AL-TR-1992-0098

ARMSTRONG LABORATORY

HAZARDOUS WASTE CHARACTERIZATION SURVEY, WHITEMAN AIR FORCE BASE, MISSOURI

Chung H. Yen, Captain, USAF, BSC
Mark S. Bishop, Technical Sergeant, USAF

OCCUPATIONAL AND ENVIRONMENTAL
HEALTH DIRECTORATE
Brooks Air Force Base, TX 78235-5000

September 1992

Final Technical Report for Period 31 March 1992 – 3 April 1992

AIR FORCE MATERIEL COMMAND
BROOKS AIR FORCE BASE, TEXAS 78235-5000

NOTICES

When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely Government-related procurement, the United States Government incurs no responsibility or any obligation whatsoever. The fact that the Government may have formulated or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication, or otherwise in any manner construed, as licensing the holder or any other person or corporation; or as conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

The mention of trade names or commercial products in this publication is for illustration purposes and does not constitute endorsement or recommendation for use by the United States Air Force.

The Office of Public Affairs has reviewed this report, and it is releasable to the National Technical Information Service, where it will be available to the general public, including foreign nationals.

This report has been reviewed and is approved for publication.

Government agencies and their contractors registered with Defense Technical Information Center (DTIC) should direct requests for copies to: DTIC, Cameron Station, Alexandria VA 22304-6145.

Non-Government agencies may purchase copies of this report from: National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield VA 22161.

CHUNG H. YEN, Capt, USAF, BSC
Consultant, Hazardous Waste

EDWARD F. MAHER, Col, USAF, BSC
Chief, Bioenvironmental
Engineering Division

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	September 1992	Final 31 Mar 92 - 3 Apr 92

4. TITLE AND SUBTITLE
Hazardous Waste Characterization Survey,
Whiteman Air Force Base, Missouri

5. FUNDING NUMBERS

6. AUTHOR(S)
Chung H. Yen
Mark S. Bishop

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Armstrong Laboratory
Occupational and Environmental Health Directorate
Brooks Air Force Base, Texas 78235-5000

8. PERFORMING ORGANIZATION REPORT NUMBER
AL-TR-1992-0098

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution is unlimited.

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

At the request of the Whiteman AFB Bioenvironmental Engineering Services, the Armstrong Laboratory Occupational and Environmental Health Directorate, Bioenvironmental Engineering Division (AL/OEB) conducted a Baseline Hazardous Waste Characterization Survey at Whiteman AFB on 31 Mar - 3 Apr 92. The scope of this survey was to characterize all active hazardous waste streams. The survey team confirmed with 351 CES/DEV and 351 Med Group/SGPB the identified list of potential waste streams to be characterized, and collected representative samples of the 23 active waste streams identified by the base. Recommendations include: (1) commence collection of the waste paint booth filters, and (2) verify the type of wood preservative(s) contained in the waste munition crates stored at Combat Arms Shop (351 SPG/SPC).

14. SUBJECT TERMS		15. NUMBER OF PAGES
Hazardous Waste	Waste Stream Characterization	78
Whiteman AFB	Toxicity Characteristic Leaching Procedure	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL

TABLE OF CONTENTS

ACKNOWLEDGMENTS

The author greatly appreciates the technical assistance and logistical support provided by personnel at Whiteman AFB during the survey. SSgt Mella, Noncommissioned Officer-in-Charge (NCOIC), Environmental Protection Section of the Base Bioenvironmental Engineering Services, 351 Medical Group, was especially supportive. Mr Brockmeire and Mr Chambers of the Base Environmental Engineering Division made themselves available to escort and assist the Armstrong Laboratory survey team in many different ways; an invaluable service which is deeply appreciated.

HAZARDOUS WASTE STREAM CHARACTERIZATION SURVEY, WHITEMAN AIR FORCE BASE, MISSOURI

INTRODUCTION

On 13 Nov 91, Whiteman Air Force Base (AFB) Bioenvironmental Engineering Services (BES) requested assistance from the Armstrong Laboratory, Occupational and Environmental Health Directorate, Bioenvironmental Engineering Division, Environmental Engineering Branch (AL/OEBE), in performing a baseline hazardous waste characterization survey of all active waste streams on Whiteman AFB (Appendix A). This survey was prompted by the desire of both the Base Environmental Engineering Division (351 CES/DEV) and the BES to improve the overall management of the base's hazardous waste program.

The survey was conducted by the following personnel:

Presurvey 10-13 Mar 92:

Capt Chung Yen	AL/OEBE
TSgt Mark Bishop	AL/OEBE

Sampling Survey 31 Mar 92 - 3 Apr 92:

Capt Chung Yen	AL/OEBE
TSgt Mark Bishop	AL/OEBE
Sgt Arturo Buendia	AL/OEBE

Base Description

Whiteman AFB is situated in west-central Missouri, two miles south of the town of Knob Noster. The base is the headquarters for the 100th Air Division which is transitioning into the first operational B-2 bomber unit. The base is also the headquarters for the 351st Strategic Missile Wing (SMW) with its 150 Minuteman II intercontinental ballistic missiles. The 351 SMW is responsible for 150 missile launch facilities spreading over a 10,000 square mile area. The base property covers over 3,700 acres and supports about 75 mission support and community service buildings, and more than 900 family housing units.

Hazardous Waste Program

The Base Hazardous Waste Program is managed by the Base Environmental Engineering Division (351 CES/DEV). The 351 CES/DEV is responsible for funding sample analysis and for sampling monitoring wells around hazardous waste facilities and sites. The Base Bioenvironmental Engineering Services (351 Med Group/SGPB) is responsible for supporting the program through annual industrial shop surveys, sampling waste streams, and interpreting analytical data. The Defense Reutilization and Marketing Office (DRMO) located on Whiteman AFB is responsible for storage and contractual removal of hazardous waste. The base has a Part A, interim status, Hazardous Waste Storage Permit. The permit was issued by the State of Missouri which has primacy for hazardous waste enforcement. The base is applying for a Part B permit. The base currently has approximately 120 industrial shops and 23 potential active hazardous waste streams. Lacking the human and technical resources required to accomplish the baseline survey, BES requested AL/OEBE support.

Objectives

There were three objectives for the presurvey:

- to review applicable requirements in Resource Conservation and Recovery Act (RCRA) Subtitle C and Missouri Hazardous Waste Regulations with applicable base personnel,

- to review base records for all active waste streams to develop an up-to-date list of potential hazardous waste streams, and

- to visit each industrial shop identified as a potential hazardous waste stream generator to collect information for follow-on sampling for laboratory analysis.

There were two objectives for the sampling survey:

- to confirm with 351 CES/DEV and 351 Med Group/SGPB the identified list of potential waste streams to be characterized, and

- to collect representative samples of the 23 active waste streams identified by the Base Environmental Engineering Division and the Base Bioenvironmental Engineering Services during the 10-13 Mar 92 presurvey.

DISCUSSION

Method

During sampling, a representative sample was taken from each waste stream accumulation drum. Stratification of the waste due to age and/or varying physical properties were taken into account. All field sampling activities were in accordance with the Environmental Protection Agency (EPA) hazardous waste stream sampling criteria (1).

Drummed liquids were extracted by using the composite liquid waste sampler (COLIWASA). The COLIWASA is a three-foot (0.91 meter) cylindrical glass tube containing a plug rod that is used to close the lower end of the glass tube. The COLIWASA permits representative sampling of multiphase wastes of a wide range of viscosity, corrosivity, volatility, and solids content. A separate disposable COLIWASA was used to collect a sample from each drum. A total of 23 samples were collected from 23 active waste streams.

All samples were containerized in Eagle Picher level II certified bottles. The sample bottles are cleaned by the vendor according to EPA quality assurance protocols in order to eliminate the container as a source of sample contamination. Each sample bottle was labeled with a unique laboratory sample number to avoid misidentification. The samples were shipped by Federal Express to the Armstrong Laboratory Sample Control Department in order to comply with the minimum sample holding times prior to analysis. Each sample was processed at the Armstrong Laboratory Sample Control Department for quality control. They were then dispatched to a contract laboratory to insure a rapid turnaround on analysis results.

Survey Overview

The overall sampling and analysis plan was coordinated with 351 CES/DEV and 351 Med Group/SGPB on the first day of the sampling survey. To avoid duplication and/or incorrect analysis requests, analytical requirements were initially coordinated with Whiteman DRMO. The first day of the survey was devoted to organizing the equipment and personnel for efficient daily deployment and refining the sampling plan. An outbrief was given by Capt Yen and TSgt Bishop to Mr Ross Chamber, 351 CES/DEV, and TSgt Ferguson and SSgt Mella, 351 Med Group/SGPB, on the final day of the sampling survey.

Sampling Strategy

Sampling strategies were implemented at Whiteman AFB in order to adequately and properly identify the characteristics of each waste stream. One representative sample was collected for each of the 23 active waste streams. Since none of the accumulation points visited during sampling maintain more than one drum for each active waste stream, multiple drum composite sampling was not necessary. The four characteristic tests for hazardous wastes are Ignitability, Corrosivity, Reactivity, and Toxicity Characteristic Leachate Procedure (TCLP) according to 40 CFR 261 (2).

In accordance with 40 CFR 266.40 (2), waste oil is generally analyzed for flash point, total metals, and total organic halogens (TOX). In Missouri, waste oils are regulated as Missouri hazardous waste. There are provisions under Missouri Waste Oil Regulations for blending waste oil in heating fuels and using the mixture for energy recovery (3). Energy recovery samples were not taken due to recent contract collection of waste oil from the central waste oil collection tank. Officials from 351 CES/DEV and 351 Med Group/SGPB indicated that composite samples will be taken when the collection tank contains a representative mixture of waste oils, fluids, and fuels from all generating shops on base.

ANALYTICAL RESULTS

Data obtained during the survey and from the laboratory analysis results were used to format results into a concise and easy to use table for the 23 active waste streams. The table of waste stream characterization results is also organized according to the base's needs. This table is presented in Appendix B. The keys to alphabet notations, element symbols and abbreviations associated with the waste stream characterization table are presented on the bottom of each page in Appendix B. The regulatory maximum contaminant concentrations under the 40 CFR 261 TCLP criteria are tabulated on last page of Appendix B. Copies of raw waste stream analytical data are in Appendix C.

There are five waste stream analytical results that exceeded the hazardous waste characteristics limits under 40 CFR 261 Subpart C, Characteristics of Hazardous Waste (2). The five waste streams are defined as hazardous waste streams and are listed below along with the analytical results and designated EPA waste number.

Waste Stream	Analytical Results	EPA Waste No.
351 TRANS/LGTM Allied Trades Building 159 Paint Thinner	MEK = 1100 mg/L	D035
351 TRANS/LGTM Allied Trades Building 159 Waste Paint Filter	Cr(VI) = 8.8 mg/L	D007
Det 9 37 ARS/MAQI Helicopter Maint Building 91 MEK	Cr(VI) = 36 mg/L MEK = 41000 mg/L	D007 D035
351 FMMS/MBFSSL Missile Maintenance Building 709 Sodium Chromate Liquid	Cr(VI) = 11 mg/L	D007
351 FMMS/MBFSFC Corrosion Control Building 709 Waste Paint Thinner	Flash Point < 7 °C	D001

Legend:

Cr(VI) denotes the Chromium Ion with chemical valence of six
°C denotes degrees Celsius
MEK denotes Methyl Ethyl Ketone
No. denotes Number
< denotes less than

There are 18 waste streams analyzed that did not exceed the hazardous waste characteristic limits under 40 CFR 261 Subpart C (2). These waste streams are not defined as hazardous waste in accordance with 40 CFR 261. These waste streams are listed below.

Shop Symbol and Name	Type of Waste Stream
351 TRANS/LGTM Allied Trades	Waste Paint Debris
351 TRANS/LGTM Special & General Purpose Shop	Antifreeze
351 CS/SCVP Photo Lab	Waste Fixer Photographic Paper Photographic Negatives
351 FMMS/MBFSSA AGE	Antifreeze PD-680
AASF Helicopter Maint	MEK PD 680
351 FMMS/MBFSSL Missile Maint	Sodium Chromate Rags
351 CES/DEMHV Paint Shop	Waste Paint Thinner Waste Paint Filters
351 FMMS/MBFSFC Corrosion Control	Waste Glass Media Waste Paint Filters
351 CS/MWRA Auto Hobby	Antifreeze
351 Med Group Medical Logistics	X-Ray Negatives
351 FMMS/MBFSFS PMT	Antifreeze
Det 509	Alodine Rags

CONCLUSIONS/RECOMMENDATIONS

Handling of Paint Filters

The chromium (VI) concentration of the TCLP parameters analyzed for the Allied Trade paint booth filters exceeded the 40 CFR 261 standards (2). Allied Trades Paint Shop (351 TRANS/LGTM) should start collecting the waste paint booth filters. The filters cannot be disposed as municipal trash. At the time of this survey, Allied Trades Paint Shop has been accumulating the waste paint filters in unmarked 55-gallon steel drums and disposing the filters as municipal waste.

Disposal of Wooden Crates

The base should verify the types of wood preservative contained in the waste munitions crates stored at the Combat Arms Shop (351 SPG/SPC). There were approximately 150 crates stored in the shop at the time of the sampling survey. According to the shop NCOIC, these crates are intended for disposal. A convenient way to verify the type of wood preservative is to contact the manufacturer and request material safety data sheets. If the crates contain pentachlorophenol (PCP), a TCLP analysis will be required under 40 CFR 261 (2) for proper hazardous waste determination and proper disposal. The Department of Defense stopped using PCPs in the early 1980s. For more information about PCPs, contact the Chief, Ammunition Surveillance at any U.S. Army ammunition depot; or the U.S. Army Defense Ammunition Center and School, Savanna, Illinois.

REFERENCES

1. United States Environmental Protection Agency, Samplers and Sampling Procedures for Hazardous Waste Streams, EPA-600/2-80-018, January 1980.

2. Code of Federal Regulations, Title 40, Protection of Environment, Part 261, Identification and Listing of Hazardous Waste, and Part 266 Subpart E, Used Oil Burned for Energy Recovery, July 1990.

3. Code of State Regulations, Title 10, Missouri Department of Natural Resources, Division 25, Hazardous Waste Management Commission, Chapter 4, Methods for Identifying Hazardous Waste, Chapter 9, Resource Recovery, and Chapter 11, Waste Oil, July 1991.

APPENDIX A

Request Letters

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS STRATEGIC AIR COMMAND
OFFUTT AIR FORCE BASE, NEBRASKA 68113-5001

REPLY TO ATTN OF: SGPB

20 November 1991

SUBJECT: Hazardous Waste Characterization Study

TO: AL/OEB

We support the attached request from the 351 Medical Group for a hazardous waste characterization study. We would appreciate your assistance within the next 180 days. Please contact either Captain Barnes or Lt Redelsperger at DSN 975-4324 for further information. Finally, reply directly to the 351 Medical Group if you can support their request. Only provide me with information copies of all correspondence and do not route your reply back through my office.

Ronald L. Schiller

RONALD L. SCHILLER, Colonel, USAF, BSC
Chief, Bioenvironmental Engineering
Office of the Surgeon

1 Atch
351 Med Gp/SGPB Ltr, 13 Nov 91

cc: HQ SAC/DEVC
351 MW/LG
351 SPTG/DEV
351 Med Gp/SGPB

DEPARTMENT OF THE AIR FORCE
351ST MEDICAL GROUP (SAC)
WHITEMAN AIR FORCE BASE, MISSOURI 65305-5000

REPLY TO ATTN OF: SGPB (4324)

NOV 1 3 1991

SUBJECT: Hazardous Waste Characterization Study

TO: HQ SAC/SGPB

1. Request a hazardous waste characterization study be performed by Armstrong Labs/OEBE. This study should cover at least an analysis of the waste streams specified by 351 SPTG/DEV as hazardous waste generators. Recommendations for waste minimization and recycling are also needed. This survey will serve as our baseline data.

2. Conversations with AL/OEBE indicate they may be able to service our needs in the February/March 1992 timeframe.

CHARLES A. BARNES, Capt, USAF, BSC
Chief, Bioenvironmental Engineering Service

cc: 351 MW/LG
351 SPTG/DEV
AL/OEBE (Capt Yen)
Brooks AFB TX

APPENDIX B

Waste Stream Characterization

WHITEMAN AFB HAZARDOUS WASTE STREAM CHARACTERIZATION ANALYSIS: 31 MAR - 2 APR 92

WASTE STREAM SHOP & BLDG	BASE SAMPLE NO.	DATE SAMPLED	ANALYSIS REQUESTED	MAJOR COMPONENTS %	FLASH PT (degree C)	RX (mg/kg)	CORR (pH)	TCLP METALS (mg/L)	TCLP ORGANICS (mg/L)
351 TRANS/LGTM Allied Trades Bldg 159 Paint Thinner	GT920712	31 Mar	Full RCRA	2 Benzene 0.2 Acids & Esters 0.4 Decane 79 Paint Sludge	*<14	NP	NP	Ba=51	**g=1100
351 TRANS/LGTM Allied Trades Bldg 159 Waste Paint Debris	GT920713	31 Mar	TCLP-M	Solids	NP	ND	7.5	Cr=0.5	NP
351 TRANS/LGTM Allied Trades Bldg 159 Waste Paint Filters	GT920714	31 Mar	TCLP-M	Solids	NP	ND	3.7	**Cr=8.8	NP
351 TRANS/LGTM Special&General Bldg 159 Antifreeze	GT920715	31 Mar	Full RCRA	7 PD 93 AF	>95	ND	8.6	ND	a=0.095 c=0.021 l=0.24

Abbreviations, Acronyms, and Symbols:

AF:	Antifreeze
FP:	Flash Point
MC:	Major Components
MEK:	Methyl Ethyl Ketone
PD:	Petroleum Distillate
RX:	Reactivity
ND:	None Detected (below detection limits)
NP:	Not Performed
TCLP:	Toxicity Characteristic Leachate Procedure
TCLP-M:	TCLP Metals
TCLP-ORG:	TCLP Organics (volatiles & semi-volatiles)
CORR:	Corrosivity
mg/L:	milligrams per liter
C:	Celsius
*	Exceeds TCLP ignitable criteria: <60 degrees Celsius
**	Exceeds TCLP limits

WHITEMAN AFB HAZARDOUS WASTE STREAM CHARACTERIZATION ANALYSIS: 31 MAR - 2 APR 92

WASTE STREAM SHOP & BLDG	BASE SAMPLE NO.	DATE SAMPLED	ANALYSIS REQUESTED	MAJOR COMPONENTS %	FLASH PT (degree C)	RX (mg/kg)	CORR (pH)	TCLP METALS (mg/L)	TCLP ORGANICS (mg/L)
351 CS/SCVP Photo Lab Bldg 145 Waste Fixer	GT920716	31 Mar	TCLP-M	90 Water 10 HC	>95	ND	6.9	Cr=0.3 Ag=0.7	NP
351 CS/SCVP Photo Lab Bldg 145 Photographic Paper	GT920717	31 Mar	TCLP-M	NP	NP	NP	NP	Ag=2.9	NP
351 CS/SCVP Photo Lab Bldg 145 Photographic Negatives	GT920718	31Mar	TCLP-M	NP	NP	NP	NP	ND	NP
351 FMMS/MBFSSA AGE Bldg 7 Antifreeze	GT920719	1 Apr	Full RCRA	10 PD 72 Water 18 AF	>95	ND	8.4	ND	ND

Abbreviations, Acronyms, and Symbols:

AF:	Antifreeze	TCLP:	Toxicity Characteristic Leachate Procedure
FP:	Flash Point	TCLP-M:	TCLP Metals
MC:	Major Components	TCLP-ORG:	TCLP Organics (volatiles & semi-volatiles)
MEK:	Methyl Ethyl Ketone	CORR:	Corrosivity
PD:	Petroleum Distillate	mg/L:	milligrams per liter
RX:	Reactivity	C:	Celsius
ND:	None Detected (below detection limits)	*	Exceeds TCLP ignitable criteria: <60 degrees Celsius
NP:	Not Performed	**	Exceeds TCLP limits

WHITEMAN AFB HAZARDOUS WASTE STREAM CHARACTERIZATION ANALYSIS: 31 MAR - 2 APR 92

WASTE STREAM SHOP & BLDG	BASE SAMPLE NO.	DATE SAMPLED	ANALYSIS REQUESTED	MAJOR COMPONENTS %	FLASH PT (degree C)	RX (mg/kg)	CORR (pH)	TCLP METALS (mg/L)	TCLP ORGANICS (mg/L)
351 FMMS/MBFSSA AGE Bldg 7 PD-680	GT920720	1 Apr	Full RCRA	2 HC 98 Water	*52	ND	7.1	Ba=2.1 Cd=0.1	NP
Det 9 37 ARS/MAQI Helicopter Maint Bldg 91 MEK	GT920721	1 Apr	Full RCRA	4 Benzenes 3.5 Alkane 0.7 Butanone 0.5 MC 0.2 Phenol 83 H2O 8.1 Other	*17	ND	8.1	**Cr=36	**g=41000 I=1.2
AASF Helicopter Maint Bldg 91 MEK	GT920722	1 Apr	Full RCRA	28 Butanone 1.4 Toluene 1.4 Xylene 29 Solids 40.2 MEK & Others	*<4	ND	5.3	**Cr=15	**g=34000
AASF Helicopter Maint Bldg 52 PD 680	GT920723	1 Apr	Full RCRA	77 PD 23 Water/HC	*52	ND	6.7	NP	NP

Abbreviations, Acronyms, and Symbols:

AF:	Antifreeze	TCLP:	Toxicity Characteristic Leachate Procedure
FP:	Flash Point	TCLP-M:	TCLP Metals
MC:	Major Components	TCLP-ORG:	TCLP Organics (volatiles & semi-volatiles)
MEK:	Methyl Ethyl Ketone	CORR:	Corrosivity
PD:	Petroleum Distillate	mg/L:	milligrams per liter
RX:	Reactivity	C:	Celsius
ND:	None Detected (below detection limits)	*	Exceeds TCLP ignitable criteria: <60 degrees Celsius
NP:	Not Performed	**	Exceeds TCLP limits

WHITEMAN AFB HAZARDOUS WASTE STREAM CHARACTERIZATION ANALYSIS: 31 MAR - 2 APR 92

WASTE STREAM SHOP & BLDG	BASE SAMPLE NO.	DATE SAMPLED	ANALYSIS REQUESTED	MAJOR COMPONENTS %	FLASH PT (degree C)	RX (mg/kg)	CORR (pH)	TCLP METALS (mg/L)	TCLP ORGANICS (mg/L)
351 FMMS/MBFSSL Missle Maint Bldg 709 Sodium Chromate Rags	GT920724	1 Apr	TCLP-M Corr	NP	NP	NP	8.6	ND	NP
351 FMMS/MBFSSL Missle Maint Bldg 709 Sodium Chromate Liquid	GT920725	1 Apr	TCLP-M TCLP-ORG MC FP Rx Corr	>99 Water	>95	ND	8.0	**Cr=11	ND
351 CES/DEMHV Paint Shop Bldg 705 Waste Paint Thinner	GT920726	1 Apr	MC FP	45 Alkanes 17 Alcohols 6 Benzenes 32 Others	*27	NP	NP	NP	NP
351 CES/DEMHV Paint Shop Bldg 705 Waste Paint Filter	GT920727	1 Apr	TCLP-M Corr	NP	NP	NP	4.2	ND	NP

Abbreviations, Acronyms, and Symbols:

AF:	Antifreeze	TCLP:	Toxicity Characteristic Leachate Procedure
FP:	Flash Point	TCLP-M:	TCLP Metals
MC:	Major Components	TCLP-ORG:	TCLP Organics (volatiles & semi-volatiles)
MEK:	Methyl Ethyl Ketone	CORR:	Corrosivity
PD:	Petroleum Distillate	mg/L:	milligrams per liter
RX:	Reactivity	C:	Celsius
ND:	None Detected (below detection limits)	*	Exceeds TCLP ignitable criteria: <60 degrees Celsius
NP:	Not Performed	**	Exceeds TCLP limits

WHITEMAN AFB HAZARDOUS WASTE STREAM CHARACTERIZATION ANALYSIS: 31 MAR - 2 APR 92

WASTE STREAM SHOP & BLDG	BASE SAMPLE NO.	DATE SAMPLED	ANALYSIS REQUESTED	MAJOR COMPONENTS %	FLASH PT (degree C)	RX (mg/kg)	CORR (pH)	TCLP METALS (mg/L)	TCLP ORGANICS (mg/L)
351 FMMS/MBFSFC Corrosion Control Bldg 709 Waste Paint Thinner	GT920728	1 Apr	Full RCRA	25 Butanone 15 Alkanes 22 Esters 4 Toluene 10 Benzenes 24 Others	*<7	NP	NP	NP	NP
351 FMMS/MBFSFC Corrosion Control Bldg 709 Waste Glass Media	GT920729	1 Apr	TCLP-M	NP	NP	NP	NP	ND	NP
351 FMMS/MBFSFC Corrosion Control Bldg 709 Waste Paint Filters	GT920730	1 Apr	TCLP-M	NP	NP	NP	NP	Cr=2.6	NP
351 CS/MWRA Auto Hobby Bldg 605 Antifreeze	GT920731	1 Apr	Full RCRA	7 PD 93 AF	>95	ND	8.6	ND	a=0.03 c=0.007 g=0.23

Abbreviations, Acronyms, and Symbols:

AF:	Antifreeze
FP:	Flash Point
MC:	Major Components
MEK:	Methyl Ethyl Ketone
PD:	Petroleum Distillate
RX:	Reactivity
ND:	None Detected (below detection limits)
NP:	Not Performed
TCLP:	Toxicity Characteristic Leachate Procedure
TCLP-M:	TCLP Metals
TCLP-ORG:	TCLP Organics (volatiles & semi-volatiles)
CORR:	Corrosivity
mg/L:	milligrams per liter
C:	Celsius
*	Exceeds TCLP ignitable criteria: <60 degrees Celsius
**	Exceeds TCLP limits

WHITEMAN AFB HAZARDOUS WASTE STREAM CHARACTERIZATION ANALYSIS: 31 MAR - 2 APR 92

WASTE STREAM SHOP & BLDG	BASE SAMPLE NO.	DATE SAMPLED	ANALYSIS REQUESTED	MAJOR COMPONENTS %	FLASH PT (degree C)	RX (mg/kg)	CORR (pH)	TCLP METALS (mg/L)	TCLP ORGANICS (mg/L)
351 MED GRP Medical Logistics Bldg 2032 X-Ray Negatives	GT920732	1 Apr	TCLP-M	NP	NP	NP	NP	ND	NP
351 FMMS/MBFSFS PMT Bldg 209 Antifreeze	GT920733	1 Apr	Full RCRA	3 PD 97 AF	>95	ND	7.6	ND	g=9.4
Det 509 Bldg 4044 Alodine Rags	GT920734	1 Apr	TCLP-M TCLP-ORG Rx Corr	NP	NP	ND	6.7	Cr=4.8	g=23

Abbreviations, Acronyms, and Symbols:

AF:	Antifreeze	TCLP:	Toxicity Characteristic Leachate Procedure
FP:	Flash Point	TCLP-M:	TCLP Metals
MC:	Major Components	TCLP-ORG:	TCLP Organics (volatiles & semi-volatiles)
MEK:	Methyl Ethyl Ketone	CORR:	Corrosivity
PD:	Petroleum Distillate	mg/L:	milligrams per liter
RX:	Reactivity	C:	Celsius
ND:	None Detected (below detection limits)	*	Exceeds TCLP ignitable criteria: <60 degrees Celsius
NP:	Not Performed	**	Exceeds TCLP limits

APPENDIX C

Report of Analysis (Raw Laboratory Data)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920712 OEHL SAMPLE NO: 92019579

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Vinyl chloride	<50	mg/L	
Major Components	See comment.		
Arsenic	<0.2	mg/L	
Barium	51	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Benzene	<25	mg/L	
Carbon tetrachloride	<25	mg/L	
Chlorobenzene	<25	mg/L	
Chloroform	<25	mg/L	
m-Cresol	<0.04	mg/L	
2-Methylphenol	<0.04	mg/L	
4-Methylphenol	<0.04	mg/L	
1,4-Dichlorobenzene	<0.04	mg/L	
1,2-Dichloroethane	<25	mg/L	
1,1-Dichloroethene	<25	mg/L	
2,4-Dinitrotoluene	<0.04	mg/L	
Hexachlorobenzene	<0.04	mg/L	
Hexachlorobutadiene	<0.04	mg/L	
Hexachloroethane	<0.04	mg/L	
Methyl ethyl ketone	1100	mg/L	
Nitrobenzene	<0.04	mg/L	

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920712 OEHL SAMPLE NO: 92019579

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Pentachlorphenol	<0.2	mg/L	
Pyridine	<0.04	mg/L	
Trichloroethylene	<25	mg/L	
Tetrachloroethylene	<25	mg/L	
2,4,5-Trichlorophenol	<0.2	mg/L	
2,4,6-Trichlorophenol	<0.04	mg/L	
Flash Point (closed cup)	<57.2	degrees F	
Corrosivity	NP		
Hydrogen ion (pH)	NP		
Cyanide (total)	NP		
Sulfide	NP		

NP : Test Not Performed

Comments:

SAMPLE IS (TOP LAYER 21%) 21% BLUE PAINT WASTE CONTAINING 5-10% SUBSTITUTED BENZENES, 1-2% PROPANOIC ACID, 3-ETHOXY-ETHYL ESTER AND 1-2% DECANE. (BOTTOM LAYER 79%) 79% PAINT SLUDGE CONTAINING TRACE LEVELS OF 2-BUTANONE. All test methods conform to SW-846. M-CRESOL AND P-CRESOL = UNRESOLVABLE COMPOUNDS.
< - Signifies none detected and the detection limits.

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920712 OEHL SAMPLE NO: 92019579

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wentland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920713 OEHL SAMPLE NO: 92019580

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	0.5	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Flash Point (closed cup)	NP		
Corrosivity	SINC		
Hydrogen ion (pH)	7.5		
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	
Major Components	See comment.		

NP : Test Not Performed

SINC : Sample is not corrosive.

Comments:

SAMPLE IS SOLID.
All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

TO:

AL/OEBE PAGE 1(Cont'd)
BROOKS AFB, TX 78235-5000

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920713 OEHL SAMPLE NO: 92019580

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920714 OEHL SAMPLE NO: 92019581

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	8.8	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Flash Point (closed cup)	NP		
Corrosivity	SINC		
Hydrogen ion (pH)	3.7		
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	
Major Components	See comment.		

NP : Test Not Performed

SINC : Sample is not corrosive.

Comments:

SAMPLE IS SOLID.
All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920714 OEHL SAMPLE NO: 92019581

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920715 OEHL SAMPLE NO: 92019582

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Hydrogen ion (pH)	8.6		
Major Components	See comment.		
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Benzene	0.095	mg/L	
Carbon tetrachloride	<0.005	mg/L	
Chlorobenzene	0.021	mg/L	
Chloroform	<0.005	mg/L	
m-Cresol	<0.2	mg/L	
2-Methylphenol	0.24	mg/L	
4-Methylphenol	See comment.		
1,4-Dichlorobenzene	<0.2	mg/L	
1,2-Dichloroethane	<0.005	mg/L	
1,1-Dichloroethene	<0.005	mg/L	
2,4-Dinitrotoluene	<0.2	mg/L	
Hexachlorobenzene	<0.2	mg/L	
Hexachlorobutadiene	<0.2	mg/L	
Hexachloroethane	<0.2	mg/L	
Methyl ethyl ketone	<0.1	mg/L	
Nitrobenzene	<0.2	mg/L	

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920715 OEHL SAMPLE NO: 92019582

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Pentachlorphenol	<1.0	mg/L	
Pyridine	<0.2	mg/L	
Vinyl chloride	<0.01	mg/L	
Trichloroethylene	<0.005	mg/L	
Tetrachloroethylene	<0.005	mg/L	
2,4,5-Trichlorophenol	<1.0	mg/L	
2,4,6-Trichlorophenol	<0.2	mg/L	
Flash Point (closed cup)	>203	degrees F	
Corrosivity	SINC		
Cyanide (total)	<10	mg/L	
Sulfide	<100	mg/L	

SINC : Sample is not corrosive.

Comments:

SAMPLE IS (TOP LAYER 7%) 7% BROWN PETROLEUM DISTILLATE OF CARBON RANGES C8-C32 AND C21-C32 SIMILAR TO A FUEL/LUBE OIL COMBINATION.
(BOTTOM LAYER 93%) 93% ANTIFREEZE.
All test methods conform to SW-846.
M-CRESOL AND P-CRESOL = UNRESOLVABLE COMPOUNDS.
< - Signifies none detected and the detection limits.

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920715 OEHL SAMPLE NO: 92019582

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920716 OEHL SAMPLE NO: 92019583

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	0.3	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	0.7	mg/L	
Flash Point (closed cup)	>203	degrees F	
Hydrogen ion (pH)	6.9		
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	
Corrosivity	SINC		

SINC : Sample is not corrosive.

Comments:

SAMPLE IS >99% WATER SATURATED WITH 5-10% UNKNOWN HYDROCARBONS OF C-RANGE C6-C22.
All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920716 OEHL SAMPLE NO: 92019583

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by: _____

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920717 OEHL SAMPLE NO: 92019584

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	2.9	mg/L	

Comments:

All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920718 OEHL SAMPLE NO: 92019585

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920331 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	

Comments:

All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920719 OEHL SAMPLE NO: 92019586

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Carbon tetrachloride	<0.005	mg/L	
Hexachlorobenzene	<0.1	mg/L	
Hydrogen ion (pH)	8.4		
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	
2,4,5-Trichlorophenol	<0.5	mg/L	
Flash Point (closed cup)	>203	degrees F	
Benzene	<0.005	mg/L	
Chlorobenzene	<0.005	mg/L	
Chloroform	<0.005	mg/L	
m-Cresol	<0.1	mg/L	
2-Methylphenol	<0.1	mg/L	
4-Methylphenol	<0.1	mg/L	
1,4-Dichlorobenzene	<0.1	mg/L	
1,2-Dichloroethane	<0.005	mg/L	
1,1-Dichloroethene	<0.005	mg/L	
2,4-Dinitrotoluene	<0.1	mg/L	
Hexachlorobutadiene	<0.1	mg/L	

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920719 OEHL SAMPLE NO: 92019586

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Hexachloroethane	<0.1	mg/L	
Methyl ethyl ketone	<0.1	mg/L	
Nitrobenzene	<0.1	mg/L	
Pentachlorphenol	<0.5	mg/L	
Pyridine	<0.1	mg/L	
Vinyl chloride	<0.01	mg/L	
Trichloroethylene	<0.005	mg/L	
Tetrachloroethylene	<0.005	mg/L	
2,4,6-Trichlorophenol	<0.1	mg/L	
Corrosivity	SINC		

SINC : Sample is not corrosive.

Comments:

SAMPLE IS (TOP LAYER 10%) 10% BROWN PETRCLEUM DISTILLATE OF CARBON RANGE C21-C32 SIMILAR TO LUBE OIL. (BOTTOM LAYER 90%) 90% WATER SATURATED WITH 5-20% ANTIFREEZE.
All test methods conform to SW-846.
M-CRESOL AND P-CRESOL = UNRESOLVABLE COMPOUNDS.
< - Signifies none detected and the detection limits.

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920719 OEHL SAMPLE NO: 92019586

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920720 OEHL SAMPLE NO: 92019587

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	2.1	mg/L	
Cadmium	0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Flash Point (closed cup)	125.6	degrees F	
Corrosivity	SINC		
Hydrogen ion (pH)	7.1		
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	
Major Components	See comment.		

SINC : Sample is not corrosive.

Comments:

SAMPLE IS (TOP LAYER 2%) 2% UNKNOWN HYDROCARBON LAYER, INSUFFICIENT SAMPLE FOR FURTHER TESTING. (BOTTOM LAYER 98%) 98% WATER.
All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920720 OEHL SAMPLE NO: 92019587

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920721 OEHL SAMPLE NO: 92019588

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920518

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Hydrogen ion (pH)	8.1		
Flash Point (closed cup)	62.6	degrees F	
Major Components	See comment.		
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	36	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Benzene	<250	mg/L	
Carbon tetrachloride	<250	mg/L	
Chlorobenzene	<250	mg/L	
Chloroform	<250	mg/L	
m-Cresol	1.2	mg/L	
2-Methylphenol	<0.2	mg/L	
4-Methylphenol	See comment.		
1,4-Dichlorobenzene	<0.2	mg/L	
1,2-Dichloroethane	<250	mg/L	
1,1-Dichloroethene	<250	mg/L	
2,4-Dinitrotoluene	<0.2	mg/L	
Hexachlorobenzene	<0.2	mg/L	
Hexachlorobutadiene	<0.2	mg/L	
Hexachloroethane	<0.2	mg/L	
Methyl ethyl ketone	41,000	mg/L	

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920721 OEHL SAMPLE NO: 92019588

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920518

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Nitrobenzene	<0.2	mg/L	
Pentachlorphenol	<1.0	mg/L	
Pyridine	<0.2	mg/L	
Vinyl chloride	<500	mg/L	
Trichloroethylene	<250	mg/L	
Tetrachloroethylene	<250	mg/L	
2,4,5-Trichlorophenol	<1.0	mg/L	
2,4,6-Trichlorophenol	<0.2	mg/L	
Corrosivity	SINC		
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	

SINC : Sample is not corrosive.

Comments:

SAMPLE IS (TOP LAYER 17%) 17% ORGANIC MIXTURE CONTAINING 20-25% SUBSTITUTED BENZENES, 15-20% BRANCHED ALKANES, 2-4% 2-BUTANONE, 1-3% METHYLENE CHLORIDE AND 0.5-1% PHENOL. (BOTTOM LAYER 83%) 83% WATER.
M-CRESOL AND P-CRESOL - UNRESOLVABLE COMPOUNDS.
All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920721 OEHL SAMPLE NO: 92019588

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920518

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920722 OEHL SAMPLE NO: 92019589

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Hydrogen ion (pH)	5.3		
Corrosivity	SINC		
Major Components	See comment.		
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	15	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Benzene	<250	mg/L	
Carbon tetrachloride	<250	mg/L	
Chlorobenzene	<250	mg/L	
Chloroform	<250	mg/L	
m-Cresol	<0.1	mg/L	
2-Methylphenol	<0.1	mg/L	
4-Methylphenol	<0.1	mg/L	
1,4-Dichlorobenzene	<0.1	mg/L	
1,2-Dichloroethane	<250	mg/L	
1,1-Dichloroethene	<250	mg/L	
2,4-Dinitrotoluene	<0.1	mg/L	
Hexachlorobenzene	<0.1	mg/L	
Hexachlorobutadiene	<0.1	mg/L	
Hexachloroethane	<0.1	mg/L	
Methyl ethyl ketone	34,000	mg/L	

TO:

351 MEDICAL GROUP/SGPB
WHITEMAN AFB, MO 65305-5300

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920722 OEHL SAMPLE NO: 92019589

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Nitrobenzene	<0.1	mg/L	
Pentachlorphenol	<0.5	mg/L	
Pyridine	<0.1	mg/L	
Vinyl chloride	<500	mg/L	
Trichloroethylene	<250	mg/L	
Tetrachloroethylene	<250	mg/L	
2,4,5-Trichlorophenol	<0.5	mg/L	
2,4,6-Trichlorophenol	<0.1	mg/L	
Flash Point (closed cup)	<39.2	degrees F	
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	

SINC : Sample is not corrosive.

Comments:

SAMPLE IS (TOP LAYER 71%) 71% ORGANIC LIQUID CONTAINING 30-40% 2-BUTANONE, 1-2% TOLUENE AND 1-2% XYLENES. (BOTTOM LAYER 29%) 29% SOLID. M-CRESOL AND P-CRESOL - UNRESOLVABLE COMPOUNDS. All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920722 OEHL SAMPLE NO: 92019589

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wentland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920723 OEHL SAMPLE NO: 92019590

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920518

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Major Components	See comment.		
Arsenic	QNS		
Barium	QNS		
Cadmium	QNS		
Chromium	QNS		
Lead	QNS		
Mercury	QNS		
Selenium	QNS		
Silver	QNS		
Benzene	QNS		
Carbon tetrachloride	QNS		
Chlorobenzene	QNS		
Chloroform	QNS		
m-Cresol	QNS		
2-Methylphenol	QNS		
4-Methylphenol	QNS		
1,4-Dichlorobenzene	QNS		
1,2-Dichloroethane	QNS		
1,1-Dichloroethene	QNS		
2,4-Dinitrotoluene	QNS		
Hexachlorobenzene	QNS		
Hexachlorobutadiene	QNS		
Hexachloroethane	QNS		
Methyl ethyl ketone	QNS		
Nitrobenzene	QNS		
Pentachlorphenol	QNS		

TO:

351 MEDICAL GROUP/SGPB
WHITEMAN AFB, MO 65305-5300

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920723 OEHL SAMPLE NO: 92019590

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920518

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Pyridine	QNS		
Vinyl chloride	QNS		
Trichloroethylene	QNS		
Tetrachloroethylene	QNS		
2,4,5-Trichlorophenol	QNS		
2,4,6-Trichlorophenol	QNS		
Flash Point (closed cup)	125.6	degrees F	
Corrosivity	SINC		
Hydrogen ion (pH)	6.7		
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	

QNS : Quantity not sufficient for analysis.

SINC : Sample is not corrosive.

Comments:

SAMPLE IS (TOP LAYER 77%) 77% BROWN PETROLEUM DISTILLATE OF CARBON RANGE C10-C12 (LIGHT HYDROCARBON RANGE). (BOTTOM LAYER 23%) 23% WATER WITH TRACE LEVELS OF HYDROCARBON.
All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920723 OEHL SAMPLE NO: 92019590

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920518

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUFATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920724 OEHL SAMPLE NO: 92019591

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Corrosivity	SINC		
Hydrogen ion (pH)	8.6		
Flash Point (closed cup)	NP		
1,4-Dichlorobenzene	NP		
2,4-Dinitrotoluene	NP		
Hexachlorobenzene	NP		
Hexachlorobutadiene	NP		
Hexachloroethane	NP		
Nitrobenzene	NP		
2-Methylphenol	NP		
m-Cresol	NP		
4-Methylphenol	NP		
Pentachlorphenol	NP		
Pyridine	NP		
2,4,5-Trichlorophenol	NP		
2,4,6-Trichlorophenol	NP		
Cyanide (total)	NP		
Sulfide	NP		

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920724 OEHL SAMPLE NO: 92019591

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

SINC : Sample is not corrosive.

NP : Test Not Performed

Comments:

All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920725 OEHL SAMPLE NO: 92019592

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Flash Point (closed cup)	>203	degrees F	
Major Components	See comment.		
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	11	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
1,4-Dichlorobenzene	<0.02	mg/L	
2,4-Dinitrotoluene	<0.02	mg/L	
Hexachlorobenzene	<0.02	mg/L	
Hexachlorobutadiene	<0.02	mg/L	
Hexachloroethane	<0.02	mg/L	
Nitrobenzene	<0.02	mg/L	
2-Methylphenol	<0.02	mg/L	
m-Cresol	<0.02	mg/L	
4-Methylphenol	<0.02	mg/L	
Pentachlorphenol	<0.1	mg/L	
Pyridine	<0.02	mg/L	
2,4,5-Trichlorophenol	<0.1	mg/L	
2,4,6-Trichlorophenol	<0.02	mg/L	
Corrosivity	SINC		
Hydrogen ion (pH)	8.0		
Cyanide (total)	<10	mg/kg	

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920725 OEHL SAMPLE NO: 92019592

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Sulfide	<100	mg/kg	

SINC : Sample is not corrosive.

Comments:

SAMPLE IS >99% WATER.
All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920726 OEHL SAMPLE NO: 92019593

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units
Major Components	See comment.	
Chloromethane	<500000	ug/L
Chloroethane	<500000	ug/L
Methylene chloride	<250000	ug/L
Bromomethane	<500000	ug/L
Vinyl chloride	<500000	ug/L
Acrolein	NP	
Acetone	<500000	ug/L
Carbon disulfide	<250000	ug/L
1,1-Dichloroethene	<250000	ug/L
1,1-Dichloroethane	<250000	ug/L
Acrylonitrile	NP	
trans-1,2-Dichloroethene	<250000	ug/L
Chloroform	<250000	ug/L
1,2-Dichloroethane	<250000	ug/L
Methyl ethyl ketone	<500000	ug/L
1,1,1-Trichloroethane	<250000	ug/L
Carbon tetrachloride	<250000	ug/L
Vinyl acetate	<500000	ug/L
Bromodichloromethane	<250000	ug/L
1,2-Dichloropropane	<250000	ug/L
cis-1,3-Dichloropropene	<250000	ug/L
Trichloroethylene	<250000	ug/L
Chlorodibromomethane	<250000	ug/L
1,1,2-Trichloroethane	<250000	ug/L
Benzene	<250000	ug/L

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920726 OEHL SAMPLE NO: 92019593

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units
trans-1,3-Dichloropropen	<250000	ug/L
2-Chloroethylvinyl ether	<500000	ug/L
Bromoform	<250000	ug/L
Methyl isobutyl ketone	820,000	ug/L
2-Hexanone	<500000	ug/L
Tetrachloroethylene	<250000	ug/L
Toluene	4,300,000	ug/L
1,1,2,2-Tetrachloroethan	<250000	ug/L
Chlorobenzene	<250000	ug/L
Ethyl benzene	850,000	ug/L
Styrene	<250000	ug/L
Xylenes	8,500,000	ug/L
Trichlorofluoromethane	NP	
Flash Point (closed cup)	80.6	degrees F

Analytical method used: EPA 8240

NP : Test Not Performed

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920726 OEHL SAMPLE NO: 92019593

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units

Comments:

SAMPLE IS >99% PAINT THINNER MIXTURE CONTAINING 40-45% BRANCHED ALKANES, 15-17% C7-C10 ALCOHOLS AND 4-6% SUBSTITUTED BENZENES.
All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920727 OEHL SAMPLE NO: 92019594

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Major Components	See comment.		

NP : Test Not Performed

SINC : Sample is not corrosive.

Comments:

SAMPLE IS SOLID.
< - Signifies none detected and the detection limits.

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920727 OEHL SAMPLE NO: 92019594

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
1,4-Dichlorobenzene	NP		
2,4-Dinitrotoluene	NP		
Hexachlorobenzene	NP		
Hexachlorobutadiene	NP		
Hexachloroethane	NP		
Nitrobenzene	NP		
2-Methylphenol	NP		
m-Cresol	NP		
4-Methylphenol	NP		
Pentachlorphenol	NP		
Pyridine	NP		
2,4,5-Trichlorophenol	NP		
2,4,6-Trichlorophenol	NP		
Flash Point (closed cup)	NP		
Corrosivity	SINC		
Hydrogen ion (pH)	4.2		
Cyanide (total)	NP		
Sulfide	NP		

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920728 OEHL SAMPLE NO: 92019595

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Major Components	See comment.		
Arsenic	NP		
Barium	NP		
Cadmium	NP		
Chromium	NP		
Lead	NP		
Mercury	NP		
Selenium	NP		
Silver	NP		
Benzene	NP		
Carbon tetrachloride	NP		
Chlorobenzene	NP		
Chloroform	NP		
m-Cresol	NP		
2-Methylphenol	NP		
4-Methylphenol	NP		
1,4-Dichlorobenzene	NP		
1,2-Dichloroethane	NP		
1,1-Dichloroethene	NP		
2,4-Dinitrotoluene	NP		
Hexachlorobenzene	NP		
Hexachlorobutadiene	NP		
Hexachloroethane	NP		
Methyl ethyl ketone	NP		
Nitrobenzene	NP		
Pentachlorphenol	NP		

TO:

351 MEDICAL GROUP/SGPB
WHITEMAN AFB, MO 65305-5300

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920728 OEHL SAMPLE NO: 92019595

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Pyridine	NP		
Vinyl chloride	NP		
Trichloroethylene	NP		
Tetrachloroethylene	NP		
2,4,5-Trichlorophenol	NP		
2,4,6-Trichlorophenol	NP		
Flash Point (closed cup)	<44.6	degrees F	
Corrosivity	NP		
Hydrogen ion (pH)	NP		
Cyanide (total)	NP		
Sulfide	NP		

NP : Test Not Performed

Comments:

SAMPLE IS >99% BLUE PAINT WASTE MIXTURE CONTAINING 20-25% 2-BUTANONE, 13-15% BRANCHED ALKANES, 18-22% ACETIC ACID ESTERS, 3-4% TOLUENE AND 8-10% SUBSTITUTED BENZENES.
SAMPLE IS AN ORGANIC LIQUID, THEREFORE TCLP ANALYSIS WAS NOT PERFORMED. All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920728 OEHL SAMPLE NO: 92019595

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920729 OEHL SAMPLE NO: 92019596

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	

Comments:

All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920730 OEHL SAMPLE NO: 92019597

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	2.6	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	

Comments:

All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920732 OEHL SAMPLE NO: 92019599

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920513

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	

Comments:

All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

Analyzed by: Kemron Environmental Services

Reviewed by: _____

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

TO:

AL/OEBE
BROOKS AFB, TX 78235-5000

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920731 OEHL SAMPLE NO: 92019598

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920518

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Pentachlorphenol	<0.5	mg/L	
Pyridine	<0.1	mg/L	
Vinyl chloride	<0.01	mg/L	
Trichloroethylene	<0.005	mg/L	
Tetrachloroethylene	<0.005	mg/L	
2,4,5-Trichlorophenol	<0.5	mg/L	
2,4,6-Trichlorophenol	<0.1	mg/L	
Corrosivity	SINC		
Hydrogen ion (pH)	8.6		
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	

SINC : Sample is not corrosive.

Comments:

SAMPLE IS (TOP LAYER 7%) 7% BROWN PETROLEUM DISTILLATE OF CARBON RANGE C21-C32 SIMILAR TO LUBE OIL. (BOTTOM LAYER 93%) 93% ANTIFREEZE. M-CRESOL AND P-CRESOL - UNRESOLVABLE COMPOUNDS. All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920731 OEHL SAMPLE NO: 92019598

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920518

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
1,4-Dichlorobenzene	<0.1	mg/L	
Flash Point (closed cup)	>203	degrees F	
Major Components	See comment.		
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Benzene	0.030	mg/L	
Carbon tetrachloride	<0.005	mg/L	
Chlorobenzene	0.007	mg/L	
Chloroform	<0.005	mg/L	
m-Cresol	<0.1	mg/L	
2-Methylphenol	<0.1	mg/L	
4-Methylphenol	<0.1	mg/L	
1,2-Dichloroethane	<0.005	mg/L	
1,1-Dichloroethene	<0.005	mg/L	
2,4-Dinitrotoluene	<0.1	mg/L	
Hexachlorobenzene	<0.1	mg/L	
Hexachlorobutadiene	<0.1	mg/L	
Hexachloroethane	<0.1	mg/L	
Methyl ethyl ketone	0.23	mg/L	
Nitrobenzene	<0.1	mg/L	

TO:

351 MEDICAL GROUP/SGPB
WHITEMAN AFB, MO 65305-5300

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920731 OEHL SAMPLE NO: 92019598

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920401 DATE REPORTED: 920518

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920733 OEHL SAMPLE NO: 92019600

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920402 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Methyl ethyl ketone	9.4	mg/L	
Flash Point (closed cup)	>203	degrees F	
Major Components	See comment.		
Arsenic	<0.2	mg/L	
Barium	<1	mg/L	
Cadmium	<0.1	mg/L	
Chromium	<0.2	mg/L	
Lead	<2	mg/L	
Mercury	<0.05	mg/L	
Selenium	<0.2	mg/L	
Silver	<0.4	mg/L	
Benzene	<0.05	mg/L	
Carbon tetrachloride	<0.05	mg/L	
Chlorobenzene	<0.05	mg/L	
Chloroform	<0.05	mg/L	
m-Cresol	<0.2	mg/L	
2-Methylphenol	<0.2	mg/L	
4-Methylphenol	<0.2	mg/L	
1,4-Dichlorobenzene	<0.2	mg/L	
1,2-Dichloroethane	<0.05	mg/L	
1,1-Dichloroethene	<0.05	mg/L	
2,4-Dinitrotoluene	<0.2	mg/L	
Hexachlorobenzene	<0.2	mg/L	
Hexachlorobutadiene	<0.2	mg/L	
Hexachloroethane	<0.2	mg/L	
Nitrobenzene	<0.2	mg/L	

TO:

351 MEDICAL GROUP/SGPB
WHITEMAN AFB, MO 65305-5300

PAGE 1(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920733 OEHL SAMPLE NO: 92019600

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920402 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method
Pentachlorphenol	<1.0	mg/L	
Pyridine	<0.2	mg/L	
Vinyl chloride	<0.1	mg/L	
Trichloroethylene	<0.05	mg/L	
Tetrachloroethylene	<0.05	mg/L	
2,4,5-Trichlorophenol	<1.0	mg/L	
2,4,6-Trichlorophenol	<0.2	mg/L	
Corrosivity	SINC		
Hydrogen ion (pH)	7.6		
Cyanide (total)	<10	mg/kg	
Sulfide	<100	mg/kg	

SINC : Sample is not corrosive.

Comments:

SAMPLE IS (TOP LAYER 3%) 3% BROWN PETROLEUM DISTILLATE OF CARBON RANGE C18-C32 SIMILAR TO LUBE OIL. (BOTTOM LAYER 97%) 97% ANTIFREEZE. M-CRESOL AND P-CRESOL - UNRESOLVABLE COMPOUNDS. All test methods conform to SW-846.
< - Signifies none detected and the detection limits.

PAGE 2(Cont'd)

AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH DIRECTORATE
BROOKS AFB, TEXAS, 78235-5000

REPORT OF ANALYSIS

BASE SAMPLE NO: GT920733 OEHL SAMPLE NO: 92019600

SAMPLE TYPE: WASTE, HAZARDOUS/TOXIC/DISPOSAL

SITE IDENTIFIER: DATE RECEIVED: 920407

DATE COLLECTED: 920402 DATE REPORTED: 920514

SAMPLE SUBMITTED BY: 351 MEDICAL GROUP/SGPB

RESULTS

Test	Results	Units	Method

Analyzed by: Kemron Environmental Services

Reviewed by:

Michael J. Wantland, MSgt, USAF
NCOIC Technical Operations Branch