rep# 1/1
5x Ch 1: Nitrate+Nitrite = 0.9928 mg N/L
Ch 2: Nitrite = 0.0068 mg N/L
Cup# 13 Sample: 314770 spk Type: Unknown Rep# 1/1
5x Ch 1: Nitrate+Nitrite = 1.4732 mg N/L
Ch 2: Nitrite = 0.0560 mg N/L
Cup# 15 Sample: 314772 Type: Unknown Rep# 1/1
5x Ch 1: Nitrate+Nitrite = 1.5535 mg N/L
Ch 2: Nitrite = 0.0303 mg N/L
Cup# 16 Sample: 314773 Type: Unknown Rep# 1/1
10x Ch 1: Nitrate+Nitrite = 9.8372 mg N/L
Ch 2: Nitrite = 0.0136 mg N/L
Cup# 18 Sample: 314775 Type: Unknown Rep# 1/1
5x Ch 1: Nitrate+Nitrite = 0.9796 mg N/L
Ch 2: Nitrite = 0.0068 mg N/L
***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1 Repeat# 3
Ch 1: Nitrate+Nitrite = 0.5035 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.5035 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 0.7043%
Test 1: Passed
Ch 2: Nitrite = 0.0014 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1 Repeat# 3
Ch 1: Nitrate+Nitrite = 0.5739 mg N/L

Ch 2: Nitrite = 0.5150 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5739 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.5150 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 2.9949%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1 Repeat# 3
Ch 1: Nitrate+Nitrite = 0.0005 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0005 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0014 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
Cup# 19 Sample: 314776 Type: Unknown Rep# 1/1
10X Ch 1: Nitrate+Nitrite = 10.8059 mg N/L
Ch 2: Nitrite = 0.0136 mg N/L
Cup# 20 Sample: 314777 Type: Unknown Rep# 1/1
5X Ch 1: Nitrate+Nitrite = 2.0111 mg N/L
Ch 2: Nitrite = 0.0068 mg N/L
Cup# 22 Sample: 1ppm no3 Type: Unknown Rep# 1/1
10X Ch 1: Nitrate+Nitrite = 0.9971 mg N/L
Ch 2: Nitrite = 0.0136 mg N/L
Cup# 23 Sample: 10ppm no3 Type: Unknown Rep# 1/1
20X Ch 1: Nitrate+Nitrite = 10.1238 mg N/L
Ch 2: Nitrite = 0.0271 mg N/L
Cup# 19 Sample: 314776 Type: Unknown Rep# 1/1
20X Ch 1: Nitrate+Nitrite = 11.6245 mg N/L
Ch 2: Nitrite = 0.0271 mg N/L
***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1 Repeat# 4
Ch 1: Nitrate+Nitrite = 0.5025 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.5025 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 0.5062%
Test 1: Passed
Ch 2: Nitrite = 0.0014 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1 Repeat# 4
Ch 1: Nitrate+Nitrite = 0.5727 mg N/L
Ch 2: Nitrite = 0.5110 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5727 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.5110 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 2.2081%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1 Repeat# 4
Ch 1: Nitrate+Nitrite = 0.0025 mg N/L
Ch 2: Nitrite = 0.0014 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0025 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0014 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
******* Tray Run Complete *******

ccv5

ccv6

ccb6

Due 9.18.2

NLB 9-11-02

TriMatrix Laboratories, Inc.

TOTAL PERCENT SOLIDS

BATCH INFORMATION	ANALYSIS STEPS							QUALITY CONTROL	QC BATCH A
Test Number: 14.1 - 16.01	Step	Start Date	Start Time	Start Temp (°C)	End Date	End Time	End Temp (°C)	Difference Between Weighings: Less than 0.0005 g	Batch Number: 191805 NLB 9/18/02
Balance Number: 210									
Analysis Date: 09/10/02	Step #1	09/10/02	9:25 AM	105.0	09/11/02	7:00 AM	105	Blank Concentration: Less than 0.1%(w/w)	PAZ 9/18
Analyst: JMJ	Step #2								
Parameter: TS	Step #3							MS/MSD Precision: <20%	Supervisor Approv
Matrix: soil	Step #1	Drying @ 103-105° C (24 hr)							
Method Reference: 3550	Step #2	Second drying @ 103-105° C (1hr)						LCS Accuracy: N/A	
ODL: 0.1	Step #3	Recheck of Step #2 after further cooling in desiccator (if necessary)							
Units: %									

Client	Sample Number	QC	Dish ID	Dish (g)	Sample Size (g)	Final Dish + Residue (g)	TS Result (%)	TS Result (If <10) (%)	Analysis Duplicate %RPD
BLANK		BLK	1	1.5625	0 ~~10~~ 9.11.2 SMJ	1.5625	<0.1		
STONE & WEBSTER	314760	SAMPLE	2	1.5929	42.9988	44.5323	100		
STONE & WEBSTER	314760	DUP	3	1.5877	36.083	37.6158	100		0
STONE & WEBSTER	314761	SAMPLE	4	1.5795	23.7021	25.2481	100		
STONE & WEBSTER	314761	DUP	5	1.5758	31.4268	32.962	100		0
STONE & WEBSTER	314762	SAMPLE	6	1.592	29.657	30.9359	99		
STONE & WEBSTER	314763	SAMPLE	7	1.6006	28.9638	30.4776	100		
STONE & WEBSTER	314764	SAMPLE	8	1.5964	34.5921	35.0745	97		
STONE & WEBSTER	314765	SAMPLE	9	1.5761	31.5961	32.5646	98		
STONE & WEBSTER	314766	SAMPLE	10	1.5836	35.0424	35.3702	96		

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Client	Sample Number	QC	Dish ID	Dish (g)	Sample Size (g)	Final Dish + Residue (g)	TS Result (%)	TS Result (If <10) (%)	Analysis Duplicate %RPD
STONE & WEBSTER	314767	SAMPLE	11	1.5873	36.3605	37.1214	98		
STONE & WEBSTER	314768	SAMPLE	12	1.5859	32.2502	33.1218	98		
STONE & WEBSTER	314769	SAMPLE	13	1.5863	26.2677	27.2789	98		
STONE & WEBSTER	314770	SAMPLE	14	1.5782	28.5478	29.4344	98		
STONE & WEBSTER	314771	SAMPLE	15	1.6059	35.0631	35.8755	98		
STONE & WEBSTER	314772	SAMPLE	16	1.5955	29.86	31.0653	99		
STONE & WEBSTER	314773	SAMPLE	17	1.6081	30.8911	31.9951	98		
STONE & WEBSTER	314774	SAMPLE	18	1.5925	39.6518	40.1678	97		
STONE & WEBSTER	314775	SAMPLE	19	1.5893	32.8311	33.724	98		
STONE & WEBSTER	314776	SAMPLE	20	1.5679	47.4504	48.1602	98		
STONE & WEBSTER	314777	SAMPLE	21	1.5941	27.8123	28.8307	98		
STONE & WEBSTER	314778	SAMPLE	22	1.5603	28.3096	29.7712	100		

000196

15m7 J66t15m7 J66t

NLB 9-19-02

2002-SEP-18 15:06 BATCH DETAIL REPORT -- INORGANIC LABORATORY ANALYTICAL BATCH # 191265 PAGE 1 OF 1

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
191265	10-SEP-02	JMJ	1	NO	YES	RESD/TOTAL/SOIL	SOIL	SW-846 3550B	19	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	09/10/02	JMJ		SOIL	0.1		<0.1		PERCENT SOLIDS	BLK- 1	0						SW-846 3550B
v	2.000	-	191265-110	09/10/02	JMJ	314760	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	3.000	- 2	191265-110	09/10/02	JMJ	314760	SOIL	0.1	100	100		PERCENT SOLIDS	DUP- 1	0		20				SW-846 3550B
v	4.000	-	191265-110	09/10/02	JMJ	314761	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	5.000	- 4	191265-110	09/10/02	JMJ	314761	SOIL	0.1	100	100		PERCENT SOLIDS	DUP- 1	0		20				SW-846 3550B
v	6.000	-	191265-110	09/10/02	JMJ	314762	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	7.000	-	191265-110	09/10/02	JMJ	314763	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	8.000	-	191265-110	09/10/02	JMJ	314764	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	9.000	-	191265-110	09/10/02	JMJ	314765	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	10.000	-	191265-110	09/10/02	JMJ	314766	SOIL	0.1		96		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	11.000	-	191265-110	09/10/02	JMJ	314767	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	12.000	-	191265-110	09/10/02	JMJ	314768	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	13.000	-	191265-110	09/10/02	JMJ	314769	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	14.000	-	191265-110	09/10/02	JMJ	314770	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	15.000	-	191265-110	09/10/02	JMJ	314771	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	16.000	-	191265-110	09/10/02	JMJ	314772	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	17.000	-	191265-110	09/10/02	JMJ	314773	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	18.000	-	191265-110	09/10/02	JMJ	314774	SOIL	0.1		97		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	19.000	-	191265-110	09/10/02	JMJ	314775	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	20.000	-	191265-110	09/10/02	JMJ	314776	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	21.000	-	191265-110	09/10/02	JMJ	314777	SOIL	0.1		98		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	22.000	-	191265-110	09/10/02	JMJ	314778	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B

000197

Due 9.18.2

10-SEP-02

INORGANIC BENCHSHEET -- GRAVIMETRIC

PAGE 1

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL
Ref. cit.: SW-846 3550B
Instrument #: _____
ODL: 0.1
Unit: %
Est anal hrs: 4.75
Act anal hrs:
Samples in batch: 19
Stock std #: _____
Benchsheet ID: 295772
Owner:
Batch Opened Date:
Supervisor:
Batch: _____
Comments:

OVEN TEMPS

Cycle	1	2
In		
Out		

Client Submittal Location	Sample	COC	QC	Analyst	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Report. Conc.	ODL	Q#
Stone & Webster Engineering Corp 35988-RH8E	3 314760 *	YES	LV5										
Stone & Webster Engineering Corp 35988-RH6F	3 314761 *	YES	LV5										
Stone & Webster Engineering Corp 35988-BL6B	3 314762 *	YES	LV5										
Stone & Webster Engineering Corp 35988-HH4B	3 314763 *	YES	LV5										
Stone & Webster Engineering Corp 35988-BL2A	3 314764 *	YES	LV5										
Stone & Webster Engineering Corp 35988-RH3C	3 314765 *	YES	LV5										
Stone & Webster Engineering Corp 35988-BB5C	3 314766 *	YES	LV5										
Stone & Webster Engineering Corp 35988-BB5A	3 314767 *	YES	LV5										
Stone & Webster Engineering Corp 35988-HH1C	3 314768 *	YES	LV5										
Stone & Webster Engineering Corp 35988-BB3B/C	3 314769 *	YES	LV5										
Stone & Webster Engineering Corp 35988-BB2B	3 314770 *	YES	LV5										

0001198

TRIMATRIX LABORATORIES, INC.

10-SEP-02

INORGANIC BENCHSHEET -- GRAVIMETRIC

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL
Ref. cit.: SW-846 3550B
Instrument #: _____
ODL: 0.1
Unit: %
Est anal hrs: 4.75
Act anal hrs:
Samples in batch: 19
Stock std #: _____
Benchsheet ID: 295772
Owner:
Batch Opened Date: _____
Supervisor: _____

Batch: _____

Comments:

OVEN TEMPS

Cycle	1	2
In		
Out		

Client Submittal Location	Sample	COC	QC	Analyst	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Report. Conc.	ODL	Q#
Stone & Webster Engineering Corp 35988-BB3D	314771 *	3	YES LV5										
Stone & Webster Engineering Corp 35988-BT2D	314772 *	3	YES LV5										
Stone & Webster Engineering Corp 35988-HH4D	314773 *	3	YES LV5										
Stone & Webster Engineering Corp 35988-BB1D	314774 *	3	YES LV5										
Stone & Webster Engineering Corp 35988-BD1A	314775 *	3	YES LV5										
Stone & Webster Engineering Corp 35988-BD1B	314776 *	3	YES LV5										
Stone & Webster Engineering Corp 35988-BD4D	314777 *	3	YES LV5										
Stone & Webster Engineering Corp 35988-BD3C	314778 *	3	YES LV5										

0001199

10-SEP-02

INORGANIC BENCHSHEET -- GRAVIMETRIC ** QC **

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL ODL: 0.1
Ref. cit.: SW-846 3550B Unit: %

Comments:

Benchsheet ID: 295772
Owner: _____
Batch Opened Date: _____
Supervisor: _____

	Anl.	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:											XXXXXXXX	
											XXXXXXXX	
LCS: Stk												
SPK1: Stk Smp												
SPK2: Stk Smp												
MSD: Smp		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: Smp											XXXXXXXX	
											XXXXXXXX	
SPK1: Stk Smp												
SPK2: Stk Smp												
MSD: Smp		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: Smp											XXXXXXXX	
											XXXXXXXX	
MPB: QCB#											XXXXXXXX	
											XXXXXXXX	
LFB: Stk QCB#												
CRDL: Stk												

QC Type	Range	Lower	Upper
DUP	1		20
DUP	2		20
LFB - SOIL - 01	1	80	120
MSD	1		20
MSD	2		20
SPK	1	80	120

0000200

SECTION - K

ANALYSIS-PRETREATMENT DATE SUMMARY PAGES

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: RH8E

Submittal Number 35988- 3
Date Sampled: 08/28/02
Date Received: 09/06/02

Sample No: 314760

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	09/08/02	09/11/02		
Inorganic Pretreatment	09/10/02	09/11/02		
Nitrocellulose	09/11/02	09/11/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/25/02	09/10/02	09/11/02
Nitroglycerine	09/11/02	10/18/02	09/08/02	09/11/02
Percent Solids	09/10/02	09/11/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: RH6F

Submittal Number 35988- 3
Date Sampled: 08/28/02
Date Received: 09/06/02

Sample No: 314761

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	09/08/02	09/11/02		
Inorganic Pretreatment	09/10/02	09/11/02		
Nitrocellulose	09/11/02	09/11/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/25/02	09/10/02	09/11/02
Nitroglycerine	09/11/02	10/18/02	09/08/02	09/11/02
Percent Solids	09/10/02	09/11/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: BL6B

Submittal Number 35988- 3
Date Sampled: 08/28/02
Date Received: 09/06/02

Sample No: 314762

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/11/02		
Nitrocellulose	09/11/02	09/11/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/25/02	09/10/02	09/11/02
Percent Solids	09/10/02	09/11/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: HH4B

Submittal Number 35988- 3
Date Sampled: 08/28/02
Date Received: 09/06/02

Sample No: 314763

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/11/02		
Nitrocellulose	09/11/02	09/11/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/25/02	09/10/02	09/11/02
Percent Solids	09/10/02	09/11/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: BL2A

Submittal Number 35988- 3
Date Sampled: 08/28/02
Date Received: 09/06/02

Sample No: 314764

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/11/02		
Nitrocellulose	09/11/02	09/11/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/25/02	09/10/02	09/11/02
Percent Solids	09/10/02	09/11/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 3
Date Sampled: 08/28/02
Date Received: 09/06/02

Subm: August 2002 Soils
Sample: RH3C

Sample No: 314765

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/11/02		
Nitrocellulose	09/11/02	09/11/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/25/02	09/10/02	09/11/02
Percent Solids	09/10/02	09/11/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Subm: August 2002 Soils
Sample: BB5C

Sample No: 314766

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	09/08/02	09/12/02		
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Nitroglycerine	09/11/02	10/18/02	09/08/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Subm: August 2002 Soils
Sample: BB5A

Sample No: 314767

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Subm: August 2002 Soils
Sample: HH1C

Sample No: 314768

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Percent Solids	09/10/02	09/12/02		

000219

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Individual sample results relate only to the sample tested.

ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Subm: August 2002 Soils
Sample: BB3B/C

Sample No: 314769

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	09/08/02	09/12/02		
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Nitroglycerine	09/11/02	10/18/02	09/08/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Subm: August 2002 Soils
Sample: BB2B

Sample No: 314770

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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TriMatrix Laboratories, Inc.

ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: BB3D

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Sample No: 314771

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	09/08/02	09/12/02		
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Nitroglycerine	09/11/02	10/18/02	09/08/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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TriMatrix
Laboratories, Inc.

ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: BT2D

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Sample No: 314772

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: HH4D

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Sample No: 314773

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Subm: August 2002 Soils
Sample: BB1D

Sample No: 314774

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	09/08/02	09/12/02		
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Nitroglycerine	09/11/02	10/18/02	09/08/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: BD1A

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Sample No: 314775

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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Laboratories, Inc.

ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: August 2002 Soils
Sample: BD1B

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Sample No: 314776

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Subm: August 2002 Soils
Sample: BD4D

Sample No: 314777

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 3
Date Sampled: 08/29/02
Date Received: 09/06/02

Subm: August 2002 Soils
Sample: BD3C

Sample No: 314778

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Extraction Procedure-Nitroglycerine	09/08/02	09/12/02		
Inorganic Pretreatment	09/10/02	09/12/02		
Nitrocellulose	09/11/02	09/12/02		
Nitrogen, Nitrate+Nitrite	09/10/02	09/26/02	09/10/02	09/12/02
Nitroglycerine	09/11/02	10/18/02	09/08/02	09/12/02
Percent Solids	09/10/02	09/12/02		

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SECTION - L

METHODS PAGES

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METHODS PAGE

Parameter: Extraction Procedure- Nitroglycerine
Method: Extraction for Nitroglycerine
Application: SOIL Reference Citation: USEPA-8332
Analyst: Daniel J. Mierendorf (DJM) Date Analyzed: 09/08/02

Sample Number	Sample Description	Analytical Batch	QC Batch
314760	RH8E	190740	-108
314761	RH6F	190740	-108
314766	BB5C	190740	-108
314769	BB3B/C	190740	-108
314771	BB3D	190740	-108
314774	BB1D	190740	-108
314778	BD3C	190740	-108

Parameter: Inorganic Pretreatment
Method: Extraction of Exchangeable NH4, NO3, NO2
Application: SOIL Reference Citation: MSA 33-3.2
Analyst: Jodie L. Blouw (JLB) Date Analyzed: 09/10/02

Sample Number	Sample Description	Analytical Batch	QC Batch
314760	RH8E	190983	-110
314761	RH6F	190983	-110
314762	BL6B	190983	-110
314763	HH4B	190983	-110
314764	BL2A	190983	-110
314765	RH3C	190983	-110
314766	BB5C	190983	-110
314767	BB5A	190983	-110
314768	HH1C	190983	-110
314769	BB3B/C	190983	-110
314770	BB2B	190983	-110
314771	BB3D	190983	-110
314772	BT2D	190983	-110
314773	HH4D	190983	-110
314774	BB1D	190983	-110
314775	BD1A	190983	-110
314776	BD1B	190983	-110
314777	BD4D	190983	-110
314778	BD3C	190983	-110

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METHODS PAGE

Parameter: Nitrocellulose
Method: Automated Nitrocellulose Analysis
Application: SOIL Reference Citation: USARMY BR&D Lab
Analyst: Jodie L. Blouw (JLB) Date Analyzed: 09/11/02

Sample Number	Sample Description	Analytical Batch	QC Batch
314760	RH8E	191298	78577-111
314761	RH6F	191298	78577-111
314762	BL6B	191298	78577-111
314763	HH4B	191298	78577-111
314764	BL2A	191298	78577-111
314765	RH3C	191298	78577-111
314766	BB5C	191298	78577-111
314767	BB5A	191298	78577-111
314768	HH1C	191298	78577-111
314769	BB3B/C	191298	78577-111
314770	BB2B	191298	78577-111
314771	BB3D	191298	78577-111
314772	BT2D	191298	78577-111
314773	HH4D	191298	78577-111
314774	BB1D	191298	78577-111
314775	BD1A	191298	78577-111
314776	BD1B	191298	78577-111
314777	BD4D	191298	78577-111
314778	BD3C	191298	78577-111

Parameter: Nitrogen, Nitrate+Nitrite
Method: Colorimetric, Auto-Cadmium Reduction
Application: SOIL Reference Citation: 353.2/4500 NO3F
Analyst: Jodie L. Blouw (JLB) Date Analyzed: 09/10/02

Sample Number	Sample Description	Analytical Batch	QC Batch
314760	RH8E	191218	78526-110
314761	RH6F	191218	78526-110
314762	BL6B	191218	78526-110
314763	HH4B	191218	78526-110
314764	BL2A	191218	78526-110
314765	RH3C	191218	78526-110
314766	BB5C	191218	78526-110
314767	BB5A	191218	78526-110
314768	HH1C	191218	78526-110
314769	BB3B/C	191218	78526-110
314770	BB2B	191218	78526-110
314771	BB3D	191218	78526-110

000223

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METHODS PAGE

Parameter: Nitrogen, Nitrate+Nitrite
Method: Colorimetric, Auto-Cadmium Reduction
Application: SOIL Reference Citation: 353.2/4500 NO3F
Analyst: Jodie L. Blouw (JLB) Date Analyzed: 09/10/02

Sample Number	Sample Description	Analytical Batch	QC Batch
314772	BT2D	191218	78526-110
314773	HH4D	191218	78526-110
314774	BB1D	191218	78526-110
314775	BD1A	191218	78526-110
314776	BD1B	191218	78526-110
314777	BD4D	191218	78526-110
314778	BD3C	191218	78526-110

Parameter: Nitroglycerine
Method: Nitroglycerine by HPLC
Application: SOIL Reference Citation: USEPA-8332
Analyst: Janet M. Kudirka (JMK1) Date Analyzed: 09/11/02

Sample Number	Sample Description	Analytical Batch	QC Batch
314760	RH8E	191302	78597-108
314761	RH6F	191302	78597-108
314766	BB5C	191302	78597-108
314769	BB3B/C	191302	78597-108
314771	BB3D	191302	78597-108
314774	BB1D	191302	78597-108
314778	BD3C	191302	78597-108

Parameter: Percent Solids
Method: Determination of Percent Dry Weight
Application: SOIL Reference Citation: SW-846 3550B
Analyst: Jennifer M. Jager (JMJ) Date Analyzed: 09/10/02

Sample Number	Sample Description	Analytical Batch	QC Batch
314760	RH8E	191265	78557-110
314761	RH6F	191265	78557-110
314762	BL6B	191265	78557-110
314763	HH4B	191265	78557-110
314764	BL2A	191265	78557-110
314765	RH3C	191265	78557-110
314766	BB5C	191265	78557-110

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METHODS PAGE

Parameter: Percent Solids
Method: Determination of Percent Dry Weight
Application: SOIL Reference Citation: SW-846 3550B
Analyst: Jennifer M. Jager (JMJ) Date Analyzed: 09/10/02

Sample Number	Sample Description	Analytical Batch	QC Batch
314767	BB5A	191265	78557-110
314768	HH1C	191265	78557-110
314769	BB3B/C	191265	78557-110
314770	BB2B	191265	78557-110
314771	BB3D	191265	78557-110
314772	BT2D	191265	78557-110
314773	HH4D	191265	78557-110
314774	BB1D	191265	78557-110
314775	BD1A	191265	78557-110
314776	BD1B	191265	78557-110
314777	BD4D	191265	78557-110
314778	BD3C	191265	78557-110

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SECTION - M

METHOD DETECTION LIMIT (MDL) STUDIES

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TriMatrix Laboratories, Inc.

SEMIVOLATILE ORGANIC LABORATORY
INSTRUMENT 151 - 2002 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Nitroglycerin	5/21/02	8332	mg/kg	5.00	4.874	5.456	5.474	6.273	5.714	5.354	4.250	5.342	107%	0.639	**2.007**

TriMatrix Laboratories, Inc.

INORGANIC LABORATORY
2002 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Instrument Number	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Hexavalent Chromium	1/4/02	120	3060/7196A	mg/kg	2.00	0.540	0.980	0.090	1.870	0.530	1.500	1.240	0.964	48%	0.621	**1.953**
Oil & Grease	1/9/02	177	1664	mg/kg	100.00	110.000	100.000	70.000	120.000	90.000	80.000	90.000	94.286	94%	17.182	**54.005**
Cyanide(macro)	1/11/02	161	USEPA9012	mg/kg	0.05	0.030	0.040	0.050	0.040	0.060	0.010	0.040	0.039	77%	0.016	**0.049**
TOC	1/26/02	176	MSA 29-3.5.2	%	0.01	0.006	0.008	0.014	0.010	0.012	0.014	0.010	0.010	104%	0.003	**0.009**
Nitrocellulose	5/23/02	189	USEPA353.2	mg/kg	3.94	3.939	3.136	3.861	4.436	3.183	4.459	3.191	3.744	95%	0.582	**1.829**
Hexavalent Chromium	8/20/02	120	3060/7196A	mg/kg	2.00	1.888	1.528	1.928	1.996	1.888	1.888	1.888	1.858	93%	0.151	**0.474**
Sulfate	8/22/02	189	USEPA375.2	mg/kg	20.000	16.7000	15.5000	12.0000	14.8000	17.2000	14.2000	17.7000	15.4429	77%	1.9823	**6.2304**
total Phosphorus	4/24/02	161	USEPA365.1	mg/kg	5.000	5.0000	4.0000	5.0000	4.0000	5.0000	4.0000	4.0000	4.4286	89%	0.5345	**1.6800**
Nitrate(+Nitrite)	1/2/02	189	USEPA353.2	mg/kg	0.25	0.410	0.350	0.340	0.350	0.350	0.360	0.340	0.357	143%	0.024	**0.076**
Nitrite	1/2/02	189	USEPA353.2	mg/kg	0.10	0.120	0.120	0.110	0.120	0.130	0.130	0.150	0.126	126%	0.013	**0.040**
Fluoride	8/30/02	100	USEPA399.2	mg/kg	2.00	2.120	2.040	2.420	2.140	2.040	2.080	2.200	2.149	107%	0.133	**0.417**
CHLORIDE	9/3/02	189	USEPA 325.2	mg/kg	5.00	4.700	4.200	4.800	3.400	4.600	4.100	4.600	4.343	87%	0.489	**1.538**
Nitrocellulose	9/11/02	120	USEPA354.1	mg/kg	3.94	3.876	3.845	3.845	3.876	3.884	4.420	4.184	3.990	101%	0.224	**0.705**
file: Inorganic Soil MDL2002.XLS														revision: 2002.10		

TriMatrix Laboratories, Inc.
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Grand Rapids, MI 49512 (616) 975-4500

TRANSMITTAL FORM

Date: October 23, 2002

Attention: Doug Rubingh
To: Stone & Webster Engineering Corp.
9201 East Dry Creek Road
Centennial, CO 80112
303-741-7665

Project No.: 35988-4
Client: Stone & Webster
Project Name: ESTCP
Site Name: Badger Army Base
Location: Wisconsin

WE ARE SENDING YOU:

BY: ____ U.S. Mail ____ RPS __X__ Federal Express ____ Other: ____

ENCLOSED WITH THIS TRANSMITTAL: *X* ***UNDER SEPARATE COVER:*** ____

____ Work Plan(s)	____ Report(s) (DRAFT)(FINAL)	____ Contract Documents
____ Specifications	____ Design Plans	__X__ Data Package
____ Shop Drawings	____ Proposal(s)	____ Other

QUANTITY	*DESCRIPTION / DOCUMENT NAME*
1	Copy of the data validation package
1	CD

THESE ARE TRANSMITTED AS CHECKED BELOW:

____ For Approval	____ For Your Information	____ For Your Use
____ For File	__X__ Furnished As Requested	____ As Corrected
____ For Review and Comment	____ Revise and Resubmit	____ For Field Use
____ Rejected	____ ____	____ For Submittal To: ____

REMARKS:

cc:

BY: Lisa M. Harvey
Project Chemist

000001

DATA VALIDATION PACKAGE

PREPARED FOR:

Stone & Webster Engineering Corporation
9201 East Dry Creek Road
Centennial, Colorado 80112

FOR THE SITE:

BAAP-ESTCP DEMONSTRATION
SDG-35988-4

OCTOBER 23, 2002

SUBMITTED BY:

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court
Grand Rapids, Michigan 49512

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Modified Level 5 Analysis

STONE & WEBSTER ENGINEERING CORPORATION
BAAP-ESTCP DEMONSTRATION
SDG-35988-4
OCTOBER 23, 2002

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SAMPLE DELIVERY GROUP CASE NARRATIVE

Modified Level 5 Analysis

STONE & WEBSTER ENGINEERING CORPORATION
BAAP-ESTCP DEMONSTRATION

SDG-35988-4
OCTOBER 23, 2002

This case narrative is applicable to all samples received October 16, 2002. Laboratory sample numbers were assigned as follows:

Submittal Number: 35988-5 **Submittal Description:** Oct. 13, 2002 Rush Soils

Laboratory Sample Numbers	Sample Identification	Requested Analysis	Date Sampled
318248	NC Test 1	NO_2, NO_3, Nitrocellulose, %Solids	10/13/02
318249	NC Test 2	NO_2, NO_3, Nitrocellulose, %Solids	10/13/02
318450	NC Test 3	NO_2, NO_3, Nitrocellulose, %Solids	10/13/02
318251	NC Test 4	NO_2, NO_3, Nitrocellulose, %Solids	10/13/02
318252	NC Test 5	NO_2, NO_3, Nitrocellulose, %Solids	10/13/02
318253	NC Test 6	NO_2, NO_3, Nitrocellulose, %Solids	10/13/02

Sample Receipt

On October 16, 2002 at 13:00 AM, a sample delivery group (SDG) containing six (6) soil samples was received at our Grand Rapids, Michigan Laboratory. These samples were scheduled for the analyses requested on the chain-of-custody.

One cooler was received with this shipment. The receipt temperature of the samples was determined by recording the temperature of two (2) random samples of varying container types, using an infra-red thermometer. The average temperature of the three (3) temperatures measured from the cooler received was 21.2°C.

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Sample Receipt (continued)
All samples and containers were sent via UPS and were received intact and in good condition. No custody seals were present upon receipt. Shipping documents included a field chain-of custody form and UPS air bill.

Analytical Methods

The analytical methods used are as follows.

Parameter	Analytical Method
Nitrate & Nitrite	USEPA Method 353.2/4500 NO3F
Nitrocellulose	USARMY BR&D Lab
% Solids	USEPA Method 3550B

These methods are presented in detail in Section L-Methods Pages.

Holding Times

All samples were prepared and analyzed within EPA approved hold times. The hold time date, pre-treatment date, and analysis date are presented in Section K, Analysis-Pretreatment Date Summary Pages.

Administrative Issues/Problems

No administrative issues were associated with these samples.

Technical Issues/Problems

No technical problems or issues were encountered during the analysis of this SDG.

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In addition to the location of information, the following is a list of QA/QC types utilized by TriMatrix Laboratories, and our in-house type designations.

Method QC:

MPB Method Preparation Blank
BLK Daily Instrument Blank
LFB Laboratory Fortified Blank
LCS Laboratory Control Sample
IEC ICP Interference Check Sample
CRL Contract Required Detection Limit Standard
ICB Initial Calibration Blank
ICV Initial Calibration Verification
CCB Continuing Calibration Blank
CCV Continuing Calibration Verification

Matrix QC:

SPK Sample Matrix Spike
MSD Sample Matrix Spike Duplicate
DUP Sample Duplicate Analysis
SUR Surrogate
PDS Post Digestion Spike

Lisa M. Harvey, Project Chemist

10/23/02
Date

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SECTION - A

FIELD and INTERNAL

CHAIN-OF-CUSTODY (COC) RECORDS

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SECTION - A

FIELD
CHAIN-OF-CUSTODY (COC) RECORDS

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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No.

Project Name/No. BAAP

Sample Team

Profit Center No. n/a

Project Manager Doug Rubingh

Purchase Order No. 13341.0720

Required Report Date see below

Samples Shipment Date 10/15/02

Lab Destination TriMatrix

Lab Contact Lisa Harvey

Project Contact/Phone 616.975.4532

Carrier/Waybill No.

Bill to: 35-988-4

Report to: Doug Rubingh
9201 E. Dry Creek Rd
Centennial, CO 80112

ONE CONTAINER PER LINE

Sample Number	Sample Description/Type	Date/Time Collected	Container Type	Sample Volume	Pre-servative	Requested Testing Program	Condition on Receipt	Disposal Record No.
NC TEST 1	SOIL	10/13/02	4-OZ GLASS		NONE	NC, NITRATE/NITRITE (8)	OK 318248	
NC TEST 2		10/13/02				" " "	318249	
NC TEST 3		10/13/02				" " "	318250	
NC TEST 4		10/13/02				" " "	318251	
NC TEST 5		10/13/02				" " "	318252	
NC TEST 6		10/13/02				" " "	318253	

FOR LAB USE ONLY

Special Instructions:

Possible Hazard Identification:
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal:
Return to Client ☐ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required:
Normal ☐ Rush ☒

QC Level:
I. ☐ II. ☐ III ☐ Project Specific (specify):

1. Relinquished by (Signature/Affiliation) [signature] / STONE & W	Date: 10/15/02 Time: 1400	1. Received by (Signature/Affiliation) UPS	Date: Time:
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation) [signature]	Date: 10-16-02 Time: 1:00
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: PLEASE CALL DOUG RUBINGH @ 303-741-7665 W/ QS

6000

TriMatrix Laboratories, Inc.

SAMPLE RECEIVING / LOG-IN CHECKLIST

Client: Baup | Project-Submittal No.: 35588-4
Receipt Log No.: 39-12 | Sample Nos.: 38248-253 | Project Chemist: LKP

Coolers Received

Recorded by (initials/date): LKP 10-16-02

☐ Cooler ☑ Box ☐ Other _____ | Qty Received: 1

☑ IR Gun | Thermometer Used ☐ Digital Thermometer ☐ Other | ☐ See Additional Cooler Information Form

Cooler No.	Time	Custody Seals	Coolant / Temperature Taken Via	Alternate Temperature Taken Via
N/A	2:00	☑ none ☐ present / intact ☐ present / not intact	☐ loose ice / melt water (mw) ☐ bagged ice / avg 2-3 containers ☐ ice packs / avg 2-3 containers ☑ none / avg 2-3 containers	☐ temperature blank (tb) ☐ 1 container

	Recorded °C	Correction Factor °C	Actual °C
mw			
tb			
1	21.4	0	21.4
2	20.9	0	20.9
3			
Average °C			21.2

☐ Cooler ID on COC? ☐ VOA trip blank received?

Cooler No.	Time	Custody Seals	Coolant / Temperature Taken Via	Alternate Temperature Taken Via
		☐ none ☐ present / intact ☐ present / not intact	☐ loose ice / melt water (mw) ☐ bagged ice / avg 2-3 containers ☐ ice packs / avg 2-3 containers ☐ none / avg 2-3 containers	☐ temperature blank (tb) ☐ 1 container

	Recorded °C	Correction Factor °C	Actual °C
mw			
tb			
1			
2			
3			
Average °C			

☐ Cooler ID on COC? ☐ VOA trip blank received?

Cooler No.	Time	Custody Seals	Coolant / Temperature Taken Via	Alternate Temperature Taken Via
		☐ none ☐ present / intact ☐ present / not intact	☐ loose ice / melt water (mw) ☐ bagged ice / avg 2-3 containers ☐ ice packs / avg 2-3 containers ☐ none / avg 2-3 containers	☐ temperature blank (tb) ☐ 1 container

	Recorded °C	Correction Factor °C	Actual °C
mw			
tb			
1			
2			
3			
Average °C			

☐ Cooler ID on COC? ☐ VOA trip blank received?

Cooler No.	Time	Custody Seals	Coolant / Temperature Taken Via	Alternate Temperature Taken Via
		☐ none ☐ present / intact ☐ present / not intact	☐ loose ice / melt water (mw) ☐ bagged ice / avg 2-3 containers ☐ ice packs / avg 2-3 containers ☐ none / avg 2-3 containers	☐ temperature blank (tb) ☐ 1 container

	Recorded °C	Correction Factor °C	Actual °C
mw			
tb			
1			
2			
3			
Average °C			

☐ Cooler ID on COC? ☐ VOA trip blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance Form

Paperwork Received

☐ No COC received

N/A	Yes	No	
	☑	☐	**Chain of Custody Record(s)?**
	☐		If No, COC initiated by _____
	☑		Rec'd for Lab signed/date/time?
☐	☑		Shipping Document?
☐	☐		Other _____

COC ID Nos.

☐ TriMatrix

☑ Other (name or ID#) Baup

Check COC for Accuracy

☐ No analysis requested

Yes	No	
☑	☐	Sample ID matches COC?
☑	☐	Sample date and time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Sample Condition Summary

☐ Non-TriMatrix containers, see Notes

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate containers received?
☑	☐	☐	VOC vials have headspace?
☐	☐	☐	Extra sample locations / containers not listed on COC?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	All sample temperatures ≤4°C?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐	☐	Samples preserved correctly?
☑	☐		If "No", added orange tag?
☑	☐		Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ NONE

☐ Semi-Volatile Organics: ***Air Bags** (24 hours)* ☐ TO LAB

☐ Inorganics: *Cr^{+6} (24 hours); **Bacteria** (6-24 hours); Fe^{+2} / CO_2 / BOD / NO_2 / NO_3 / o-Phos / MBAs / Turbidity (48 hours)*

☐ Volatile Organics: *EnCore soils (48 hour prep)*

☐ 5g ☐ Michigan/Wisconsin site?

☐ 25g ☐ non-Michigan/Wisconsin site?

☐ Metals: *low-level Hg (72 hour prep)*

☐ Organic Prep: *Formaldehyde / Aldehydes (72 hours)*

Notes

☐ No COC received, Proj. Chemist reviewed (init./date) _____

☐ No analysis requested, Proj. Chemist completed (init./date) _____

Preliminary paperwork to Project Chemist (date/time)	Preliminary paperwork returned to Log-In (date/time)
LKP 10-16-02	(W 10/16/02 1455

SECTION - A

INTERNAL
CHAIN-OF-CUSTODY (COC) RECORDS

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16-OCT-2002

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: Oct. 13, 2002 Rush Soils PROJECT: 35988-4

Parameter: INORGANIC PRETREATMENT Method: MSA/EXC/EXT/SOL Ref Cit: MSA 33-3.2 Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
318248	Jodi Blom	10/18/02 9am			10/18/02 1030am
318249	"	"			"
318250	"	"			"
318251	"	"			"
318252	"	"			"
318253	Jodi Blom	10/18/02 9am			10/18/02 1030am

16-OCT-2002

TRINATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: Oct. 13, 2002 Rush Soils PROJECT: 35988-4

Parameter: NITROCELLULOSE Method: NC/AUTOAN/SOIL Ref Cit: USARMY BR&D Lab Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
318248	[signature]	10/22/02 1pm			10/22/02 3pm
318249	"	"			"
318250	"	"			"
318251	"	"			"
318252	"	"			"
318253	[signature]	10/22/02 1pm			10/22/02 3pm

TRIMATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: Oct. 13, 2002 Rush Soils PROJECT: 35988-4

Parameter: NITROGEN, NITRATE+NITRITE Method: NO3/AUTOAN/SOIL Ref Cit: 353.2/4500 NO3F Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
318248	[signature]	10/18/02 11am			10/18/02 1210pm
318249					
318250					
318251					
318252					
318253	[signature]	10/18/02 11am			10/18/02 1210pm

TRINATRIX LABORATORIES, INC.
CHAIN OF CUSTODY REPORT FOR AN ENTIRE SUBMITTAL

CLIENT: Stone & Webster Engineering Corp PROJECT: ESTCP Demonstration

SUBMITTAL: Oct. 13, 2002 Rush Soils PROJECT: 35988-4

Parameter: PERCENT SOLIDS Method: RESD/TOTAL/SOIL Ref Cit: SW-846 3550B Matrix: SOIL

SAMPLE #	REMOVED BY: (SIGNATURE)	DATE & TIME REMOVED	RELINQUISHED BY: DATE & TIME	RECEIVED BY: DATE & TIME	DATE & TIME RETURNED
318248		10/18/02 11:40am			10/18/02 1:20pm
318249					
318250					
318251					
318252					
318253		10/18/02 11:40am			10/18/02 1:20pm

SECTION - J

WET CHEMISTRY DATA

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SECTION - J

SAMPLE RESULT SUMMARIES

WET CHEMISTRY DATA

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils

Submittal Number: 35988- 4
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		NC Test 1		LOD	LOQ	Units
	Lab Sample No:	318248				
E-1047	Percent Solids	99		NA	0.1	%
9004-70-0	Nitrocellulose	1.3	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	2.8		0.023	0.076	mg/kg dry
Sampled by:		S&W				
Date Sampled:		10/13/02				
Time Sampled:		00:00				
Date Received:		10/16/02				
Time Received:		13:00				

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils

Submittal Number: 35988- 4
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		NC Test 2	LOD	LOQ	Units
	Lab Sample No:	318249			
E-1047	Percent Solids	99	NA	0.1	%
9004-70-0	Nitrocellulose	3.0	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	2.5	0.023	0.076	mg/kg dry

Sampled by:	S&W
Date Sampled:	10/13/02
Time Sampled:	00:00
Date Received:	10/16/02
Time Received:	13:00

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils

Submittal Number: 35988- 4
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		NC Test 3		LOD	LOQ	Units
	Lab Sample No:	318250				
E-1047	Percent Solids	99		NA	0.1	%
9004-70-0	Nitrocellulose	0.81	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	2.7		0.023	0.076	mg/kg dry

Sampled by:	S&W
Date Sampled:	10/13/02
Time Sampled:	00:00
Date Received:	10/16/02
Time Received:	13:00

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils

Submittal Number: 35988- 4
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		NC Test 4		LOD	LOQ	Units
	Lab Sample No:	318251				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	ND	U	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	3.0		0.023	0.076	mg/kg dry
	Sampled by:	S&W				
	Date Sampled:	10/13/02				
	Time Sampled:	00:00				
	Date Received:	10/16/02				
	Time Received:	13:00				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils

Submittal Number: 35988- 4
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		NC Test 5		LOD	LOQ	Units
	Lab Sample No:	318252				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	ND	U	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	2.9		0.023	0.076	mg/kg dry
Sampled by:		S&W				
Date Sampled:		10/13/02				
Time Sampled:		00:00				
Date Received:		10/16/02				
Time Received:		13:00				

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ANALYTICAL REPORT
USEPA CLP FORM 1

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils

Submittal Number: 35988- 4
Location:
Contact: Lisa M. Harvey
Phone: (616) 975-4500

CAS No.		NC Test 6		LOD	LOQ	Units
	Lab Sample No:	318253				
E-1047	Percent Solids	100		NA	0.1	%
9004-70-0	Nitrocellulose	1.9	J	0.69	2.3	mg/kg dry
14797-55-8	Nitrogen, Nitrate+Nitrite	3.2		0.023	0.076	mg/kg dry
Sampled by:		S&W				
Date Sampled:		10/13/02				
Time Sampled:		00:00				
Date Received:		10/16/02				
Time Received:		13:00				

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SECTION - J

QUALITY CONTROL SUMMARIES

WET CHEMISTRY DATA

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TriMatrix Laboratories, Inc.

QUALITY CONTROL REPORT
INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV-CCV)
USEPA CLP FORM 2A

SDG No.	35988 -4	Parameter	Nitrocellulose
Batch No.	192989		
Instrument ID	120	Ref. Cit.	USARMY BR&D Lab
		Matrix	WATER
		Units	mg/L

Verification QC Type	True Value	Amount Found	% Recovery	Acceptance Window-%	Date	Analyst
ICV 1	0.25	0.25	100	0 - 0	10/22/02	JLB
CCV 1	0.25	0.25	100	0 - 0	10/22/02	JLB
CCV 2	0.25	0.25	100	0 - 0	10/22/02	JLB

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TriMatrix Laboratories, Inc.

QUALITY CONTROL REPORT
INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV-CCV)
USEPA CLP FORM 2A

SDG No.	35988 -4	Parameter	Nitrogen, Nitrate
Batch No.	192932		
Instrument ID	189	Ref. Cit.	353.2/4500 NO3F
		Matrix	WATER
		Units	mg/L

Verification QC Type	True Value	Amount Found	% Recovery	Acceptance Window-%	Date	Analyst
ICV 1	0.50	0.48	96	85 - 115	10/18/02	JLB
CCV 1	0.50	0.49	98	85 - 115	10/18/02	JLB
CCV 2	0.50	0.49	98	85 - 115	10/18/02	JLB
CCV 3	0.50	0.50	100	85 - 115	10/18/02	JLB

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QUALITY CONTROL REPORT
CRDL STANDARD
USEPA CLP FORM 2B

SDG No. 35988 -4 Matrix WATER
Units mg/L

Analyte	Analytical Batch	True Value	Amount Found	% Recovery
Nitrogen, Nitrate	192932	0.05	0.046	92
Nitrocellulose	192989	0.01	0.0097	97

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -4	Parameter	Nitrocellulose
Instrument ID	120	Ref. Cit.	USARMY BR&D Lab
		Matrix	WATER
		Units	mg/L

Batch	Blank QC Type	Sequence No.	Amount Found
192989	Initial Calibration	1	<0.05
192989	Continuing Calibration	1	<0.05
192989	Continuing Calibration	2	<0.05
192989	Instrument	1	<0.05

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TriMatrix Laboratories, Inc.

QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -4	Parameter	Nitrocellulose
Instrument ID	120	Ref. Cit.	USARMY BR&D Lab
		Matrix	WATER
		Units	mg/L

Batch	Blank QC Type	Sequence No.	Amount Found	
79779	Method Preparation	1	<2.3	U

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -4	Parameter	Nitrogen, Nitrate
Instrument ID	189	Ref. Cit.	353.2/4500 NO3F
		Matrix	WATER
		Units	mg/L

Batch	Blank QC Type	Sequence No.	Amount Found
192932	Initial Calibration	1	<0.05
192932	Continuing Calibration	1	<0.05
192932	Continuing Calibration	2	<0.05
192932	Continuing Calibration	3	<0.05
192932	Instrument	1	<0.05

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QUALITY CONTROL REPORT
BLANKS
USEPA CLP FORM 3

SDG No.	35988 -4	Parameter	Percent Solids
Instrument ID	210	Ref. Cit.	SW-846 3550B
		Matrix	SOIL
		Units	%

Batch	Blank QC Type	Sequence No.	Amount Found
193014	Instrument	1	<0.1

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -4
Sample ID. NC Test 1

Matrix SOIL
Lab Sample No. 318248
Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result		Spike Added	%R	M
Nitrocellulose	0 - 0	24	1.3	J	40	57	

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QUALITY CONTROL REPORT
SPIKE SAMPLE RECOVERY
USEPA CLP FORM 5A

SDG No. 35988 -4
Sample ID. NC Test 4

Matrix SOIL
Lab Sample No. 318251
Units mg/kg dry

Analyte	Control Limit %R	Spiked Sample Result	Sample Result	Spike Added	%R	M
Nitrogen, Nitrate+Nitr	71 - 125	8.1	3.0	5.0	102	AC
Nitrogen, Nitrate+Nitr	71 - 125	8.0	3.0	5.0	100	AC

000033

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Individual sample results relate only to the sample tested.

QUALITY CONTROL REPORT
MATRIX SPIKE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -4	Matrix	SOIL
		Lab Sample No.	318251
Sample ID.	NC Test 4	Units	mg/kg dry

Analyte	Control Limit	Sample Result	Duplicate Spike Result	RPD	M
Nitrogen, Nitrate+Nitrite	0 - 20	8.1	8.0	1	AC

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No. 35988 -4
Sample ID. NC Test 1

Matrix SOIL
Lab Sample No. 318248
Units mg/kg dry

Analyte	Control Limit	Sample Result		Duplicate Result		RPD	M
Nitrocellulose	0 - 0	1.3	J	1.1	J	17	

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QUALITY CONTROL REPORT
SAMPLE DUPLICATE
USEPA CLP FORM 6

SDG No.	35988 -4	Matrix	SOIL
		Lab Sample No.	318253
Sample ID.	NC Test 6	Units	%

Analyte	Control Limit	Sample Result	Duplicate Result	RPD	M
Percent Solids	0 - 20	100	100	0	G

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QUALITY CONTROL REPORT
LABORATORY FORTIFIED BLANK
USEPA CLP FORM 7

SDG No. 35988 -4 Units mg/L

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitrocellulose	79779	39	29	80 - 120	74

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE
USEPA CLP FORM 7

SDG No. 35988 -4 Units mg/L

Analyte	Batch	True Value	Amount Found	Control Limit	%R
Nitrocellulose	192989	0.25	0.245	80 - 120	98
Nitrogen, Nitrate	192932	6.93	6.38	90 - 110	92
Nitrogen, Nitrate	192932	0.694	0.686	90 - 110	99

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SECTION - J

SAMPLE RAW DATA

WET CHEMISTRY DATA

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15m7 J66t15m7 J66t

2002-OCT-23 12:34 BATCH DETAIL REPORT -- INORGANIC LABORATORY ANALYTICAL BATCH # 193014 PAGE 1 OF 1

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
193014	18-OCT-02	JMJ	1	NO	YES	RESD/TOTAL/SOIL	SOIL	SW-846 3550B	6	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	10/18/02	JMJ		SOIL	0.1		<0.1		PERCENT SOLIDS	BLK- 1	0						SW-846 3550B
v	2.000	-	193014-118	10/18/02	JMJ	318248	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	3.000	-	193014-118	10/18/02	JMJ	318249	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	4.000	-	193014-118	10/18/02	JMJ	318250	SOIL	0.1		99		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	5.000	-	193014-118	10/18/02	JMJ	318251	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	6.000	-	193014-118	10/18/02	JMJ	318252	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	7.000	-	193014-118	10/18/02	JMJ	318253	SOIL	0.1		100		PERCENT SOLIDS	REG- 1							SW-846 3550B
v	8.000	- 7	193014-118	10/18/02	JMJ	318253	SOIL	0.1	100	100		PERCENT SOLIDS	DUP- 1	0		20				SW-846 3550B

000040

18-OCT-02

INORGANIC BENCHSHEET -- GRAVIMETRIC

Test #: 14. 1- 16.01 Instrument #: _____ Est anal hrs: 1.5 Benchsheet ID: 298533
Parameter: PERCENT SOLIDS Act anal hrs: _____ Owner: _____
Method: RESD/TOTAL/SOIL ODL: 0.1 Samples in batch: 6 Batch Opened Date: _____
Ref. cit.: SW-846 3550B Unit: % Stock std #: _____ Supervisor: _____

Batch: _____

Comments:

10/18/02
11:40
Due 10/23

OVEN TEMPS	Cycle 1	Cycle 2
In		
Out		

Client Submittal Location	Sample	COC	QC	Analyst	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Report. Conc.	ODL	Q##
Stone & Webster Engineering Corp 35988- 4 NC Test 1	318248 *	YES	LV5										
Stone & Webster Engineering Corp 35988- 4 NC Test 2	318249 *	YES	LV5										
Stone & Webster Engineering Corp 35988- 4 NC Test 3	318250 *	YES	LV5										
Stone & Webster Engineering Corp 35988- 4 NC Test 4	318251 *	YES	LV5										
Stone & Webster Engineering Corp 35988- 4 NC Test 5	318252 *	YES	LV5										
Stone & Webster Engineering Corp 35988- 4 NC Test 6	318253 *	YES	LV5										

000041

18-OCT-02 INORGANIC BENCHSHEET -- GRAVIMETRIC ** QC ** PAGE 1

Test #: 14. 1- 16.01
Parameter: PERCENT SOLIDS
Method: RESD/TOTAL/SOIL ODL: 0.1
Ref. cit.: SW-846 3550B Unit: %

Benchsheet ID: 298533
Owner: _____
Batch Opened Date: _____
Supervisor: _____

Comments:

	Anl.	Run Date	Dish ID	CYCLE #1 Wt of Dish + Residue	CYCLE #2 Wt of Dish + Residue	Wt of Dish	mls/gms Sample	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK: _____											XXXXXXXX	
											XXXXXXXX	
LCS: Stk _____												
SPK1: Stk _____ Smp _____												
SPK2: Stk _____ Smp _____												
MSD: _____ Smp _____		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: _____ Smp _____											XXXXXXXX	
											XXXXXXXX	
SPK1: Stk _____ Smp _____												
SPK2: Stk _____ Smp _____												
MSD: _____ Smp _____		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
		XXXXXXXX	XXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXX	XXXXXXX	XXXXXXXX	XXXXX		XXXXXXXX	
DUP: _____ Smp _____											XXXXXXXX	
											XXXXXXXX	
MPB: _____ QCB# _____											XXXXXXXX	
											XXXXXXXX	
LFB: Stk _____ QCB# _____												
CRDL: Stk _____												

QC Type	Range	Lower	Upper
DUP	1		20
DUP	2		20
LFB - SOIL - 01	1	80	120
MSD	1		20
MSD	2		20
SPK	1	80	120

Due 10/23/02

21-OCT-02 INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY PAGE 1

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 4.0
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Batch: 192989 LMC 10-23-02
QA2 10/23/02

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #: 120
Benchsheet ID: 298309
Owner: JAB
Batch Opened Date: 10-22-02
Supervisor:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 6
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client / Submittal / Sample / Location	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk INC.90.15									0.25			0.25	
ICB:									<0.05			XXXXXXXX	
												XXXXXXXX	
Stone & Webster Engineering Corp 35988- 4 318248 * YES LV5 NC Test 1									1.3 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- 4 318249 * YES LV5 NC Test 2									3.0	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- 4 318250 * YES LV5 NC Test 3									0.81 J	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- 4 318251 * YES LV5 NC Test 4									<2.3 U	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- 4 318252 * YES LV5 NC Test 5									<2.3 U	~~4.0~~ 2.3			
Stone & Webster Engineering Corp 35988- 4 318253 * YES LV5 NC Test 6									1.9 J	~~4.0~~ 2.3			
CCV: Stk INC.90.15 Rep 1									0.25			0.25	
CCB: Rep 1									<0.05			XXXXXXXX	
												XXXXXXXX	
CCV: Stk INC.90.15 Rep 2									0.25			0.25	
CCB Rep 2									<0.05				

000043

21-OCT-02 INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY ** QC ** PAGE 1

Test#: 1931. 1- 544.02
Parameter: NITROCELLULOSE
Method: NC/AUTOAN/SOIL ODL: 4.0
Ref. Cit.: USARMY BR&D Lab Unit: mg/kg dry

Instrument #:
Benchsheet ID: 298809
Owner: JMB
Batch Opened Date: 10-22-02
Supervisor:
Est anal hrs: 6
Act anal hrs:
Samples in batch: 6
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:							<0.05				
LCS: Stk NC6.97.2							0.245			0.25	
SPK1: Stk Smp											
SPK2: Stk Smp											
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp 318248							1.1 J				
SPK1: Stk NC Smp 318248							24			40	60% 10/23-02
SPK2: Stk Smp											
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp											
MPB: QCB# same as batch							< 2.3 U	2.3			
LFB: Stk NC QCB#							29	2.3		39	74
CRDL: Stk NC6.96.18							0.0097	0.0097		0.01	

QC Type	Range	Lower	Upper
LFB (wtr)	1		
SPK	1		

0000041

15m7 J66t15m7 J66t

JLB LVS
10/23/02

2002-OCT-23 09:51 BATCH DETAIL REPORT -- INORGANIC LABORATORY ANALYTICAL BATCH # 192989 PAGE 1 OF 1

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
192989	22-OCT-02	JLB	1	NO	YES	NC/AUTOAN/WTR	WATER	USARMY BR&D Lab	6	1	1	1	2	2

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc		Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	10/22/02	JLB		WATER	0.25		0.25		0.25	NITROCELLULOSE	ICV- 1	100						USARMY BR&D Lab
v	2.000	-	-	10/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	ICB- 1	0						USARMY BR&D Lab
v	3.000	-	192989-122	10/22/02	JLB	318248	SOIL	2.3		1.3	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	4.000	-	192989-122	10/22/02	JLB	318249	SOIL	2.3		3.0			NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	5.000	-	192989-122	10/22/02	JLB	318250	SOIL	2.3		0.81	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	6.000	-	192989-122	10/22/02	JLB	318251	SOIL	2.3		<2.3	U		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	7.000	-	192989-122	10/22/02	JLB	318252	SOIL	2.3		<2.3	U		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	8.000	-	192989-122	10/22/02	JLB	318253	SOIL	2.3		1.9	J		NITROCELLULOSE	REG- 1							USARMY BR&D Lab
v	9.000	-	-	10/22/02	JLB		WATER	0.05		0.25		0.25	NITROCELLULOSE	CCV- 1	100						USARMY BR&D Lab
v	10.000	-	-	10/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 1	0						USARMY BR&D Lab
v	11.000	-	-	10/22/02	JLB		WATER	0.05		0.25		0.25	NITROCELLULOSE	CCV- 2	100						USARMY BR&D Lab
v	12.000	-	-	10/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	CCB- 2	0						USARMY BR&D Lab
v	13.000	-	-	10/22/02	JLB		WATER	0.05		<0.05			NITROCELLULOSE	BLK- 1	0						USARMY BR&D Lab
v	14.000	-	-	10/22/02	JLB		WATER	0.05		0.245		0.25	NITROCELLULOSE	LCS- 1	98						USARMY BR&D Lab
v	15.000	-	3 192989-122	10/22/02	JLB	318248	SOIL	2.3	1.3	1.1	J		NITROCELLULOSE	DUP- 1	17						USARMY BR&D Lab
v	16.000	-	3 192989-122	10/22/02	JLB	318248	SOIL	2.3	1.3	24		40	NITROCELLULOSE	SPK- 1	57						USARMY BR&D Lab
v	17.000	-	192989-122	10/22/02	JLB		WATER	2.3		<2.3	U		NITROCELLULOSE	MPB- 1	0						USARMY BR&D Lab
v	18.000	-	192989-122	10/22/02	JLB		WATER	2.3		29		39	NITROCELLULOSE	LFB- 1	74						USARMY BR&D Lab
v	19.000	-	-	10/22/02	JLB		WATER	0.0097		0.0097		0.01	NITROCELLULOSE	CRL- 1	97						USARMY BR&D Lab

000045

22/Oct/02 13:21:40

Std.Tabl

520.0nm | 0.347A

No.	Conc.	ABS
1	0.0000	0.000
2	0.0100	0.003
3	0.0500	0.027
4	0.1000	0.062
5	0.2500	0.173
6	0.5000	0.347

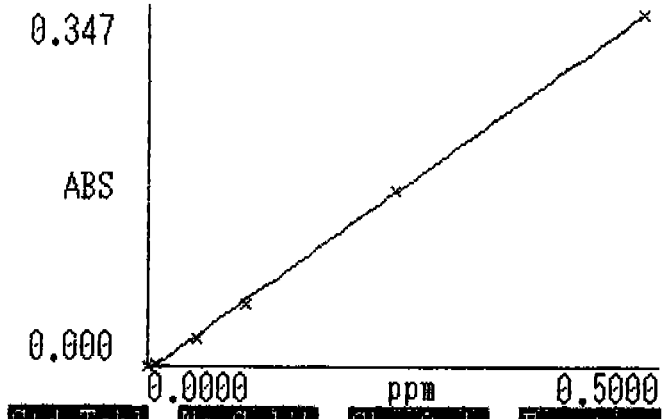
No.	ABS

CalCurve | Change | Delete | Add

22/Oct/02 13:22:00

CalCurve

520.0nm | -0.039A



Std.Tabl | NewCalib | Chg.Ord. | Equation

22/Oct/02 13:22:14

Calib. curve equation

$$ABS = K3C^3 + K2C^2 + K1C + K0$$

K3 = 0.0000

K2 = 0.0000

K1 = 0.7031

K0 = -0.0045

r^2 = 0.9994

1	0.174	0.2545	ICV
2	-0.001	0.0056	ICB
3	0.168	0.2450	LCS
4	0.002	0.0097	CRDL
5	-0.001	0.0050	MPB
6	0.123	0.1818	LFB 3X =0.3636
7	0.002	0.0099	318248
8	0.006	0.0144	dup
9	0.103	0.1535	spk 2X = 0.307
10	0.004	0.0120	318249
11	0.013	0.0248	318250
12	0.014	0.0267	318251
13	0.174	0.2537	~~318252~~ CCV
14	0.000	0.0064	~~318253~~ CCB
15	0.005	0.0129	318252
16	0.007	0.0163	318253
17	0.019	0.0328	318248
18	0.048	0.0748	318249
19	0.010	0.0203	318250
20	0.004	0.0118	318251
21	0.004	0.0115	318252
22	0.029	0.0481	318253
23	0.170	0.2485	CCV
24	-0.001	0.0056	CCB

1 0g / 100mL

1 0g / 50mL

LFB spk amt 39

samp. spk 40

Shimadzu

Test: Nitrocellulose Date: 10-22-02 Operator: LB

1.	ICV	21.	250 10/50
2.	ICB/BLK	22.	251 -
3.	LCS	23.	252
4.	CRDL	24.	253
5.	MPB	25.	CCV
6.	LFB 2x	26.	CCB
7.	@ 248 10g/100 mL	27.	
8.	dup	28.	
9.	SPK 2x	29.	
10.	249	30.	
11.	250	31.	
12.	251	32.	
13.	CCV	33.	
14.	CCB	34.	
15.	252	35.	
16.	253	36.	
17.	CCV 248 10g/150mL	37.	
18.	CCB 248	38.	
19.	~~248~~	39.	
20.	249	40.	

000048

Nitrocellulose (NC) Worksheet

TriMatrix Laboratories, Inc.

Sample Number	weight grams	volume mls	N-NO2 mg/L	% Solids	N-NO2 mg/kg-dry	NC mg/kg-dry	NC-PQL mg/kg-dry
MPB	10	100	0.005	100	0.05	0.394	0.79
LFB	10	100	0.3636	100	3.64	28.647	0.79
318248	10	100	0.0099	99	0.10	0.788	0.80
318248D	10	100	0.0144	99	0.15	1.146	0.80
318248S	10	100	0.307	99	3.10	24.432	0.80
318249	10	100	0.012	99	0.12	0.955	0.80
318250	10	100	0.0248	99	0.25	1.974	0.80
318251	10	100	0.0267	100	0.27	2.104	0.79
318252	10	100	0.0129	100	0.13	1.016	0.79
318253	10	100	0.0163	100	0.16	1.284	0.79
318248	10	50	0.0328	99	0.17	1.305	0.00
318249	10	50	0.0748	99	0.38	2.976	0.00
318250	10	50	0.0203	99	0.10	0.808	0.00
318251	10	50	0.0118	100	0.06	0.465	0.00
318252	10	50	0.0115	100	0.06	0.453	0.00
318253	10	50	0.0481	100	0.24	1.895	0.00

MPL
0.705

spk amt 39

spk amt 40

V-Dyce

Due 10/23/02

NLB 10-22-02

17-OCT-02

WET CHEM PRETREATMENT BENCHSHEET

Test #: 394.01- 540.01
Parameter: INORGANIC PRETREATMENT
Method: MSA/EXC/EXT/SOL
Ref. cit.: MSA 33-3.2

Thermometer #: ____ | ____
Initial Deg C: ____ | ____
Final Deg C: ____ | ____

Est anal hrs: 3
Act anal hrs: ____
Stock std #: ____

Analyst: JEB
Date rev.: 10-18-02
Supervisor:
QC Batch #: 192910

Comments: ____

Client / Submittal / Location	Sample	COC	QC	Anl.	Date Treated	Initial wt/vol	Final wt/vol	Interference	~~chk/val~~ 90501	Interference	chk/val	Qu
Stone & Webster Engineering Corp 35988- 4 NC Test 1	318248 *	YES	LV5			10.0g	100mL		99			
Stone & Webster Engineering Corp 35988- 4 NC Test 2	318249 *	YES	LV5			10.0g	100mL		99			
Stone & Webster Engineering Corp 35988- 4 NC Test 3	318250 *	YES	LV5			10.0g	100mL		99			
Stone & Webster Engineering Corp 35988- 4 NC Test 4	318251 *	YES	LV5			10.0	100mL		100			
Stone & Webster Engineering Corp 35988- 4 NC Test 5	318252 *	YES	LV5			10.0	100mL		100			
Stone & Webster Engineering Corp 35988- 4 NC Test 6	318253 *	YES	LV5			10.0	100mL		100			

	Anl.	Date Treated	Initial wt/vol	Final wt/vol	Conc. Spiking Solution	SPK STK #	Volume Spiked	Final Spike Conc.	Qu
MPB: ____									
LFB: Stk ____									
SPK1: Stk ____ Smp ____									
SPk2: Stk ____ Smp ____									
DUP: ____ Smp ____									

TRIMATRIX LABORATORIES, INC.

000050

15m7 J66t15m7 J66t

JLB 10/23/02 LVS

2002-OCT-22 14:33 BATCH DETAIL REPORT -- INORGANIC LABORATORY ANALYTICAL BATCH # 192910 PAGE 1 OF 1

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
192910	18-OCT-02	JLB	1	NO	YES	MSA/EXC/EXT/SOL	SOIL	MSA 33-3.2	0	0	0	0	0	0

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-118	10/18/02	JLB	318248	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	2.000	-	-118	10/18/02	JLB	318249	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	3.000	-	-118	10/18/02	JLB	318250	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	4.000	-	-118	10/18/02	JLB	318251	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	5.000	-	-118	10/18/02	JLB	318252	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2
v	6.000	-	-118	10/18/02	JLB	318253	SOIL					INORGANIC PRETREATMENT	REG- 1							MSA 33-3.2

000051

V 04 cc

21-OCT-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: 192933 KMC 10-22-02

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #: 18
Benchsheet ID: 298200
Owner: JLB
Batch Opened Date: 10-18-02
Supervisor:
Est anal hrs: 6
Act anal hrs:
Samples in batch: 6
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Location / Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk IW4.88.6									0.48			0.50	
ICB:									<0.05			XXXXXXXX	
Stone & Webster Engineering Corp 35988- 4 318248 NC Test 1	*	YES	LV5							0.5		XXXXXXXX	
Stone & Webster Engineering Corp 35988- 4 318249 NC Test 2	*	YES	LV5							0.5			
Stone & Webster Engineering Corp 35988- 4 318250 NC Test 3	*	YES	LV5							0.5			
Stone & Webster Engineering Corp 35988- 4 318251 NC Test 4	*	YES	LV5							0.5			
Stone & Webster Engineering Corp 35988- 4 318252 NC Test 5	*	YES	LV5							0.5			
Stone & Webster Engineering Corp 35988- 4 318253 NC Test 6	*	YES	LV5							0.5			
CCV: Stk ____ Rep ___													
CCB: ____ Rep ___												XXXXXXXX	

000053

21-OCT-02 INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY ** QC ** PAGE 1

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Instrument #:
Benchsheet ID: 298600
Owner: JLB
Batch Opened Date: 10-18-02
Supervisor:
Est anal hrs: 6
Act anal hrs:
Samples in batch: 6
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:							<0.05			XXXXXXXX	
LCS: Stk IN6.38.16				10X			6.38	0.50		6.93	
SPK1: Stk Smp											
SPK2: Stk Smp											
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXX	XXXXXXX	XXXX	XXXXXXXXX	XXXXXXX		XXXXXXX	
DUP: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXX	XXXXXXX	XXXX	XXXXXXXXX	XXXXXXX		XXXXXXXX	
SPK1: Stk Smp										XXXXXXXX	
SPK2: Stk Smp											
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXX	XXXXXXX	XXXX	XXXXXXXXX	XXXXXXX		XXXXXXX	
DUP: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXX	XXXXXXX	XXXX	XXXXXXXXX	XXXXXXX		XXXXXXXX	
MPB: QCB#										XXXXXXXX	
~~LFB~~ LCS: Stk IN6.38.17 QCB#							0.686			0.694	
CRDL: Stk IN6.88.9							0.046	0.046		0.05	

QC Type	Range	Lower	Upper
DUP	1		20
DUP	2		20
LCS (wtr)	1	90	110
LFB (wtr)	1	90	110
MSD	1		20
MSD	2		20
SPK	1	71	125

000053

21-OCT-02 INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY PAGE 1

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 298601
Owner: JLB
Batch Opened Date: 10-18-02
Supervisor:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 8
Stock std #:
Wavelength (nm):
Cell path (cm):

Comments:

Client Submittal Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk	106.88.6		1							0.49			0.50	
CCB:			1							<0.05			XXXXXXXX	
													XXXXXXXX	
Stone & Webster Engineering Corp 35988- 4 NC Test 1	318248 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 4 NC Test 2	318249 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 4 NC Test 3	318250 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 4 NC Test 4	318251 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 4 NC Test 5	318252 *	YES	LV5								0.5			
Stone & Webster Engineering Corp 35988- 4 NC Test 6	318253 *	YES	LV5								0.5			
CCV: Stk	106.88.6	Rep	2							0.49			0.50	
CCB:		Rep	2							<0.05			XXXXXXXX	
													XXXXXXXX	

000054

21-OCT-02

INORGANIC BENCHSHEET — AUTOMATED CHEMISTRY

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 298602
Owner: JLB
Batch Opened Date: 10/18/02
Supervisor:
Est anal hrs: 6
Act anal hrs:
Samples in batch: 6
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client Submittal Sample COC QC Location	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk										XXXXXXXX	
ICB:										XXXXXXXX	
Stone & Webster Engineering Corp 35988- 4 318248 * YES LV5 NC Test 1			10g/100mL		0.2798	99	2.8	~~0.5~~ 0.076			
Stone & Webster Engineering Corp 35988- 4 318249 * YES LV5 NC Test 2			10g/100mL		0.2507	99	2.5	~~0.5~~ 0.076			
Stone & Webster Engineering Corp 35988- 4 318250 * YES LV5 NC Test 3			10g/100mL		0.2683	99	2.7	0.5 0.076			
Stone & Webster Engineering Corp 35988- 4 318251 * YES LV5 NC Test 4			10g/100mL		0.3043	100	3.0	~~0.5~~ 0.076			
Stone & Webster Engineering Corp 35988- 4 318252 * YES LV5 NC Test 5		10/21/02	~~10g/100mL~~ LVL					0.5			
Stone & Webster Engineering Corp 35988- 4 318253 * YES LV5 NC Test 6								0.5			
CCV: Stk ____ Rep ___										XXXXXXXX	
CCB: ____ Rep ___										XXXXXXXX	

00005

21-OCT-02 INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY ** QC ** PAGE 1

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Instrument #:
Benchsheet ID: 298602
Owner: JCB
Batch Opened Date: 10/18/02
Supervisor:
Est anal hrs: 6
Act anal hrs:
Samples in batch: 6
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
BLK:											
LCS: Stk											
SPK1: Stk Smp											
SPK2: Stk Smp											
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
SPK1: Stk WS.77.10 Smp 318251			10/100		0.8148	100	8.1			5.0	
SPK2: Stk WS.77.10 Smp 318251			10/100		0.8009	100	8.0			5.0	
MSD: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
DUP: Smp		XXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	XXXX	XXXXXXXXXX	XXXXXXXX		XXXXXXXX	
MPB: QCB#											
LFB: Stk QCB#											
CRDL: Stk											

QC Type	Range	Lower	Upper
DUP	1		20
DUP	2		20
LCS (wtr)	1	90	110
LFB (wtr)	1	90	110
MSD	1		20
MSD	2		20
SPK	1	71	125

000056

TRIMATRIX LABORATORIES, INC.

21-OCT-02

INORGANIC BENCHSHEET -- AUTOMATED CHEMISTRY

Test#: 403. 2- 264.04
Parameter: NITROGEN, NITRATE+NITRITE
Method: NO3/AUTOAN/SOIL ODL: 0.5
Ref. Cit.: 353.2/4500 NO3F Unit: mg/kg dry

Batch: _____

	STD VAL	OBS VAL	WKG STD NUMBER
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Instrument #:
Benchsheet ID: 298603
Owner: JLB
Batch Opened Date: 10/18/02
Supervisor:
Est anal hrs: 8
Act anal hrs:
Samples in batch: 8
Stock std #:
Wavelength (nm):
Cell path (mm):

Comments:

Client / Submittal / Location	Sample	COC	QC	Anl.	Run Date	Wt/dil factor	Dilution Factor	mg/l	% Sol.	Reported Conc.	ODL	Q#	Spike Qty	% rec/dif
ICV: Stk														
ICB:													XXXXXXXX	
Stone & Webster Engineering Corp													XXXXXXXX	
35988- 4	318248 *	YES	LV5								0.5			
NC Test 1														
Stone & Webster Engineering Corp														
35988- 4	318249 *	YES	LV5								0.5			
NC Test 2														
Stone & Webster Engineering Corp														
35988- 4	318250 *	YES	LV5								0.5			
NC Test 3														
Stone & Webster Engineering Corp														
35988- 4	318251 *	YES	LV5								0.5			
NC Test 4														
Stone & Webster Engineering Corp														
35988- 4	318252 *	YES	LV5			10|100		0.2900	100	2.9	~~0.5~~ 0.076			
NC Test 5														
Stone & Webster Engineering Corp														
35988- 4	318253 *	YES	LV5			10|100		0.3163	100	3.2	~~0.5~~ 0.076			
NC Test 6														
CCV: Stk 1116.88.6			Rep 3							0.50			0.50	
CCB:			Rep 3							<0.05			XXXXXXXX	
													XXXXXXXX	

000057

15m7 J66t15m7 J66t

2002-OCT-22 14:41 BATCH DETAIL REPORT -- INORGANIC LABORATORY ANALYTICAL BATCH # 192932 PAGE 1 OF 1

Batch #	Opened	Owner	Seq	Complete	Control	Common name	Application	Ref cit	Qty samp	ICB	ICV	LCS	CCB	CCV
192932	18-OCT-02	JLB	1	NO	YES	NO3/AUTOAN/WTR	WATER	353.2/4500 NO3F	6	1	1	2	3	3

	Seq	Sur-seq	QC batch	Run date	Anal	Sample	Appli	Det lim	Init conc	Final conc	Spike	Parameter	Type	%	LCL	UCL	QC	E	D	Ref cit
v	1.000	-	-	10/18/02	JLB		WATER	0.05		0.48	0.50	NITROGEN, NITRATE	ICV- 1	96	85	115				353.2/4500 NO3F
v	2.000	-	-	10/18/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	ICB- 1	0						353.2/4500 NO3F
v	3.000	-	-	10/18/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	BLK- 1	0						353.2/4500 NO3F
v	4.000	-	-	10/18/02	JLB		WATER	0.50		6.38	6.93	NITROGEN, NITRATE	LCS- 1	92	90	110				353.2/4500 NO3F
v	5.000	-	-	10/18/02	JLB		WATER	0.05		0.686	0.694	NITROGEN, NITRATE	LCS- 2	99	90	110				353.2/4500 NO3F
v	6.000	-	-	10/18/02	JLB		WATER	0.046		0.046	0.05	NITROGEN, NITRATE	CRL- 1	92	77	115				353.2/4500 NO3F
v	7.000	-	-	10/18/02	JLB		WATER	0.05		0.49	0.50	NITROGEN, NITRATE	CCV- 1	98	85	115				353.2/4500 NO3F
v	8.000	-	-	10/18/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	CCB- 1	0						353.2/4500 NO3F
v	9.000	-	-	10/18/02	JLB		WATER	0.05		0.49	0.50	NITROGEN, NITRATE	CCV- 2	98	85	115				353.2/4500 NO3F
v	10.000	-	-	10/18/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	CCB- 2	0						353.2/4500 NO3F
v	11.000	-	192910-118	10/18/02	JLB	318248	SOIL	0.076		2.8		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	12.000	-	192910-118	10/18/02	JLB	318249	SOIL	0.076		2.5		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	13.000	-	192910-118	10/18/02	JLB	318250	SOIL	0.076		2.7		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	14.000	-	192910-118	10/18/02	JLB	318251	SOIL	0.076		3.0		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	15.000	- 14	192910-118	10/18/02	JLB	318251	SOIL	0.076	3.0	8.1	5.0	NITROGEN, NITRATE+NITRITE	SPK- 1	102	71	125				353.2/4500 NO3F
v	16.000	- 15	192910-118	10/18/02	JLB	318251	SOIL	0.076	3.0	8.0	5.0	NITROGEN, NITRATE+NITRITE	SPK- 2	100	71	125				353.2/4500 NO3F
v	17.000	- 16	192910-118	10/18/02	JLB	318251	SOIL	0.076	8.1	8.0		NITROGEN, NITRATE+NITRITE	MSD- 1	1		20				353.2/4500 NO3F
v	18.000	-	192910-118	10/18/02	JLB	318252	SOIL	0.076		2.9		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	19.000	-	192910-118	10/18/02	JLB	318253	SOIL	0.076		3.2		NITROGEN, NITRATE+NITRITE	REG- 1							353.2/4500 NO3F
v	20.000	-	-	10/18/02	JLB		WATER	0.05		0.50	0.50	NITROGEN, NITRATE	CCV- 3	100	85	115				353.2/4500 NO3F
v	21.000	-	-	10/18/02	JLB		WATER	0.05		<0.05		NITROGEN, NITRATE	CCB- 3	0						353.2/4500 NO3F

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Creator: Jodi Blouw
Creation Date: Oct 18, 2002 11:18:34
Last Modified: Oct 18, 2002 11:18:34
Description: None

Cup #	Sample ID	Manual Dilution	Sample Type	
1	blk	1.0000	Unknown	
2	lcs no3 6.93 in6.38.16	1.0000	Unknown	
3	lcs no3 0.693 in6.38.17	1.0000	Unknown	
4	lcs no2 0.50	1.0000	Unknown	
5	crl no3 0.05	1.0000	Unknown	
6	crl no2 0.01	1.0000	Unknown	
7	1ppm no3	1.0000	Unknown	
7	1ppm no3	1.0000	Unknown	
8	10 ppm no3	1.0000	Unknown	
9	1ppm no2	1.0000	Unknown	
9	1ppm no2	1.0000	Unknown	
10	10ppm no2	1.0000	Unknown	

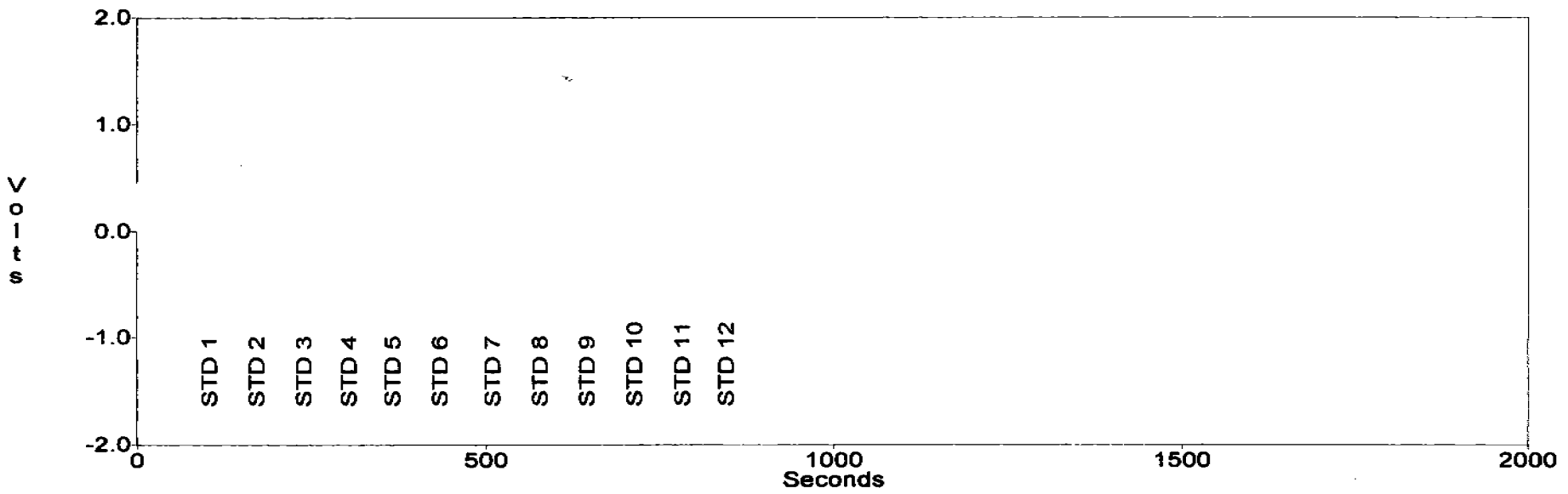
Creator: Jodi Blouw
Creation Date: Oct 18, 2002 11:23:01
Last Modified: Oct 18, 2002 11:23:01
Description: None

Cup #	Sample ID	Manual Dilution	Sample Type	
1	sw 318248	1.0000	Unknown	
2	318249	1.0000	Unknown	
3	318250	1.0000	Unknown	
4	318251	1.0000	Unknown	
5	318251 spk1	1.0000	Unknown	
6	318251 spk2	1.0000	Unknown	
7	318252	1.0000	Unknown	
8	318253	1.0000	Unknown	

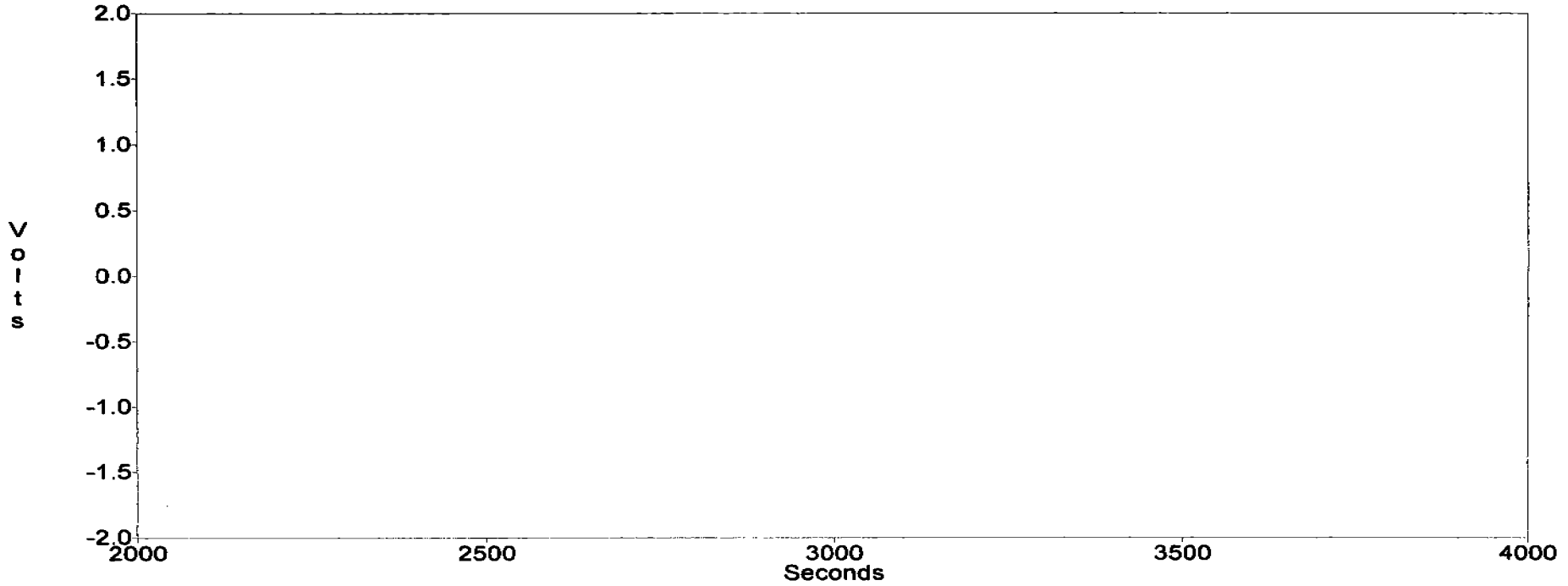
OPERATOR: Jodi Biouw
DATA FILENAME: C:\OMNION\DATA\101802N.FDT
TRAY FILENAME: C:\OMNION\TRAYS\NO3NO2CA.TRA

0000061

Channel 1 - Nitrate+Nitrite

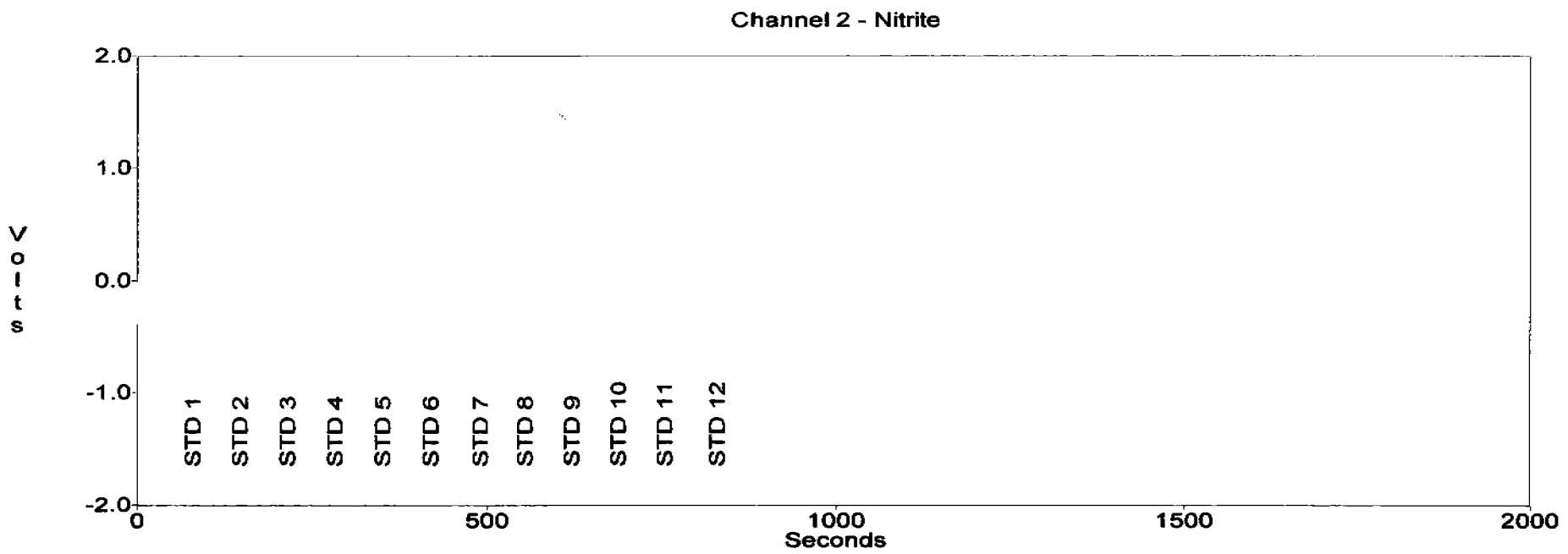


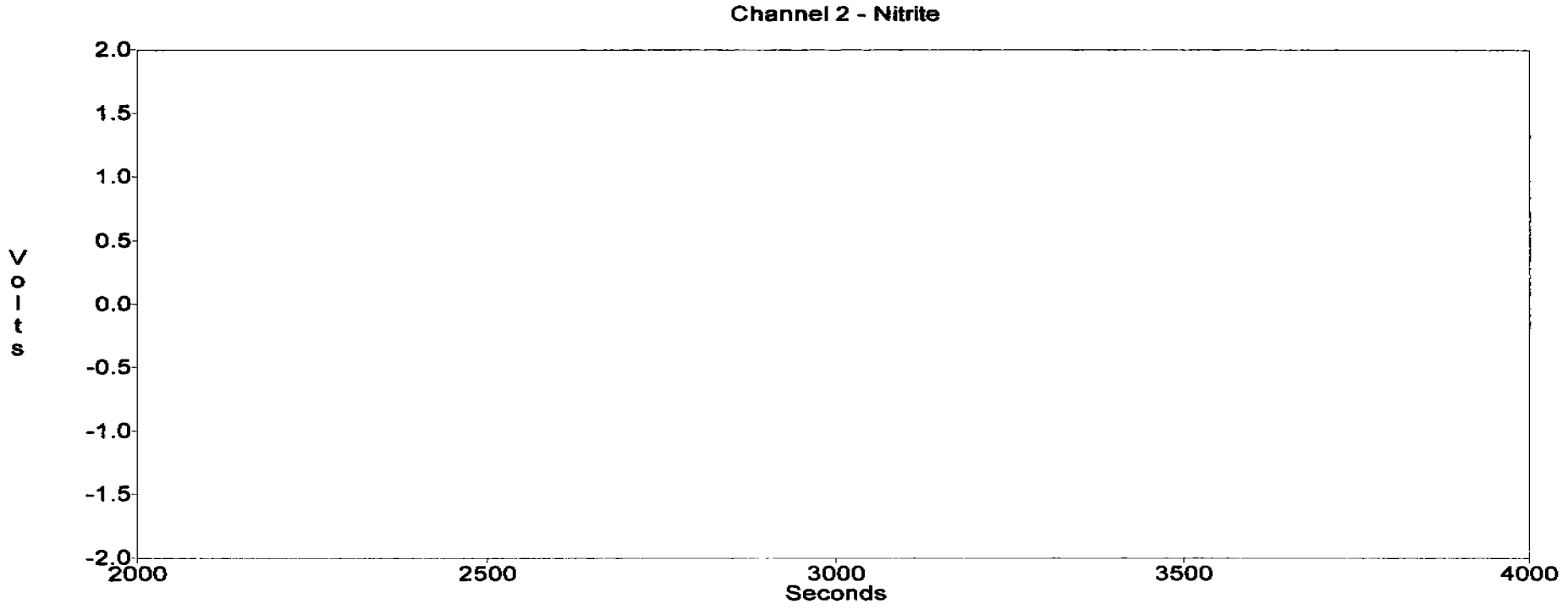
Channel 1 - Nitrate+Nitrite



OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\101802N.FDT

000062





OPERATOR: Jodi Blouw
ACQ. TIME: Oct 18, 2002 11:45:44
DATA FILENAME: C:\OMNION\DATA\101802N.FDT

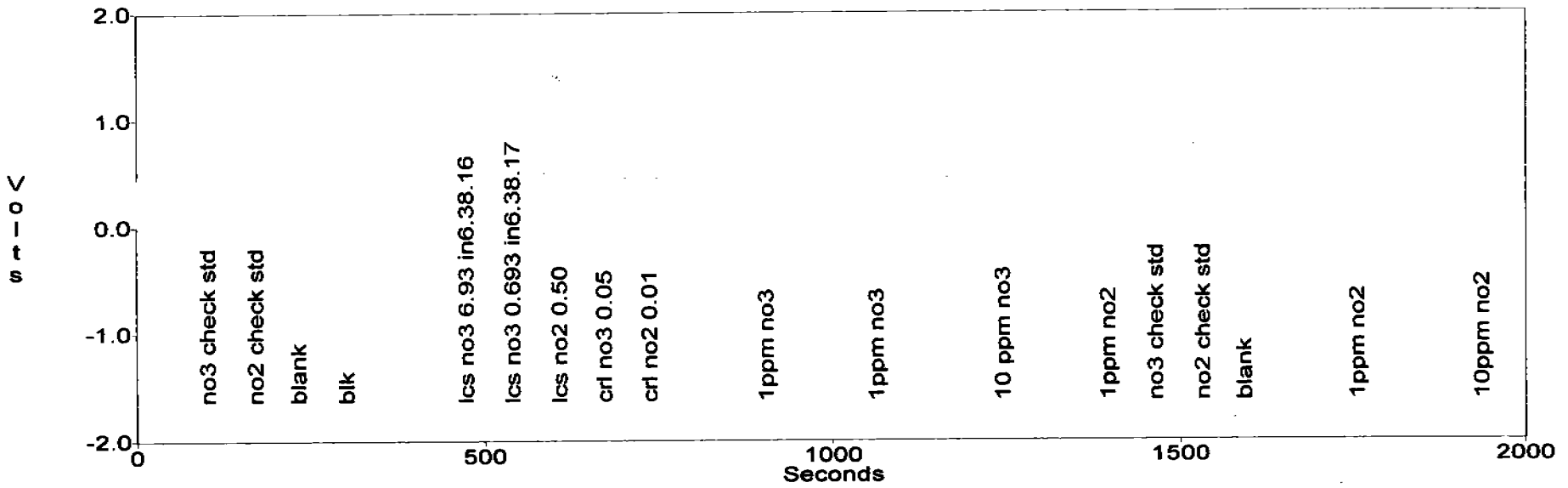
Multi-Channel Table
Type: Calibration Standards
Channel Range: 1 to 8 – Cup Range: 1 to 50

Cup	Sample ID	Sampling Date	Rep #	Nitrate+Nitrite (uv-s)	Nitrite (uv-s)
1	STD 1	18 Oct 2002	1	7817450.000	0.000
2	STD 2	18 Oct 2002	1	3763594.000	0.000
3	STD 3	18 Oct 2002	1	1955715.000	0.000
4	STD 4	18 Oct 2002	1	737862.000	0.000
5	STD 5	18 Oct 2002	1	297454.000	0.000
6	STD 6	18 Oct 2002	1	0.000	0.000
7	STD 7	18 Oct 2002	1	8636906.000	6651233.000
8	STD 8	18 Oct 2002	1	4176640.000	3265859.000
9	STD 9	18 Oct 2002	1	2215415.000	1693018.000
10	STD 10	18 Oct 2002	1	880531.000	623730.000
11	STD 11	18 Oct 2002	1	416659.000	287500.000
12	STD 12	18 Oct 2002	1	0.000	0.000

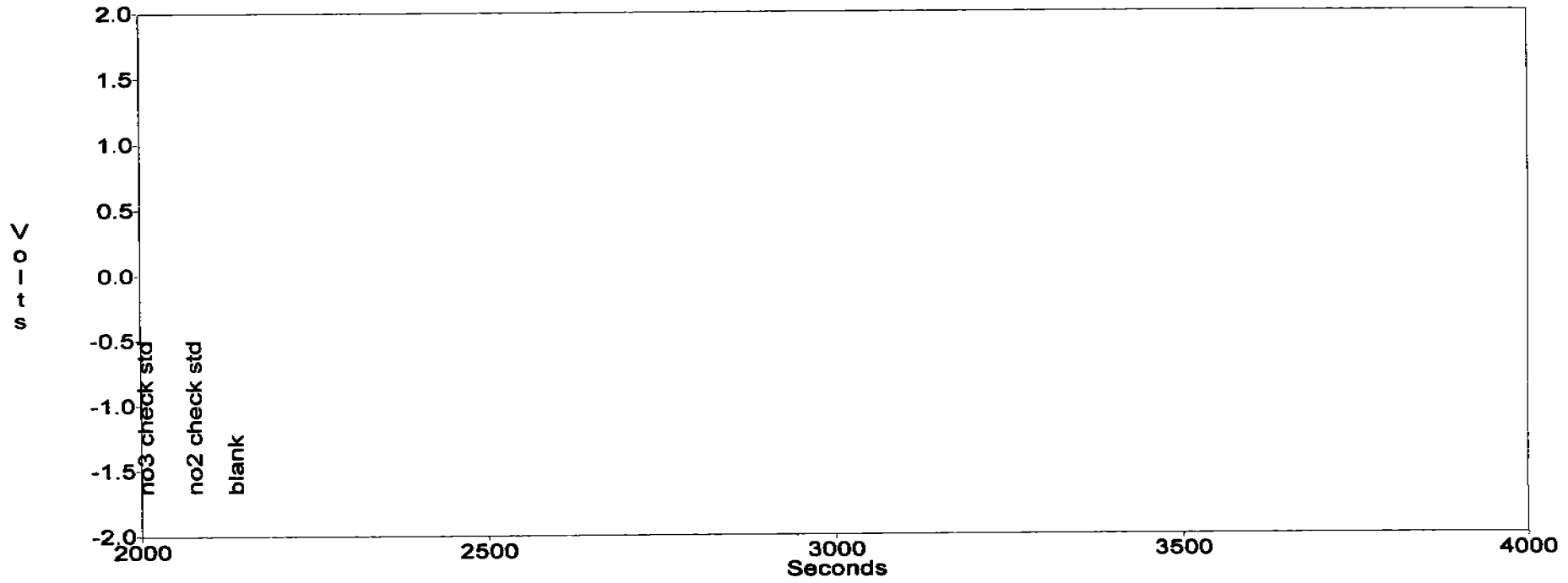
OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\101802NA.FDT
TRAY FILENAME: C:\OMNION\TRAYS\101802NA.TRA

000064

Channel 1 - Nitrate+Nitrite

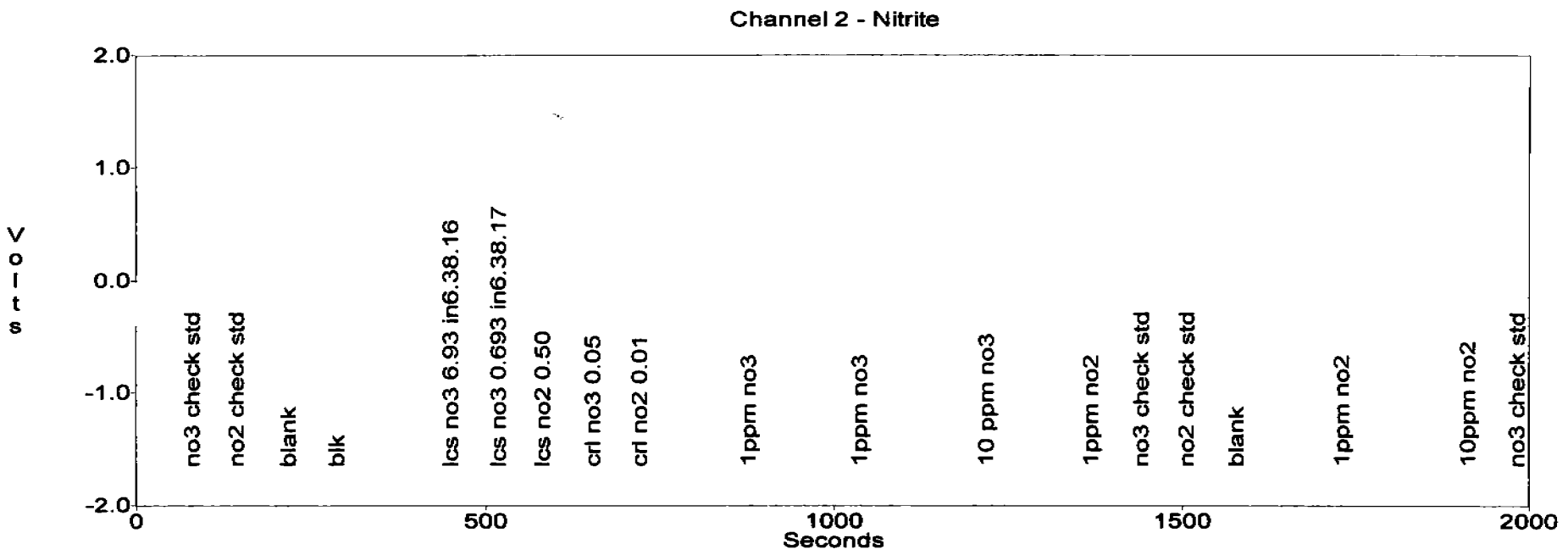


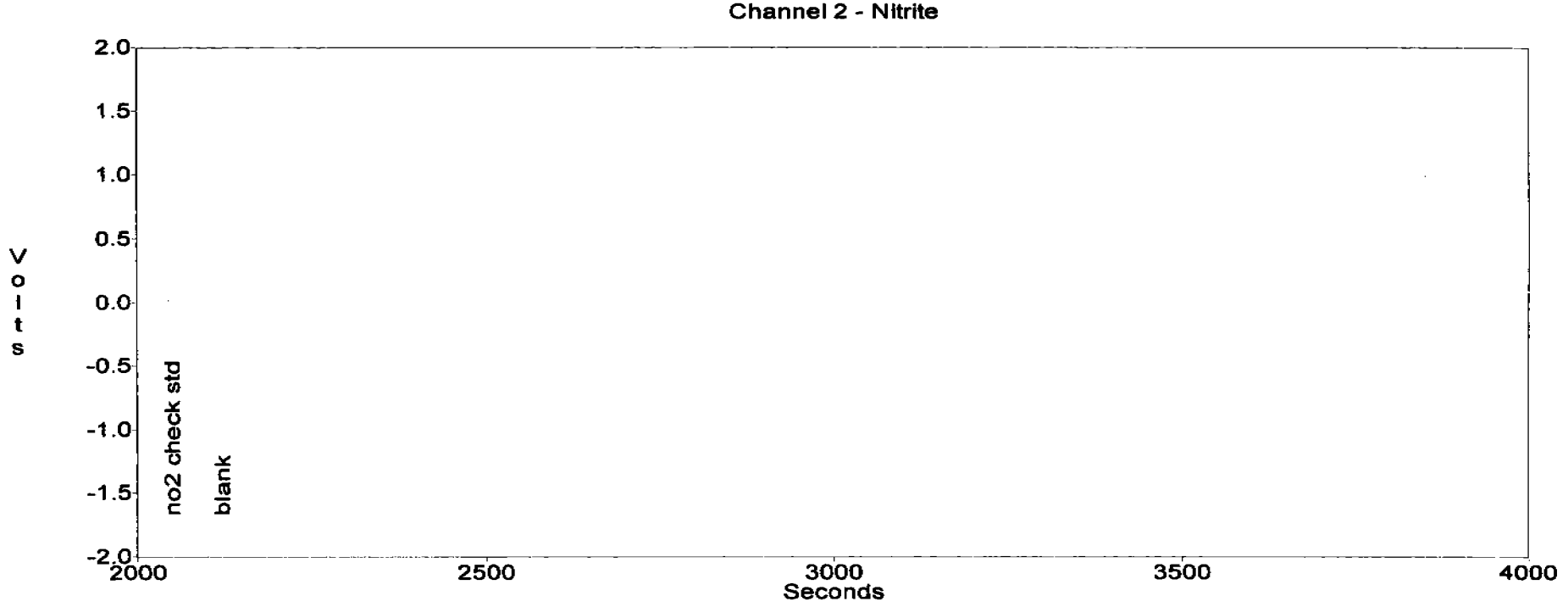
Channel 1 - Nitrate+Nitrite



OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\101802NA.FDT

000065





OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\101802NA.FDT

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 12

Cup	Sample ID	Sample Type	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
2	no3 check st	RelChkStd	18 Oct 2002	1	0.481	0.003	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		-3.794	0.000	
2	no3 check st	RelChkStd	18 Oct 2002	1	0.493	0.003	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		-1.330	0.000	
2	no3 check st	RelChkStd	18 Oct 2002	1	0.486	0.003	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		-2.897	0.000	
8	no2 check st	RelChkStd	18 Oct 2002	1	0.547	0.489	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	-2.234	
8	no2 check st	RelChkStd	18 Oct 2002	1	0.552	0.495	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	-0.971	
8	no2 check st	RelChkStd	18 Oct 2002	1	0.551	0.492	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	-1.525	
12	blank	Blank	18 Oct 2002	1	0.007	0.003	1.00
12	blank	Blank	18 Oct 2002	1	0.007	0.003	1.00
12	blank	Blank	18 Oct 2002	1	0.007	0.003	1.00

OPERATOR: Jodi Blouw
ACQ. TIME: Oct 18, 2002 12:02:13
DATA FILENAME: C:\OMNION\DATA\101802NA.FDT

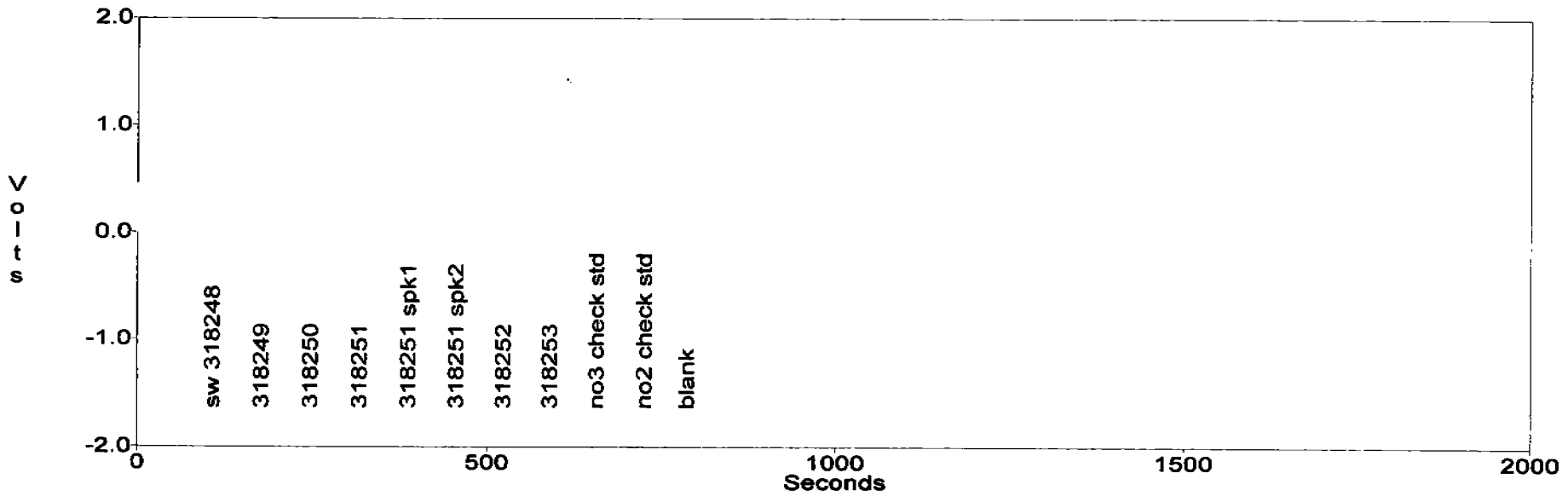
Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 90

Cup	Sample ID	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
1	blk	18 Oct 2002	1	0.007	0.003	1.00
2	lcs no3 6.93 in	18 Oct 2002	1	6.384	0.035	10.00
3	lcs no3 0.693 i	18 Oct 2002	1	0.686	0.003	1.00
4	lcs no2 0.50	18 Oct 2002	1	0.551	0.497	1.00
5	crl no3 0.05	18 Oct 2002	1	0.046	0.003	1.00
6	crl no2 0.01	18 Oct 2002	1	0.007	0.003	1.00
7	1ppm no3	18 Oct 2002	1	1.002	0.017	5.00
7	1ppm no3	18 Oct 2002	1	1.008	0.035	10.00
8	10 ppm no3	18 Oct 2002	1	10.035	0.070	20.00
9	1ppm no2	18 Oct 2002	1	1.116	0.971	5.00
9	1ppm no2	18 Oct 2002	1	1.106	0.943	10.00
10	10ppm no2	18 Oct 2002	1	11.343	10.059	20.00

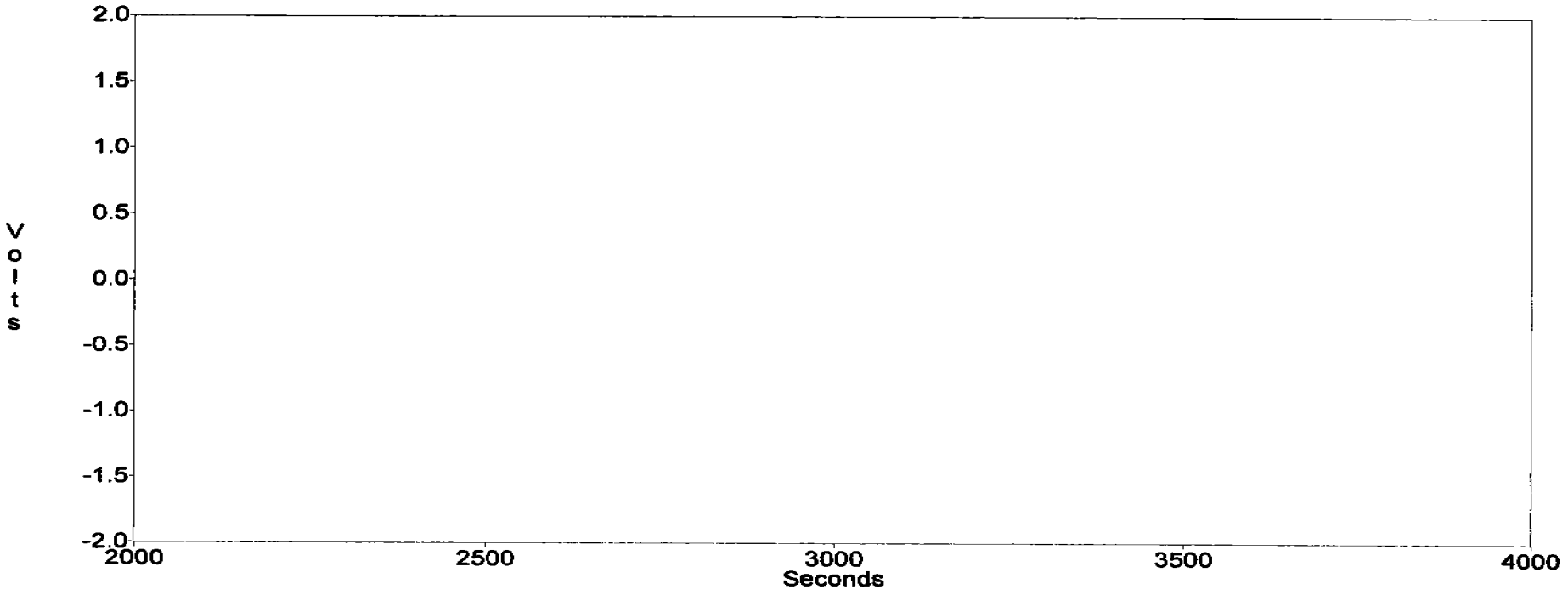
OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\101802NB.FDT
TRAY FILENAME: C:\OMNION\TRAYS\101802NB.TRA

0000698

Channel 1 - Nitrate+Nitrite



Channel 1 - Nitrate+Nitrite



OPERATOR: Jodi Blouw
DATA FILENAME: C:\OMNION\DATA\101802NB.FDT

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 12

Cup	Sample ID	Sample Type	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
2	no3 check st	RelChkStd	18 Oct 2002	1	0.495	0.003	1.00
			Known Concentration:		0.500	0.000	
			% Difference:		-0.910	0.000	
8	no2 check st	RelChkStd	18 Oct 2002	1	0.557	0.500	1.00
			Known Concentration:		0.000	0.500	
			% Difference:		0.000	0.040	
12	blank	Blank	18 Oct 2002	1	0.007	0.003	1.00

OPERATOR: Jodi Blouw
ACQ. TIME: Oct 18, 2002 12:38:55
DATA FILENAME: C:\OMNION\DATA\101802NB.FDT

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 90

Cup	Sample ID	Sampling Date	# of Reps	Nitrate+Nitrite (mg N/L)	Nitrite (mg N/L)	Auto Dil Factor
1	sw 318248	18 Oct 2002	1	0.280	0.070	1.00
2	318249	18 Oct 2002	1	0.251	0.095	1.00
3	318250	18 Oct 2002	1	0.268	0.069	1.00
4	318251	18 Oct 2002	1	0.304	0.062	1.00
5	318251 spk1	18 Oct 2002	1	0.815	0.055	1.00
6	318251 spk2	18 Oct 2002	1	0.801	0.061	1.00
7	318252	18 Oct 2002	1	0.290	0.073	1.00
8	318253	18 Oct 2002	1	0.316	0.060	1.00

INSTRUMENT: Flow Injection Analysis
TRAY: NO3NO2CA.TRA METHOD: NO3NO2.MET DATAFILE: 101802N.FDT
DATE/TIME: Fri Oct 18 11:45:44 2002 OPERATOR: Jodi Blouw

*** Begin Calibration ***
Cup# 1 Sample: STD 1 Type: CalStd Level: 1 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 7817450.0 µv-s
Ch 2: Nitrite Peak Area = 0.0 µv-s
Cup# 2 Sample: STD 2 Type: CalStd Level: 2 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 3763594.0 µv-s
Ch 2: Nitrite Peak Area = 0.0 µv-s
Cup# 3 Sample: STD 3 Type: CalStd Level: 3 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 1955715.0 µv-s
Ch 2: Nitrite Peak Area = 0.0 µv-s
Cup# 4 Sample: STD 4 Type: CalStd Level: 4 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 737862.0 µv-s
Ch 2: Nitrite Peak Area = 0.0 µv-s
Cup# 5 Sample: STD 5 Type: CalStd Level: 5 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 297454.0 µv-s
Ch 2: Nitrite Peak Area = 0.0 µv-s
Cup# 6 Sample: STD 6 Type: CalStd Level: 6 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 0.0 µv-s
Ch 2: Nitrite Peak Area = 0.0 µv-s
Cup# 7 Sample: STD 7 Type: CalStd Level: 7 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 8636906.0 µv-s
Ch 2: Nitrite Peak Area = 6651233.0 µv-s
Cup# 8 Sample: STD 8 Type: CalStd Level: 8 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 4176640.0 µv-s
Ch 2: Nitrite Peak Area = 3265859.0 µv-s
Cup# 9 Sample: STD 9 Type: CalStd Level: 9 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 2215415.0 µv-s
Ch 2: Nitrite Peak Area = 1693018.0 µv-s
Cup# 10 Sample: STD 10 Type: CalStd Level: 10 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 880531.0 µv-s
Ch 2: Nitrite Peak Area = 623730.0 µv-s
Cup# 11 Sample: STD 11 Type: CalStd Level: 11 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 416659.0 µv-s
Ch 2: Nitrite Peak Area = 287500.0 µv-s
Cup# 12 Sample: STD 12 Type: CalStd Level: 12 Rep# 1/1
Ch 1: Nitrate+Nitrite Peak Area = 0.0 µv-s
Ch 2: Nitrite Peak Area = 0.0 µv-s
*** Updated Calibration ***
Ch 1: Nitrate+Nitrite
** 1st Order Poly Calibration **
C[0] = 1.27691e-007
C[1] = 0.00654547
r = 0.9998
Ch 2: Nitrite
** 1st Order Poly Calibration **
C[0] = 1.5007e-007
C[1] = 0.00348618
r = 0.9999
*** End Calibration Block ***
*** Calibration Passed ***
******* Tray Run Complete *******

INSTRUMENT: Flow Injection Analysis
TRAY: 101802NA.TRA METHOD: NO3NO2.MET DATAFILE: 101802NA.FDT
DATE/TIME: Fri Oct 18 12:02:13 2002 OPERATOR: Jodi Blouw

***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.4810 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
ICV
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.4810 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = -3.7942%
Test 1: Passed
Ch 2: Nitrite = 0.0035 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5474 mg N/L
Ch 2: Nitrite = 0.4888 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5474 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.4888 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = -2.2339%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0065 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
ICB
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0065 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0035 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
Cup# 1 Sample: blk Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0065 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
Cup# 2 Sample: lcs no3 6.93 in6.38.16 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 6.3837 mg N/L
Ch 2: Nitrite = 0.0349 mg N/L
Cup# 3 Sample: lcs no3 0.693 in6.38.17 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.6864 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
Cup# 4 Sample: lcs no2 0.50 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5512 mg N/L
Ch 2: Nitrite = 0.4971 mg N/L
Cup# 5 Sample: crl no3 0.05 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0460 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
Cup# 6 Sample: crl no2 0.01 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0065 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
Cup# 7 Sample: 1ppm no3 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 1.0023 mg N/L
Ch 2: Nitrite = 0.0174 mg N/L
Cup# 7 Sample: 1ppm no3 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 1.0082 mg N/L
Ch 2: Nitrite = 0.0349 mg N/L
Cup# 8 Sample: 10 ppm no3 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 10.0350 mg N/L
Ch 2: Nitrite = 0.0697 mg N/L
Cup# 9 Sample: 1ppm no2 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 1.1156 mg N/L
Ch 2: Nitrite = 0.9708 mg N/L
***** Auto DQM Begin *****

*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: Nitrate+Nitrite = 0.4933 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.4933 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = -1.3301%
Test 1: Passed
Ch 2: Nitrite = 0.0035 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: Nitrate+Nitrite = 0.5516 mg N/L
Ch 2: Nitrite = 0.4951 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5516 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.4951 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = -0.9708%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1 Repeat# 1
Ch 1: Nitrate+Nitrite = 0.0065 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0065 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0035 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
Cup# 9 Sample: 1ppm no2 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 1.1061 mg N/L
Ch 2: Nitrite = 0.9431 mg N/L
Cup# 10 Sample: 10ppm no2 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 11.3432 mg N/L
Ch 2: Nitrite = 10.0588 mg N/L
***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1 Repeat# 2
Ch 1: Nitrate+Nitrite = 0.4855 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.4855 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = -2.8968%
Test 1: Passed
Ch 2: Nitrite = 0.0035 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1 Repeat# 2
Ch 1: Nitrate+Nitrite = 0.5513 mg N/L
Ch 2: Nitrite = 0.4924 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5513 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.4924 mg N/L
Known Conc = 0.5000 mgN/L - %Diff from Known = -1.5248%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1 Repeat# 2
Ch 1: Nitrate+Nitrite = 0.0065 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0065 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0035 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***

******* Tray Run Complete *******

INSTRUMENT: Flow Injection Analysis
TRAY: 101802NB.TRA METHOD: NO3NO2.MET DATAFILE: 101802NB.FDT
DATE/TIME: Fri Oct 18 12:38:55 2002 OPERATOR: Jodi Blouw

Cup# 1 Sample: sw 318248 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.2798 mg N/L
Ch 2: Nitrite = 0.0700 mg N/L
Cup# 2 Sample: 318249 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.2507 mg N/L
Ch 2: Nitrite = 0.0952 mg N/L
Cup# 3 Sample: 318250 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.2683 mg N/L
Ch 2: Nitrite = 0.0694 mg N/L
Cup# 4 Sample: 318251 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.3043 mg N/L
Ch 2: Nitrite = 0.0620 mg N/L
Cup# 5 Sample: 318251 spk1 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.8148 mg N/L
Ch 2: Nitrite = 0.0553 mg N/L
Cup# 6 Sample: 318251 spk2 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.8009 mg N/L
Ch 2: Nitrite = 0.0608 mg N/L
Cup# 7 Sample: 318252 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.2900 mg N/L
Ch 2: Nitrite = 0.0729 mg N/L
Cup# 8 Sample: 318253 Type: Unknown Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.3163 mg N/L
Ch 2: Nitrite = 0.0598 mg N/L
***** Auto DQM Begin *****
*** Starting DQM Set Check Std ***
Cup# 2 Sample: no3 check std Type: RelChkStd Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.4954 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
DQM Sample Results: no3 check std
Ch 1: Nitrate+Nitrite = 0.4954 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = -0.9104%
Test 1: Passed
Ch 2: Nitrite = 0.0035 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Cup# 8 Sample: no2 check std Type: RelChkStd Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.5568 mg N/L
Ch 2: Nitrite = 0.5002 mg N/L
DQM Sample Results: no2 check std
Ch 1: Nitrate+Nitrite = 0.5568 mg N/L
Known Conc = 0.0000 Conc Units - %Diff from Known = 0.0000%
Ch 2: Nitrite = 0.5002 mg N/L
Known Conc = 0.5000 mg/L - %Diff from Known = 0.0399%
Test 1: Passed
Cup# 12 Sample: blank Type: Blank Rep# 1/1
Ch 1: Nitrate+Nitrite = 0.0065 mg N/L
Ch 2: Nitrite = 0.0035 mg N/L
DQM Sample Results: blank
Ch 1: Nitrate+Nitrite
Determined Conc = 0.0065 mg N/L
Test 1: Passed
Ch 2: Nitrite
Determined Conc = 0.0035 mg N/L
Test 1: Passed
*** End of DQM Set Check Std - Set Passed ***
******* Tray Run Complete *******

Dec 10.23.2

HLB 10-22-02

TriMatrix Laboratories, Inc.

TOTAL PERCENT SOLIDS

BATCH INFORMATION	ANALYSIS STEPS							QUALITY CONTROL	QC BATCH A
Test Number: 14.1 - 16.01	Step	Start Date	Start Time	Start Temp (°C)	End Date	End Time	End Temp (°C)	Difference Between Weighings: Less than 0.0005 g	Batch Number:
Balance Number: 210									193614
Analysis Date: 10/18/02	Step #1	10/18/02	1:00 PM	105.0	10/21/02	7:30 AM	105.0	Blank Concentration: Less than 0.1%(w/w)	cc 10-23-02
Analyst: JMJ	Step #2								
Parameter: TS	Step #3							MS/MSD Precision: <20%	Supervisor Approv
Matrix: soil	Step #1	Drying @ 103-105° C (24 hr)							
Method Reference: 3550	Step #2	Second drying @ 103-105° C (1hr)						LCS Accuracy: N/A	
ODL: 0.1	Step #3	Recheck of Step #2 after further cooling in desiccator (if necessary)							
Units: %									

Client	Sample Number	QC	Dish ID	Dish (g)	Sample Size (g)	Final Dish + Residue (g)	TS Result (%)	TS Result (If <10) (%)	Analysis Duplicate %RPD
BLANK		BLK	1	1.5868	10	1.5868	<0.1		
STONE & WEBSTER	318248	SAMPLE	2	1.5892	28.8021	30.2338	99		
STONE & WEBSTER	318249	SAMPLE	3	1.5894	26.6997	28.1248	99		
STONE & WEBSTER	318250	SAMPLE	4	1.585	25.8648	27.2782	99		
STONE & WEBSTER	318251	SAMPLE	5	1.5903	29.0223	30.518	100		
STONE & WEBSTER	318252	SAMPLE	6	1.5919	26.0822	27.5902	100		
STONE & WEBSTER	318253	SAMPLE	7	1.5885	33.1616	34.6467	100		
STONE & WEBSTER	318253	DUP	8	1.587	28.2111	29.7099	100		

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SECTION - K

ANALYSIS-PRETREATMENT DATE SUMMARY PAGES

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Laboratories, Inc.

ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils
Sample: NC Test 1

Submittal Number 35988- 4
Date Sampled: 10/13/02
Date Received: 10/16/02

Sample No: 318248

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	10/18/02	10/27/02		
Nitrocellulose	10/22/02	10/27/02		
Nitrogen, Nitrate+Nitrite	10/18/02	11/10/02	10/18/02	10/27/02
Percent Solids	10/18/02	10/27/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils
Sample: NC Test 2

Submittal Number 35988- 4
Date Sampled: 10/13/02
Date Received: 10/16/02

Sample No: 318249

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	10/18/02	10/27/02		
Nitrocellulose	10/22/02	10/27/02		
Nitrogen, Nitrate+Nitrite	10/18/02	11/10/02	10/18/02	10/27/02
Percent Solids	10/18/02	10/27/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Submittal Number 35988- 4
Date Sampled: 10/13/02
Date Received: 10/16/02

Subm: Oct. 13, 2002 Rush Soils
Sample: NC Test 3

Sample No: 318250

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	10/18/02	10/27/02		
Nitrocellulose	10/22/02	10/27/02		
Nitrogen, Nitrate+Nitrite	10/18/02	11/10/02	10/18/02	10/27/02
Percent Solids	10/18/02	10/27/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils
Sample: NC Test 4

Submittal Number 35988- 4
Date Sampled: 10/13/02
Date Received: 10/16/02

Sample No: 318251

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	10/18/02	10/27/02		
Nitrocellulose	10/22/02	10/27/02		
Nitrogen, Nitrate+Nitrite	10/18/02	11/10/02	10/18/02	10/27/02
Percent Solids	10/18/02	10/27/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils
Sample: NC Test 5

Submittal Number 35988- 4
Date Sampled: 10/13/02
Date Received: 10/16/02

Sample No: 318252

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	10/18/02	10/27/02		
Nitrocellulose	10/22/02	10/27/02		
Nitrogen, Nitrate+Nitrite	10/18/02	11/10/02	10/18/02	10/27/02
Percent Solids	10/18/02	10/27/02		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Stone & Webster Engineering Corp
Proj: ESTCP Demonstration

Subm: Oct. 13, 2002 Rush Soils
Sample: NC Test 6

Submittal Number 35988- 4
Date Sampled: 10/13/02
Date Received: 10/16/02

Sample No: 318253

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Inorganic Pretreatment	10/18/02	10/27/02		
Nitrocellulose	10/22/02	10/27/02		
Nitrogen, Nitrate+Nitrite	10/18/02	11/10/02	10/18/02	10/27/02
Percent Solids	10/18/02	10/27/02		

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SECTION - L

METHODS PAGES

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METHODS PAGE

Parameter: Inorganic Pretreatment
Method: Extraction of Exchangeable NH4, NO3, NO2
Application: SOIL — Reference Citation: MSA 33-3.2
Analyst: Jodie L. Blouw (JLB) — Date Analyzed: 10/18/02

Sample Number	Sample Description	Analytical Batch	QC Batch
318248	NC Test 1	192910	-118
318249	NC Test 2	192910	-118
318250	NC Test 3	192910	-118
318251	NC Test 4	192910	-118
318252	NC Test 5	192910	-118
318253	NC Test 6	192910	-118

Parameter: Nitrocellulose
Method: Automated Nitrocellulose Analysis
Application: SOIL — Reference Citation: USARMY BR&D Lab
Analyst: Jodie L. Blouw (JLB) — Date Analyzed: 10/22/02

Sample Number	Sample Description	Analytical Batch	QC Batch
318248	NC Test 1	192989	79779-122
318249	NC Test 2	192989	79779-122
318250	NC Test 3	192989	79779-122
318251	NC Test 4	192989	79779-122
318252	NC Test 5	192989	79779-122
318253	NC Test 6	192989	79779-122

Parameter: Nitrogen, Nitrate+Nitrite
Method: Colorimetric, Auto-Cadmium Reduction
Application: SOIL — Reference Citation: 353.2/4500 NO3F
Analyst: Jodie L. Blouw (JLB) — Date Analyzed: 10/18/02

Sample Number	Sample Description	Analytical Batch	QC Batch
318248	NC Test 1	192932	79752-118
318249	NC Test 2	192932	79752-118
318250	NC Test 3	192932	79752-118
318251	NC Test 4	192932	79752-118
318252	NC Test 5	192932	79752-118
318253	NC Test 6	192932	79752-118

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METHODS PAGE

Parameter: Percent Solids
Method: Determination of Percent Dry Weight
Application: SOIL Reference Citation: SW-846 3550B
Analyst: Jennifer M. Jager (JMJ) Date Analyzed: 10/18/02

Sample Number	Sample Description	Analytical Batch	QC Batch
318248	NC Test 1	193014	79794-118
318249	NC Test 2	193014	79794-118
318250	NC Test 3	193014	79794-118
318251	NC Test 4	193014	79794-118
318252	NC Test 5	193014	79794-118
318253	NC Test 6	193014	79794-118

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SECTION - M

METHOD DETECTION LIMIT (MDL) STUDIES

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TriMatrix Laboratories, Inc.

INORGANIC LABORATORY
2002 SOIL
METHOD DETECTION LIMIT STUDIES

Parameter / Compound	Date Analyzed	Instrument Number	Reference Citation	Units	Amount Spiked	Rep. #1	Rep. #2	Rep. #3	Rep. #4	Rep. #5	Rep. #6	Rep. #7	Average Amount Found	Average Percent Recovery	Standard Deviation	Calculated MDL
Hexavalent Chromium	1/4/02	120	3060/7196A	mg/kg	2.00	0.540	0.980	0.090	1.870	0.530	1.500	1.240	0.964	48%	0.621	**1.953**
Oil & Grease	1/9/02	177	1664	mg/kg	100.00	110.000	100.000	70.000	120.000	90.000	80.000	90.000	94.286	94%	17.182	**54.005**
Cyanide(macro)	1/11/02	161	USEPA9012	mg/kg	0.05	0.030	0.040	0.050	0.040	0.060	0.010	0.040	0.039	77%	0.016	**0.049**
TOC	1/26/02	176	MSA 29-3.5.2	%	0.01	0.006	0.008	0.014	0.010	0.012	0.014	0.010	0.010	104%	0.003	**0.009**
Nitrocellulose	5/23/02	189	USEPA353.2	mg/kg	3.94	3.939	3.136	3.861	4.436	3.183	4.459	3.191	3.744	95%	0.582	**1.829**
Hexavalent Chromium	8/20/02	120	3060/7196A	mg/kg	2.00	1.888	1.528	1.928	1.996	1.888	1.888	1.888	1.858	93%	0.151	**0.474**
Sulfate	8/22/02	189	USEPA375.2	mg/kg	20.000	16.7000	15.5000	12.0000	14.8000	17.2000	14.2000	17.7000	15.4429	77%	1.9823	**6.2304**
total Phosphorus	4/24/02	161	USEPA365.1	mg/kg	5.000	5.0000	4.0000	5.0000	4.0000	5.0000	4.0000	4.0000	4.4286	89%	0.5345	**1.6800**
Nitrate(+Nitrite)	1/2/02	189	USEPA353.2	mg/kg	0.25	0.410	0.350	0.340	0.350	0.350	0.360	0.340	0.357	143%	0.024	**0.076**
Nitrite	1/2/02	189	USEPA353.2	mg/kg	0.10	0.120	0.120	0.110	0.120	0.130	0.130	0.150	0.126	126%	0.013	**0.040**
Fluoride	8/30/02	100	USEPA399.2	mg/kg	2.00	2.120	2.040	2.420	2.140	2.040	2.080	2.200	2.149	107%	0.133	**0.417**
CHLORIDE	9/3/02	189	USEPA 325.2	mg/kg	5.00	4.700	4.200	4.800	3.400	4.600	4.100	4.600	4.343	87%	0.489	**1.538**
Nitrocellulose	9/11/02	120	USEPA354.1	mg/kg	3.94	3.876	3.845	3.845	3.876	3.884	4.420	4.184	3.990	101%	0.224	**0.705**

380000

Appendix B.4

Data Validation Reports

ORGANIC DATA QUALITY REVIEW REPORT
EXPLOSIVES EPA SW-846 Method 8332

SDG NO: 35988-1

PROJECT: BAAP-ESTCP Demonstration, Stone & Webster

LABORATORY: Trimatrix Laboratories, Inc., Grand Rapids, MI.

SAMPLE MATRIX: Soil SAMPLING DATE (Month/Year) 05/2002

No. Samples: 41 Soil ANALYSES REQUESTED: SW-846 Method 8332 and US Army BR&D Lab Method

SAMPLE NO. See Attached

DATA REVIEWER: Mark R. Hayes

QA REVIEWER: Diane Short & Associates, Inc. INITIALS/DATE

Telephone Logs included Yes____ No__X_

Contractual Violations Yes____ No__X_

The EPA Contract Laboratory Program National Functional Guidelines for Organic Review, 1999, SW-846 Method 8332, the US Army BR&D Lab Method and the project Quality Assurance Project Plan (QAPjP) have been referenced by the reviewer to perform this data validation review. The EPA qualifiers have been expanded to include a descriptor code and value to define QC violations and their values, per the approval of the Project Manager. Per the Scope of Work, the review includes validation of all QC forms referencing the above documents. Ten percent of the data are further reviewed for the submitted chromatograms as determined by the project manager. General comments regarding the data/ analytical quality are part of the review when raw data are submitted.

I. DELIVERABLES

A. All deliverables were present as specified in the Statement of Work (SOW) or in the project contract.

Yes__X_ No____

B. Samples were received in good condition at the required temperature and preservation.

Yes___ No__X__

Ten samples were received on 05/11/02 in one cooler at a temperature of 6.7°C. Thirty-one samples were received 05/14/02 in two coolers at temperatures of 8.4°C and 7.7°C.
The samples were cooled although they were not received at EPA recommended temperatures. The samples were collected and received on the same day. It is believed that there was insufficient time for the samples to be cooled by the ice to the 4°C limit. The project manager has been contacted to verify this. No qualifications has been required.

The laboratory has noted only two containers are received for samples 6807-13 6 BNS 01007, 6807-13 8 ENS 01008 and 6807-13 8 EANS 01008 where three containers are received for all other samples. The lack of sample volume for these samples did not impede requested analytical parameters.

II. ANALYTICAL REPORT FORMS

A. The Analytical Report or Data Sheets are present and complete for all requested analyses.

Yes__X__ No____

B. Holding Times

1. The contract holding times were met for all analyses (Time of sample receipt to time of analysis or extraction and from extraction to analysis)

Yes__X__ No____

2. The Clean Water Act (40 CFR 136) holding times were met for all analyses (From time of sample collection).

Yes__X__ No___

III. INSTRUMENT CALIBRATION

A. Initial Calibration

1. The relative standard deviation (RSD) or r^2 factor for the calibration was within the contract QC limits or a linear curve was used.

Yes__X__ No____

B. Continuing Calibration

1. A continuing calibration standard was analyzed for each analysis at the required frequency and the QC criteria were met.

Yes__X__ No____

IV. SURROGATE

A. Surrogate spikes were analyzed with every sample.
Yes____ No____ NA __X__

Surrogates are not apart of this analysis.

V. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A. Matrix spike (MS) and matrix spike duplicates (MSD) were analyzed for every analysis performed and for every 20 samples or for every matrix whichever is more frequent.
Yes __X__ No____

B. The MS and MSD percent recoveries were within the limits defined in the contract.
Yes____ No__X__

The nitrocellulose matrix spike for parent sample 305342 is reported at 73 percent recovery. The sample has been qualified JS73 for a possible low bias toward the sample results. The results for this analyte could be biased low proportional to the amount of spike recovered.

C. The MSD relative percent differences (RPD) were within the defined contract limits.
Yes __X__ No____

D. The MS/MSD samples were client samples.
Yes__X__ No_____

VI. LABORATORY CONTROL SAMPLE

A. Laboratory Control Sample (LCS) was analyzed for every analysis performed and for every 20 samples or for every matrix whichever is more frequent.
Yes__X__ No____

B. The LCS percent recoveries were within the limits defined in the contract.
Yes__X__ No____

VII. BLANKS

A. Method Blanks were analyzed at the required frequency and for each matrix and analysis
Yes__X__ No____

B. Blank contamination was not found in the Method Blank
Yes__X__ No____

C. If Field Blanks were identified, blank contamination was found

Yes____ No__X__

Field Blanks have not been identified.

VIII. FIELD QC

If Field duplicates or Performance Check Compounds were identified, they met the RPD or % recovery criteria for the project.

Yes____ No____ NA__X__

Field duplicates have not been identified.

IX. TCL COMPOUNDS

A. The identification is accurate and retention times, chromatograms (RIC) were evaluated for all detected compounds

Yes__X__ No____

All positive reported results have been confirmed by second analysis. The confirmation results are performed on a column.

B. Quantitation was checked to determine the accuracy of calculations for representative compounds in each set.

Yes__X__ No____

GENERAL COMMENTS

The laboratory has complied with the method and QAPP. The quality of the data is acceptable and usable per the validation process with the following considerations.

Deliverables

Ten samples were received on 05/11/02 in one cooler at a temperature of 6.7°C. Thirty-one samples were received 05/14/02 in two coolers at temperatures of 8.4°C and 7.7°C.
The samples were cooled although they were not received at EPA recommended temperatures. The samples were collected and received on the same day. It is believed that there was insufficient time for the samples to be cooled by the ice to the 4°C limit. The project manager has been contacted to verify this. No qualifications has been required.

The laboratory has noted only two containers are received for samples 6807-13 6 BNS 01007, 6807-13 8 ENS 01008 and 6807-13 8 EANS 01008 where three containers are received for all other samples. The lack of sample volume for these samples did not impede requested analytical parameters.

Matrix Spike

The nitrocellulose matrix spike for parent sample 305342 is reported at 73 percent recovery. The limit is 75%. The sample has been qualified JS73 for a possible low bias toward the sample results. The results for this analyte could be biased slightly low proportional to the amount of spike recovered.

STANDARD OPERATING PROCEDURE
INORGANIC DATA QUALITY REVIEW REPORT
ICP/MS, USEPA 6010B, and USARMY BR&D Lab Method

SAMPLE DIGESTION NUMBERS: 35988-1

PROJECT: Badger Army Ammunitions Plant, WI., Stone and Webster

LABORATORY: TriMatrix Laboratories, Inc., Grand Rapids, MI

SAMPLE MATRIX: Soil

SAMPLING DATE (Mo/Yr) 5/2002 NO.SAMPLES 41

ANALYSES REQUESTED: USEPA METHOD 6020, USEPA 6010B, and USARMY BR&D Lab Method

SAMPLE NUMBERS See Attachment

DATA REVIEWER: Richard Kulp INITIALS/DATE:

QA REVIEWER: Diane Short & Associates, Inc.

Telephone Logs included Yes____ No X

Contractual Violations Yes____ No X

The EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, 1994 (SOP) and SW-846 Method 6020 1994 and current updates, and the project QAPjP have been referenced by the reviewer to perform this data validation review. The review includes evaluation of QC for all samples and review of interferences for 10% of the samples and a 10& review of transcription and calculations. The EPA qualifiers have been expanded to include a descriptor code and value to define QC violations and their values, per the approval of the project Manager and EPA.

I. DELIVERABLES

A. All deliverables were present as specified in the Statement of Work (SOW) or in the project contract.
Yes X No__

II. ANALYTICAL REPORT FORMS

A. The Analytical Report or Data Sheets are present and complete for all requested analyses.
Yes X No____

B. Holding Times

1. The contract holding times were met for all analyses (Time of sample receipt to time of analysis (VOA) or extraction and from extraction to analysis)
Yes X No____

2. The Clean Water Act (40 CFR 136) holding times were met for all analyses (From time of sample collection).
Yes X No____

3. Samples were properly preserved to pH < 2.
Yes X No____

II. CALIBRATION AND STANDARDIZATION - ICP/MS

A. Initial Calibration

1. Mass calibration and resolution checks for both low and high mass isotopes and are within 0.1 amu of the true value
Yes X No____

And produced a peak width of approximately 0.90 amu at 10% peak height.
Yes X No____

2. Instrument stability: tuning solution was run a minimum of four times and RSD of absolute signals for all analytes was less than 5%.
Yes X No____

B. Internal Standardization

1. A minimum of three internal standards were present in all standards and blanks at identical levels.
Yes X No____
This is a limited list of metals. Only two IS's are required and they were present: SC and Y

2. The intensity of each internal standard was within the 30 - 120% method limits.

Yes __X__ No_____

3. The intensity level of the IS in the calibration blank and the ICS agree within ± 20 of the IS in the Initial Calibration.
Yes __X__ No____

C. Instrument Performance
1. Quality Control Sample (QCS) or the Initial Calibration Verification (ICV) did not exceed ± 10% of the established QCS value for all analytes.
Yes __X__ No ____

2. The continuing calibration standards and calibration blank were run after every 10 analyses.
Yes __X__ No_____

b. The indicated concentration of all analytes was within 10% of the true concentration.
Yes __X__ No _____

D. Instrument tune.
The tune check was run a minimum of 4 times
Yes ____ No __X__

Only one tune was reported at the beginning of the run. All samples were run on the same day.

And the Rhodium counts were ≥ 50,000 counts and the % RSD of Mg24, Rh 103 and Pb 208 signals are less than 5%.
Yes __X__ No _____

III. INTERFERENCES

A. Isobaric elemental and molecular interferences.
1. The isotope selected was free of isobaric elemental and elemental interferences as measured by the Interference Check Sample (ICS).
Yes_X__ No____
The ICS was within the 85-115% limit.

2. If an alternative analytical isotope was selected, the correction was made and a record of the correction is included in this data package.
Yes_____ No____ NA__X___

No alternative isotope was selected.

B. Abundance sensitivity

The chromatography shows no evidence of wing overlap interferences.
Yes_____ No_____ NA__X____
Chromatographs were not present.

C. Physical interferences
1. Dissolved solids did not exceed 0.2% (w/v)
Yes ____ No_____ NA__X___

2. Internal Standardization was effectively used to compensate for physical interference effects.
Yes _____ No_____NA__X__
IS's are used and there is no indication of application to interferences

D. Memory interferences
1. Suitable rinse times were determined prior to sample analysis.
Yes ____ No____
No specific data were provided.

2. Memory interferences were assessed within the analytical run.
Yes _____ No __X___
Not specified.

E. Oxide check
The concentration of Cesium Oxide is less than 10% of the Cesium concentration and the concentration of Ba+2 is less than 3% of Ba..
Yes __X__ No ____

IV. QUALITY CONTROL

A. Initial Demonstration of Performance
1. Method detection limits (MDL) were established for all analytes every six months or whenever a significant background or instrument response is expected (e.g., detector change).
Yes_____ No_____ NA__X____
Not requested as part of the review.

2. Linear calibration ranges were determined every six months or whenever a significant change in instrument response is expected (e.g., detector change).
Yes_____ No_____ NA__X__

B. Assessing Laboratory Performance
1. Laboratory Reagent Blank (LRB)

a. At least one LRB was analyzed with each set of samples.
Yes __X__ No_____

b. The analytical value in the reagent blank exceeded the Reporting Limit (RL). 6020 uses CRDL, not RL.
Yes _____ No __X__

c. The source of contamination was corrected and the samples re-analyzed.
Yes _____ No_____ NA__X____

C. Assessing Field Performance
1. Field, trip, decon rinse or other field blanks are contained and identified in the package.
Yes ____ No __X__

2. And are present at less than the CRDL or less than 2 x IDL, whichever is lower.
Yes _____ No_____ NA __X__

Note: The highest blank associated with any particular analyte is used for the qualification process and is the value entered after the "B" blank descriptor.

D. Assessing Analyte Recovery
1. The laboratory added a known amount of analytes to a minimum of 10% of the routine sample digestates or one sample per sample set, whichever is greater. 6020 calls for this post-digestion spike.
Yes __X__ No_____ NA_____

2. The % R for each analyte (background corrected) met the established control limits or the method limits of 75-125%. (Recovery calculations not required if the concentration of the analyte added is < 10% of the sample background correction).
Yes __X__ No _____ NA____

E. Internal Standard Responses
1. The absolute response of the internal standard did not deviate more than 30-120% of the original response in the calibration blank or standard.
Yes __X__ No___

Or dilutions were performed as required by the method to minimize errors if the internal standard is naturally present

in samples.
Yes __X__ No_____

2. If no, the appropriate test procedures were performed and the required corrections performed.
Yes _____ No _____ NA __X__

V. MATRIX SPIKE

A. Matrix spike (MS) was analyzed for every analysis performed and for every 20 samples or for every matrix whichever is more frequent.
Yes __X__ No ____

B. The MS percent recoveries were within the limits defined in the contract or the CLP 75-125%.
Yes ____ No __X__

The matrix spike percent recovery for nitrocellulose (305052) was 30%. The laboratory limits were listed as 0-0, which is not acceptable. The reviewer has applied professional judgement to assess an acceptable limit. Because of the low spike recovery, all associated nitrocellulose results were qualified JS30 and there could be a low bias to the data due to matrix effects.

VI. MATRIX DUPLICATE

A. The matrix duplicate relative percent difference of the percent recoveries were within the limits defined in the contract or the CLP 20% for water and 35% for soil, or ± RL for results < 5 x RL (± RL for soils)
Yes ____ No __X__

The sample duplicate for copper (305052) was 133%. Copper was qualified JD133.

VII. LABORATORY CONTROL SAMPLE

A. A Laboratory Control Sample (LCS) was analyzed for every analysis performed and for every 20 samples or for every matrix whichever is more frequent.
Yes __X__ No (X - NitroCellulose)___
There is no LCS reported for nitrocellulose. Method accuracy cannot be determined.

B. The LCS percent recoveries were within the limits defined in the contract.
Yes __X__ No ____

VIII. BLANKS

A. Method Blanks were analyzed at the required frequency and for each matrix and analysis
Yes X No ____

B. No Blank contamination was found in the Method Blank
Yes X No ____

C. If Field Blanks were identified, no blank contamination was found
Yes ____ No____ NA X

No field blanks were submitted.

IX. FIELD QC

If Field duplicates or Performance Check Compounds were identified, they met the RPD or % recovery criteria for the project.
Yes ____ No____ NA X

No field duplicates were identified.

X. SERIAL DILUTION.

A serial dilution of 1:4 was performed for 1/20 samples when an analyte is > 50 X IDL
Yes ____ No X

No serial dilutions were identified.

And the % Difference between the diluted sample results is ≤ 10%
Yes ____ No _____ NA X

XI. CALCULATIONS

1. Sample data was reported in ug/L for aqueous samples and mg/kg for solid samples.
Yes X No _____

2. Elemental concentrations were reported below the determined MDL.
Yes _____ No X

3. Data calculations were checked when required and significant figures were correctly reported.
Yes X No_____
Per 10% raw data reviewed.

4. The reported values were calibration blank subtracted.

Yes _____ No __X__

5. Appropriate dilution factors were applied to the calculated sample concentrations.
Yes __X__ No _____

6. Data values were corrected for instrument drift or sample matrix induced interferences by the application of internal standards.
Yes _____ No _____NA__X___
IS's are used, application to drift cannot be verified, but appears to be in effect as evidenced by lack of interference problems.

7. Corrections for characterized spectral interferences were applied to the data.
Yes _____ No _____NA__X_
This is part of the method and appears to have been performed

8. Chloride interference corrections were made on all samples.
Yes _____ No _____NA__X_
This is part of the method and appears to have been performed

9. The QC data obtained during the analyses was provided with the sample results.
Yes __X__ No _____

OVERALL ASSESSMENT OF THE CASE

The data as qualified are considered fully useable for project purposes. The following is noted:

Matrix Spike

The matrix spike percent recovery for nitrocellulose (305052) was 30%. The laboratory limits were listed as 0-0 %, which is not acceptable. The reviewer has applied professional judgement to assess an acceptable limit. Because of the low spike recovery, all associated nitrocellulose results were qualified JS30 and there could be a low bias to the data due to matrix effects. There is no LCS for nitrocellulose and method accuracy as opposed to matrix bias cannot be determined.

Matrix Duplicate

The sample duplicate for copper (305052) was 133%. Copper was qualified JD133.

ORGANIC DATA QUALITY REVIEW REPORT
VOLATILE ORGANICS SW-846 METHOD 8270C

SDG NO: 35988-1

PROJECT: BAAP-ESTCP Demonstration, Stone & Webster

LABORATORY: Trimatrix Laboratories, Inc., Grand Rapids, MI.

SAMPLE MATRIX: Soil SAMPLING DATE (Month/Year) 05/2002

No. Samples: 41 Soil ANALYSES REQUESTED: SW-846 Method 8332 and US Army BR&D Lab Method

SAMPLE NO. See Attached

DATA REVIEWER: Mark Hayes, R.

QA REVIEWER: Diane Short & Associates, Inc Initials/Date:

Telephone Logs included Yes____ No__X__

Contractual Violations Yes____ No_X___

The EPA Contract Laboratory Program National Functional Guidelines for Organic Review, 1999, SW-846 Methods 8270C SVOCs and the project Quality Assurance Project Plan (QAPjP) have been referenced by the reviewer to perform this data validation review. The EPA qualifiers have been expanded to include a descriptor code and value to define QC violations and their values, per the approval of the Project Manager. Per the Scope of Work, the review includes validation of all QC forms referencing the above documents. Ten percent of the data are further reviewed for the calculation algorithms and submitted chromatograms and mass spectra as determined by the project manager. General comments regarding the data/ analytical quality are part of the review when raw data are submitted.

I. DELIVERABLES

A. All deliverables were present as specified in the Statement of Work (SOW), SW-846, or in the project contract.
Yes__X__ No____

B. Chain of Custody Documentation was complete and accurate, and samples were received in good condition and at the correct temperature and preservation.
Yes_____ No__X__

Ten samples were received on 05/11/02 in one cooler at a temperature of 6.7°C. Thirty samples were received 05/14/02 in two coolers at temperatures of 8.4°C and 7.7°C.

The samples were cooled although they were not received at EPA recommended temperatures. The samples were collected and received on the same day. It is believed that there was insufficient time for the samples to be cooled by the ice to the 4°C limit. The project manager has been contacted to verify this. No qualifications has been required.

The laboratory has noted only two containers are received for samples 6807-13 6 BNS 01007, 6807-13 8 ENS 01008 and 6807-13 8 EANS 01008 where three containers are received for all other samples. The lack of sample volume for these samples did not impede requested analytical parameters.

II. ANALYTICAL REPORT FORMS

A. The Analytical Report or Data Sheets are present and complete for all requested analyses.
Yes__X__ No____

B. Holding Times
1. The contract holding times were met for all analyses (Time of sample receipt to time of analysis (VOA) and/or from extraction to analysis (SVOS and DRO)).
Yes__X___ No____

2. The Clean Water Act (40 CFR 136) holding times were met for all analyses (From time of sample collection).
Yes__X__ No__X__

III. INSTRUMENT CALIBRATION - GC/MS

A. Initial Calibration
1. The Response (RF) and Relative Response Factors (RRF) and average RRF for all compounds for all analyses met the contract criteria.
Yes__X__ No____

2a. The relative standard deviation (RSD) for the five-point calibration was within limit for the CCCs.
Yes__X__ No____

2b. The relative standard deviation (RSD) for the five-point calibration was within limit for all other compounds or a linear curve was used.
Yes__X__ No____

The laboratory has followed SW-846 guidelines for the performance and analysis of method 8270C. For the initial calibration performed on Instrument 138 05/15/02 compounds exceeding the 15% RSD criteria have been set through quadratic curves for calculation of detected concentrations. Surrogates 2,4,6-tribromophenol and o-terphenyl have been calculated and reported from correlation coefficients <0.990. Detected target compounds fluorine, di-n-buty-phthalate, pyrene, bis-2-(ethyl hexyl)-phthalate, benzo(a)anthracene, chrysene and di-n-octyl-phthlate have been qualified JC# for correlation coefficient <0.990. The reported concentrations could reflect estimated values and are possibly biased to the degree of curve delineation.

3. The 12-hour system Performance Check was performed as required in SW-846.
Yes__X__No____

B. Continuing Calibration
1. The RRF 50 standard was analyzed for each analysis at the required frequency and the QC criteria were met.
Yes__X___ No____

2. The percent difference (%D) limits were met.
Yes____ No__X__

IV. GC/MS INSTRUMENT PERFORMANCE CHECK
The DFTPP performance check was injected once at the beginning of each 12-hour period and relative abundance criteria for the ions were met.
Yes__X__ No____

V. INTERNAL STANDARDS
The Internal Standards met the 100% upper and -50% lower limits criteria and the Retention times were within the required windows.
Yes__X__ No____

Samples 6731-2 4 BNP 01002 and 6731-2 3 CAWP 01003 have been reported with low internal standard 6. The recovery of these compounds is above the 50% criteria set forth in the validation guidelines, no qualification has been made.

VI. SURROGATE
Surrogate spikes were analyzed with every sample.
Yes__X__ No____

And met the recovery limits defined in the current contract.
Yes__X__ No____

Sample 6712 2 CNP 01002 is reported at a five-fold dilution. The surrogate concentrations are below quantifiable levels. No recovery is reported for this sample. No qualification is required.

VII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A. Matrix spike (MS) and matrix spike duplicates (MSD) were analyzed for every analysis performed and for every 20 samples or for every matrix whichever is more frequent.
Yes__X__ No____

B. The MS and MSD percent recoveries were within the limits defined in the contract.
Yes____ No__X__

The parent sample 6739 5 CWP 01004 has been qualified RS3 for low recovery of 2,4-dinitrophenol. The recovery of this compound is within limits in the laboratory control sample but is recovered unacceptably in the matrix spike/spike duplicate indicating matrix interference. The results of this compound in the parent sample have been rejected.

C. The MSD relative percent differences (RPD) were within the defined contract limits.
Yes __X__ No____

VIII. LABORATORY CONTROL SAMPLE

A. A Laboratory Control Samples (LCS) was analyzed for every analysis performed and for every 20 samples.
Yes __X__ No ____

B. The LCS percent recoveries were within the limits defined in the contract (the MS limits are used as a reference or laboratory-specific limits for this matrix are defined).
Yes__X__ No____

IX. BLANKS

A. Method Blanks were analyzed at the required frequency and for each matrix and analysis.
Yes__X__ No____

B. Blank contamination was not found in the Method Blank.
Yes__X__ No____

Method Blank contamination for di-n-butyl-phthlate has been qualified for in all associated samples where the concentration is less than five times the reported value. The qualification UB0.008 has been applied where applicable. The original reported value was for chrysene, but the reviewer found this to be an error in identification. The laboratory has re-submitted the corrected form.

C. If Field Blanks were identified, blank contamination was not found.

Yes____ No____ NA __X__
Field blanks are no identified.

X. FIELD QC

If Field duplicates or Performance Check Compounds were identified, they met the RPD or % recovery criteria for the project.
Yes___ No____ NA __X__
Field duplicates have not been identified.

XI. SYSTEM PERFORMANCE

A. The RICs, chromatograms, tunes and general system performance were acceptable for all instruments and analytical systems.
Yes__X__ No____
Per 10% review.

B. The suggested EQL's for the sample matrices in this set were met.
Yes__X__No_____
Results are reported below the RL, but the laboratory does not provide the limit of this reporting.

XII. TCL COMPOUNDS

A. The identification is accurate and all retention times, library spectra and reconstructed ion chromatograms (RIC) were evaluated for all detected compounds
Yes__X__ No____
Per 10% review.

B. Quantitation was checked to determine the accuracy of calculations for representative compounds in each internal standards quantitation set.
Yes__X__ No____
Per the 10% review. Manual calculations were performed on targets and on surrogates, which reproduced the reported values.

XIII. TENTATIVELY IDENTIFIED COMPOUNDS

TICs were properly identified and met the library identification criteria.
Yes____ No____ NA__X__
No tics reported.

XIV. OVERALL ASSESSMENT OF THE CASE

The laboratory has provided data that are derived from full method compliance. All data are considered to be fully usable with consideration of the qualification applied per the data validation process.

Deliverables:

Ten samples were received on 05/11/02 in one cooler at a temperature of 6.7°C. Thirty samples were received 05/14/02 in two coolers at temperatures of 8.4°C and 7.7°C.

The samples were cooled although they were not received at EPA recommended temperatures. The samples were collected and received on the same day. It is believed that there was insufficient time for the samples to be cooled by the ice to the 4°C limit. The project manager has been contacted to verify this. No qualifications has been required.

The laboratory has noted only two containers are received for samples 6807-13 6 BNS 01007, 6807-13 8 ENS 01008 and 6807-13 8 EANS 01008 where three containers are received for all other samples. The lack of sample volume for these samples did not impede requested analytical parameters.

Initial Calibration:

The laboratory has followed SW-846 guidelines for the performance and analysis of method 8270C. For the initial calibration performed on Instrument 138 05/15/02 compounds exceeding the 15% RSD criteria have been set through quadratic curves for calculation of detected concentrations. Surrogates 2,4,6-tribromophenol and o-terphenyl have been calculated and reported from correlation coefficients <0.990. Detected target compounds fluorine, di-n-buty-phthalate, pyrene, bis-2-(ethyl hexyl)-phthalate, benzo(a)anthracene, chrysene and di-n-octyl-phthlate have been qualified JC# for correlation coefficient <0.990. The reported concentrations could reflect estimated values and are possibly biased to the degree of curve delineation.

Matrix Spike:

The parent sample 6739 5 CWP 01004 has been qualified RS3 for low recovery of 2,4-dinitrophenol. The recovery of this compound is within limits in the laboratory control sample but is recovered unacceptably in the matrix spike/spike duplicate indicating matrix interference. The results of this compound in the parent sample have been rejected.

Blanks:

Method Blank contamination for di-n-butyl-phthlate has been qualified for in all associated samples where the concentration is less than five times the reported value. The qualification UB0.008 has been applied where applicable. The original reported value was for chrysene, but the reviewer found this to be an error in identification. The laboratory has re-submitted the corrected form.

ORGANIC DATA QUALITY REVIEW REPORT
ORGANICS SW-846 METHOD 8332

SDG NO: 35988-2

PROJECT: Badger, Stone & Webster

LABORATORY: TriMatrix, Grand Rapids, MI

SAMPLE MATRIX: Solids

SAMPLING DATE (Month/Year) 7/02 No. Samples: 6 Solids

ANALYSES REQUESTED: SW-846 Method 8332

SAMPLE NO. See Attached

DATA REVIEWER: William Berning

QA REVIEWER: Diane Short & Associates, Inc. Initials/Date: _____

Telephone Logs included Yes____ No_X__

Contractual Violations Yes____ No_X___

The EPA SW-846 Method 8332 and the project Quality Assurance Project Plan (QAPjP) and the EPA Contract Laboratory Program National Functional Guidelines for Organic Review, current updates, have been referenced by the reviewer to perform this data validation review. The EPA qualifiers have been expanded to include a descriptor code and value to define QC violations and their values, per the approval of the Project Manager. Per the Scope of Work, the review includes validation of all QC forms referencing the above documents. Where appropriate, ten percent of the data are further reviewed for the calculation algorithms and submitted chromatograms as determined by the project manager. General comments regarding the data/ analytical quality are part of the review when raw data are submitted.

I. DELIVERABLES

A. All deliverables were present as specified in the Statement of Work (SOW), SW-846, or in the project contract.
Yes__X__ No___

B. Chain of Custody Documentation was complete and accurate, and samples were received at the correct temperature and preservation.
Yes____ No__X_

The average sample temperature was reported at 22.1° C. at laboratory receipt. All sample results have been qualified as estimated JT for exceeding the sample preservation temperature control limits. This compound is quite stable and the effect on the data is not expected to be significant.

There was no sampler signature. There was no signature for initial sample relinquishment.

II. ANALYTICAL REPORT FORMS

A. The Analytical Report or Data Sheets are present and complete for all requested analyses.
Yes__X__ No____
The reported analyses are for nitroglycerine.

B. Holding Times
1. The contract holding times were met for all analyses (Time of sample receipt to time of extraction and from extraction to analysis).
Yes__X__ No____

2. The Clean Water Act (40 CFR 136) holding times were met for all analyses (From time of sample collection).
2Yes__X__ No____

III. INSTRUMENT CALIBRATION - HPLC

A. Initial Calibration
1. The relative standard deviation (RSD) for the five-point calibration was within the 20% limit or a linear regression was used.
Yes__X__ No___

B. Continuing Calibration
1. The calibration factor (CF) standard was analyzed for each analysis at the required frequency and the QC criteria were met.
Yes__X__ No____

2. The percent difference (%D) limits of $\pm$ 20% were met.
Yes__X__ No____

SWBGNG1102

IV. SURROGATE

Surrogate spikes were analyzed with every sample.
Yes____ No____ NA__X__
Surrogates are not associated with this method.

V. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A. Matrix spike (MS) and matrix spike duplicates (MSD) were analyzed for every analysis performed and for every 20 samples or for every matrix whichever is more frequent.
Yes__X__ No____

B. The MS and MSD percent recoveries were within the limits defined in the contract.
Yes__X__ No____

C. The MSD relative percent differences (RPD) were within the defined contract limits.
Yes __X__ No____

D. The MS/MSD samples were client samples
Yes__X__ No____
Sample Badger Blank was used for MS/MSD analysis. These appear to be samples spiked in the field. The laboratory has used the only unspiked sample for the QC sample. Usually a field blank is not allowed for QC, but in this case, spiking a spiked sample may not have been appropriate.

VII. LABORATORY CONTROL SAMPLE

A. A Laboratory Control Samples (LCS) was analyzed for every analysis performed and for every 20 samples.
Yes __X__ No ____

The laboratory used a "lab fortified blank" for this analysis.

B. The LCS percent recoveries were within the limits defined in the contract (the MS limits are used as a reference or laboratory-specific limits for this matrix are defined).
Yes__X__ No____

VIII. BLANKS

A. Method Blanks were analyzed at the required frequency and for each matrix and analysis.
Yes__X__ No____

B. Blank contamination was not found in the Method Blank.
Yes__X__ No___

C. If Field Blanks were identified, no blank contamination was found.
Yes_X___ No____

The Field Blank may be sample Badger Blank. If so, the sample is non-detect.

IX. FIELD QC

If Field duplicates or Performance Check Compounds were identified, they met the RPD or %recovery criteria for the project.

Yes____ No____ NA__X__

Field duplicates were not identified.

X. SYSTEM PERFORMANCE

A. The chromatograms and general system performance were acceptable for all instruments and analytical systems.

Yes__X__ No____

B. The suggested EQL's for the sample matrices in this set were met

Yes__X__No____

XI. TCL COMPOUNDS

A. The identification is accurate and all retention times were evaluated for all detected compounds

Yes____ No____

Not applicable.

B. Quantitation was checked to determine the accuracy of calculations.

Yes____ No__X__

This was performed as part of the 10% check done on the previous set of samples that were validated.

C. Two column confirmation was performed and results were within 25% on both columns.

Yes __X_ No____

XII. OVERALL ASSESSMENT OF THE CASE

The laboratory has met the method and QAPP requirements. The quality of the data is acceptable and usable with consideration of the following qualifications.

Preservation and Temperature

The average sample temperature was reported at 22.1° C. at laboratory receipt. All sample results have been qualified as estimated JT22 for exceeding the sample preservation temperature control limits. This compound is quite stable and the effect on the data is not expected to be significant.

Blanks

The Field Blank may be sample Badger Blank. If so, the sample is non-detect.

DIANE SHORT & ASSOCIATES, INC.

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INORGANIC/ORGANIC DATA QUALITY REVIEW REPORT
WET CHEMISTRY AND NITROGLYCERIN

SAMPLE DIGEST NUMBER: 35988-3, 35988-4

PROJECT: Badger Army Ammunitions Plant, WI; Stone &Webster/Shaw

LABORATORY: TriMatrix Laboratories, Grand Rapids, MI

SAMPLE MATRIX: Soil

SAMPLING DATE (Mo/Yr) 8/02 NO. OF SAMPLES: 32 (S)

ANALYSES REQUESTED: MCAWW Nitrate/Nitrite Method 353.2; USARMY BR&D Lab Nitrocellulose; SW-846 Nitroglycerin Method 8332

SAMPLE NO. See Attached

DATA REVIEWER: William Berning INITIALS/DATE: DB 10/28/02

QA REVIEWER: Diane Short & Associates, Inc.

Telephone Logs included Yes___ No__X_

Contractual Violations Yes___ No__X__

The EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, 1994 (SOP) and the requested MCAWW and SW-846 Methods have been used by the reviewer to perform this data validation review. The US ARMY Method was not available to the reviewer. The EPA MCAWW and SW-846 Methods were used by the laboratory to perform the analyses and have been referenced for any modifications. The EPA qualifiers have been expanded to include a descriptor code and value to define QC violations and their values, per the approval of the Project Manager. The review includes review of the QC data. General comments regarding the data/ analytical quality are part of the review when raw data are submitted.

I. DELIVERABLES

All deliverables were present as specified in the Statement of Work or project contract.

Yes____ No__X_

There were no preparation blanks reported in the QC summaries for the nitrate/nitrate analysis in either SDG. There are blanks noted in the raw data which appear to be prep blanks, but they are not reported.

II. CALIBRATIONS

A. All initial instrument calibrations were performed as defined in the contract or Statement of Work (SOW). All correlation coefficients of the 3 point curve were > 0.995.

Yes__X__ No____ NA____

The control criteria for the nitroglycerin analyses were also met.

B. The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were analyzed at the required frequency.

Yes_X___ No____

The control criteria for the nitroglycerin analyses were also met.

And the ICV and CCV standard percent recovery results were within the required control limits.

Yes__X__ No____

The control criteria for the nitroglycerin analyses were also met.

III. CRDL STANDARDS

A. The 2 x CRDL standards were analyzed as required in the SOW.

Yes _X__ No____ NA____

IV. BLANKS

Note: the highest blank associated with any particular analyte is used for the qualification process and is the value entered after the "B" blank descriptor.

A. The initial calibration blanks (ICB) and continuing calibration blanks (CCB) were analyzed at the required frequency.

Yes__X__ No____ NA____

The control criteria for the nitroglycerin analyses were also met.

And the ICB and CCB results were within the required control limits.

Yes__X_ No____ NA_____

The control criteria for the nitroglycerin analyses were also met.

B. And all analytes in the Leach Blank were less than the CRDL, or less than 2x the instrument detection limit (IDL), whichever is lower.

Yes____ No____ NA__X___

No TCLP samples were analyzed.

V. PREPARATION BLANKS

A. Preparation blanks were prepared and analyzed at the required frequency.

Yes____ No__X_

There were no preparation blanks reported in the QC summaries for the nitrate/nitrate analysis in either SDG. A review of the raw data indicated that blanks were present and acceptable, but it is not clear if these are calibration or preparation blanks. No qualification has been applied.

The control criteria for the nitroglycerin analyses were also met.

And all analytes in the preparation blank were less than the CRDL, or less than 2x the instrument detection limit (IDL), whichever is lower.

Yes__X_No____

Yes, for the prep blanks that were present. The control criteria for the nitroglycerin analyses were also met.

B. Field, trip, decon rinse or other field blanks are contained and identified in the package.

Yes ____ No__X_ NA____

And the reported results are less than the CRDL or less than 2x IDL, whichever is lower.

Yes ___ No ____ NA__X_

VIA. ICP INTERFERENCE CHECK SAMPLE

A. The Interference check sample (ICS) was analyzed as required in the SOW or contract.

Yes____ No____ NA__X__

And the ICS percent recovery results were reported for all required ICS analytes and were within required control limits.

Yes_____ No____ NA__X_

B. ICP analysis results for analytes not required to be present in a given ICS standard were within acceptable limits.

Yes____No____ NA__X___

VIB. INTERELEMENT CORRECTION FACTORS

A. The Interelement Correction Factors are included and complete for all possible interferent analytes.

Yes____No____ NA__X__

VII. SPIKE SAMPLE RECOVERY

A. A matrix (pre-digestion) spike sample was analyzed for each digestion group and/or matrix or as required in the SOW.

Yes __X__ No____

The control criteria for the nitroglycerin analyses were also met.

And the Matrix spike percent recoveries were within the required control limits.

Yes __X_ No____

The MS/MSD control criteria for the nitroglycerin analyses were also met.

B. A Post-digest spike was analyzed if required.
Yes___ No____ NA__X_

C. The MS/MSD samples were client samples
Yes _X__ No_____

VIII. DUPLICATES
A. Matrix (pre-digestion) duplicate samples were analyzed at the required frequency
Yes __X__ No____

The control criteria for the nitroglycerin analyses were also met.

And the Matrix duplicate relative percent differences (RPD) were within the required control limits (Water 20%, Soil 35%) or the RL limits were met if the duplicate values are < 5 x RL. If the either one of the duplicate results are < 5 X RL, the RPD is not used. The QC limit is less than the difference between the original and the duplicate results ± the RL for water and ± 2X the RD for soils.
Yes ___X_ No ____

IX. LABORATORY CONTROL SAMPLE
A. Laboratory control samples (LCS) were analyzed at the required frequency.
Yes _X___ No____

The control criteria for the nitroglycerin analyses were also met.

And LCS recoveries were within the required control limits.
Yes __X___ No____
For SDG 35988-4, the laboratory submitted a laboratory fortified blank as well as a soil LCS. The LCS was within limits at 98%; the LFB was out of limits at 74%, but was a water matrix. These are soil samples and the acceptable LCS was used and no qualification was applied.

The control criteria for the nitroglycerin analyses were also met.

X. MSA RESULTS AND GRAPHITE FURNACE ANALYSIS (GFAA)
A. Duplicate injections were performed for all analyses and the RSDs were less than 20% for all reported results. (Method of Standard Additions (MSA) requires only a single injection).
Yes____No____ NA__X___
Graphite furnace was not done.

XI. ICP SERIAL DILUTION
A. ICP Serial Dilutions have been analyzed at the required frequency if the analyte concentrations are greater than 50 x IDL.
Yes____ No____ NA__X__

And the percent difference criteria have been met.

Yes____ No ____ NA__X_

XII. INSTRUMENT DETECTION LIMITS

A. The Instrument Detection Limits have met the Quarterly reporting requirements.

Yes _X___ No____ NA____

And all sample results have met the required detection limits (CRDL).

Yes__X__ No____

XIII. PREPARATION AND ANALYSIS LOGS

A. All samples were prepared or analyzed within the required holding times referencing the SOW (time of sample receipt to preparation/distillation).

Yes_X___ No____

B. All samples were analyzed within the 40 CFR 136 (Clean Water Act) recommended holding times (time of sample collection to date of analysis).

Yes__X__ No____

C. Chains of Custody (COC)

1. Chains of Custody (COC) were reviewed and all fields were complete, signatures were present and cross outs were clean and initialed.

Yes____ No__X_

It should be noted that the laboratory states that the samples and sample coolers were received without any custody seals being present. The absence of custody seals on either the sample containers or the coolers themselves could be problematic for establishing the legal defensibility of these samples.

The laboratory receipt time of "1:00" for the COC in SDG 35988-4 does not indicate if the receipt was AM or PM.

2. Samples were received at the required temperature and preservation.

Yes____ No__X_

The samples in SDG 35988-3 were recorded as having an average temperature of 8.5° C. upon receipt. The samples in SDG 35988-4 were recorded as having an average temperature of 21.2° C upon receipt. These receipt temperatures are outside of the control limits, indicating that there was inadequate sample refrigeration for the shipping of these samples. Though nitroglycerin is fairly stable, it has been qualified as estimated JT#, where # is the temperature, due to improper sample preservation temperatures. The nitrate/nitrite results and nitrocellulose results have also been qualified as estimated JT due to improper sample preservation temperatures. False undetected values or low bias could be associated with the data due to bio-degradation.

XIV. FIELD QC

Field QC samples (duplicates, SRMs) were identified.

Yes ____ No__X__

XV. GENERAL COMMENTS

The quality of the data is acceptable and usable with consideration of the following qualifications.

Preparation Blank

There were no preparation blanks reported in the QC summaries for the nitrate/nitrate analysis in either SDG. A review of the raw data indicated that blanks were present and acceptable, but it is not clear if these are calibration or preparation blanks.

Temperature and Preservation

The samples in the following table have been qualified as estimated JT due to improper temperature preservation: The samples in SDG 35988-3 were recorded as having an average temperature of 8.5° C. upon receipt. The samples in SDG 35988-4 were recorded as having an average temperature of 21.2° C upon receipt. These receipt temperatures are outside of the control limits, indicating that there was inadequate sample refrigeration for the shipping of these samples. Though nitroglycerin is fairly stable, it has been qualified as estimated JT#, where # is the temperature, due to improper sample preservation temperatures. The nitrate/nitrite results and nitrocellulose results have also been qualified as estimated JT# due to improper sample preservation temperatures. False undetected values or low bias could be associated with the data due to degradation.

QUALIFICATION SUMMARY TABLE

SDG	SAMPLE ID	ANALYTE	QUALIFICATION
35988-3	all samples	nitroglycerin	JT8
	all samples	nitrate/nitrite	JT8
	all samples	nitrocellulose	JT8
35988-4	all samples	nitrate/nitrite	JT21
	all samples	nitrocellulose	JT21

Appendix B.5

Photograph Log



Photograph 1. Cracks in building slabs were identified and logged on project figures.



Photograph 2. Expray® analysis of crack in Homogenizer House.



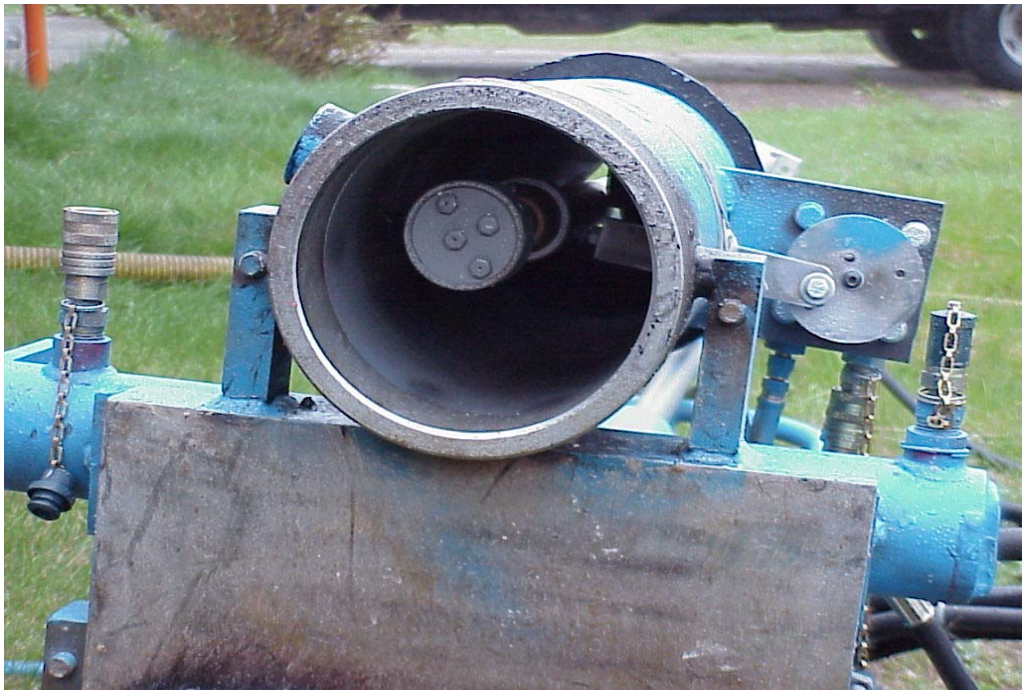
Photograph 3. Setting up Raman spectroscopy equipment to scan crack for explosives.



Photograph 4. Computer showing Raman spectrum from Roll House.



Photograph 5. Concrete cutting apparatus with berm to contain cutting water.



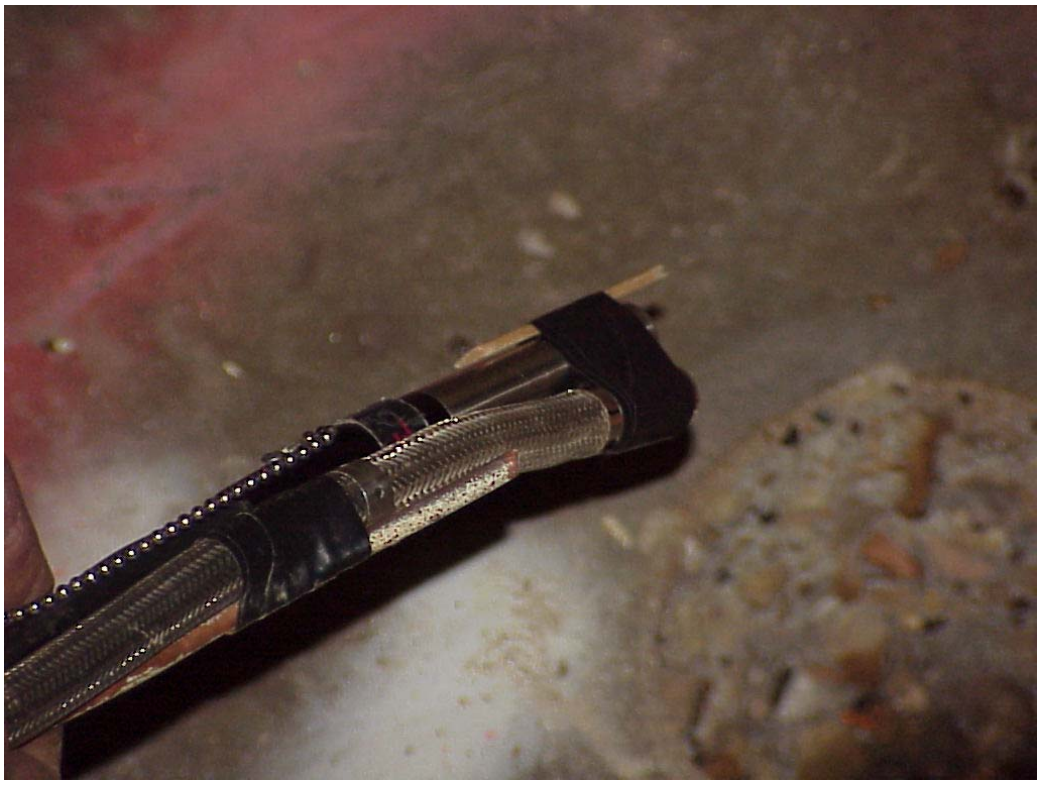
Photograph 6. Concrete cutting apparatus close-up.



Photograph 7. Completed concrete core with sample material brought to surface.



Photograph 8. Raman spectroscopy equipment used following penetration of slab to test for explosives.



Photograph 9. Closeup of Raman probe used in analysis below concrete slabs.



Photograph 10. Soil samples were taken from each coring location.