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13. ABSTRACT (Maximum 200 words) THIS REPORT DOCUMENTS THE PHASE I CONTAMINATION SURVEY OF SITE 36-17 WHICH WAS USED FOR DISPOSAL OF SOLID WASTES IN PITS AND TRENCHES. 99 SAMPLES FROM 46 BORINGS WERE ANALYZED FOR VOLATILE AND SEMIVOLATILE ORGANICS AND METALS WITH SEPARATE ANALYSES FOR HG, AS, AND DBCP. HIGH LEVELS OF CR, CU, ZN, DLDNR, ENDRN, DIMP, CLDAN, DBCP, CPMS, AND ALDRN WERE DETECTED IN THE SAMPLES. METAL ANOMALIES WERE ALSO DETECTED AT THE SITE. AN EXTENSIVE PHASE II PROGRAM CONSISTING OF 40 ADDITIONAL BORINGS AND MORE GEOPHYSICAL INVESTIGATIONS IS RECOMMENDED TO BETTER LOCATE THE DISPOSAL TRENCHES. THE VOLUME OF CONTAMINATED MATERIAL PRESENT IS ESTIMATED AT 2,603,000 CUBIC YARDS. APPENDICES: PHOTOGRAPHS, PHASE I ANALYTICAL DATA.				
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LITIGATION TECHNICAL SUPPORT AND SERVICES

ROCKY MOUNTAIN ARSENAL

PHASE II SECTION 36

DRAFT FINAL SOURCE REPORTS 36-UNC, 36-3, AND 36-17

TASK NUMBER 1 (36-17)

MAY 1986

ENVIRONMENTAL SCIENCE AND ENGINEERING

PROGRAM MANAGER'S OFFICE FOR ROCKY MOUNTAIN ARSENAL

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LITIGATION TECHNICAL SUPPORT AND SERVICES

ROCKY MOUNTAIN ARSENAL

PHASE II
SECTION 36

DRAFT FINAL SOURCE REPORTS
36-UNC, 36-3, and 36-17
MAY 1986

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19950227 016

SOURCE 36-17: COMPLEX DISPOSAL ACTIVITY

1.0 PHYSICAL SETTING

1.1 LOCATION

This source is characterized by a variety of disposal practices in numerous areas with overlapping boundaries and imprecise history. This site contains both a northern and southern section and is approximately 107 acres in size (Figure 36-17-1a and 36-17-1b). For the most part disposal of solid wastes in trenches and pits has occurred. The following information has been obtained for Source 36-17:

Estimated Areal Extent = 4,685,000 ft²

Estimated Vertical Extent = 15 ft

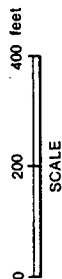
Estimated Volume = 2,603,000 yd³ (RMACCPMT, 1984)

Revised Areal Extent = 4,181,000 ft²

As a result of program changes the areal extent of Source 36-17 was revised. Program changes include reduction of the scale of investigation at Sources 36-9 and 36-16 which are both contained within Source 36-17N. Sources 36-9 and 36-16 were categorized as an Incendiary and Munitions Test Site and an Incendiary Burn Site, respectively. Both sources were believed to have resulted from Army activities. During Phase I, these sources were considered part of Source 36-17. The southern portion of Source 36-17 was reduced in extent due to the expansion of Source 36-3. The revised Source 36-17 areal extent is cited above. Evidence of disposal activities is clearly visible within this site. Two open trenches exist in Source 36-17N. Broken vials and other debris are found in Source 36-17S, just south of Source 36-3 in what has been referred to as the "baby bottle area". Views north and west for Source 36-17N and northwest and southwest for Source 36-17S are shown in photographs in Appendix 36-17-A.

1.2 GEOLOGY

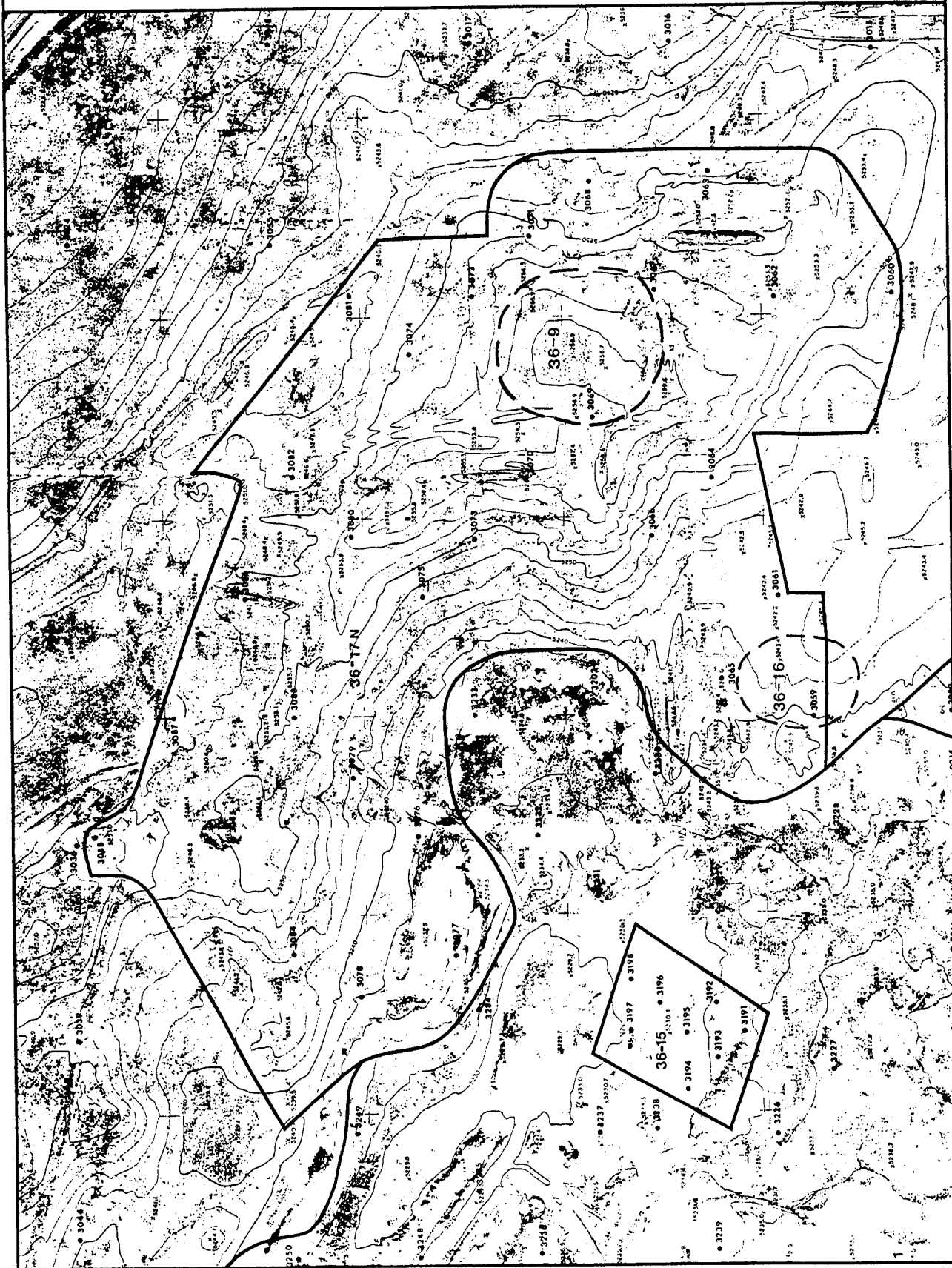
This source, located in the eastern half of Section 36, is divided into a northern and southern sector and extends almost the entire length of

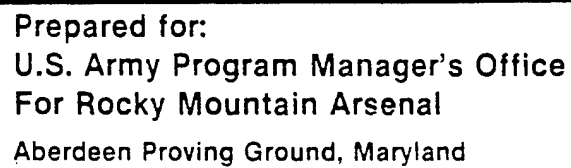


EXPLANATION
• Phase I Boring

Figure 36-17-1a
SOURCE 36-17N
PHASE I INVESTIGATION
BORING LOCATION MAP
RMA, SECTION 36

Prepared for:
U.S. Army Program Manager's Office
For Rocky Mountain Arsenal
Aberdeen Proving Ground, Maryland





Section 36. The center of Source 36-17N sits on a bedrock high. Alluvial thickness beneath this site was reported at 20 to 30 ft, with the thickest alluvium closest to Basin A. This alluvium is largely silty sand. The underlying Denver Formation consists of interbedded clays, silty sand, and organic rich clays. Ground water flow is generally to the north/northwest.

Alluvium thickness in Source 36-17S was also reported at 20 to 30 ft, but the alluvium consists of interbedded clays and silty sands. The Denver Formation, as in most locations, consists of interbedded silts, silty sands, clays, and organic rich clays.

The Phase I boring program results indicate that the source is underlain by alluvial materials consisting of interbedded silts and silty sands. These materials were encountered to the depths explored in Source 36-17S, however, bedrock was encountered beneath Source 36-17N at depths ranging from 11 to 17.5 ft. Boring logs representative of Source 36-17 are presented in Figures 36-17-2 and 36-17-3.

1.3 HYDROLOGY

Surface waters from Source 36-17N may drain towards Basin A in the west and towards First Creek in the eastern portion. Surface waters from Source 36-17S drain northeastward towards First Creek from most of this site. Ground water flow is generally to the north.

The water table was encountered in eight borings, seven of which were located in Source 36-17S. A summary of the depth to water table and estimated water table elevations is presented below:

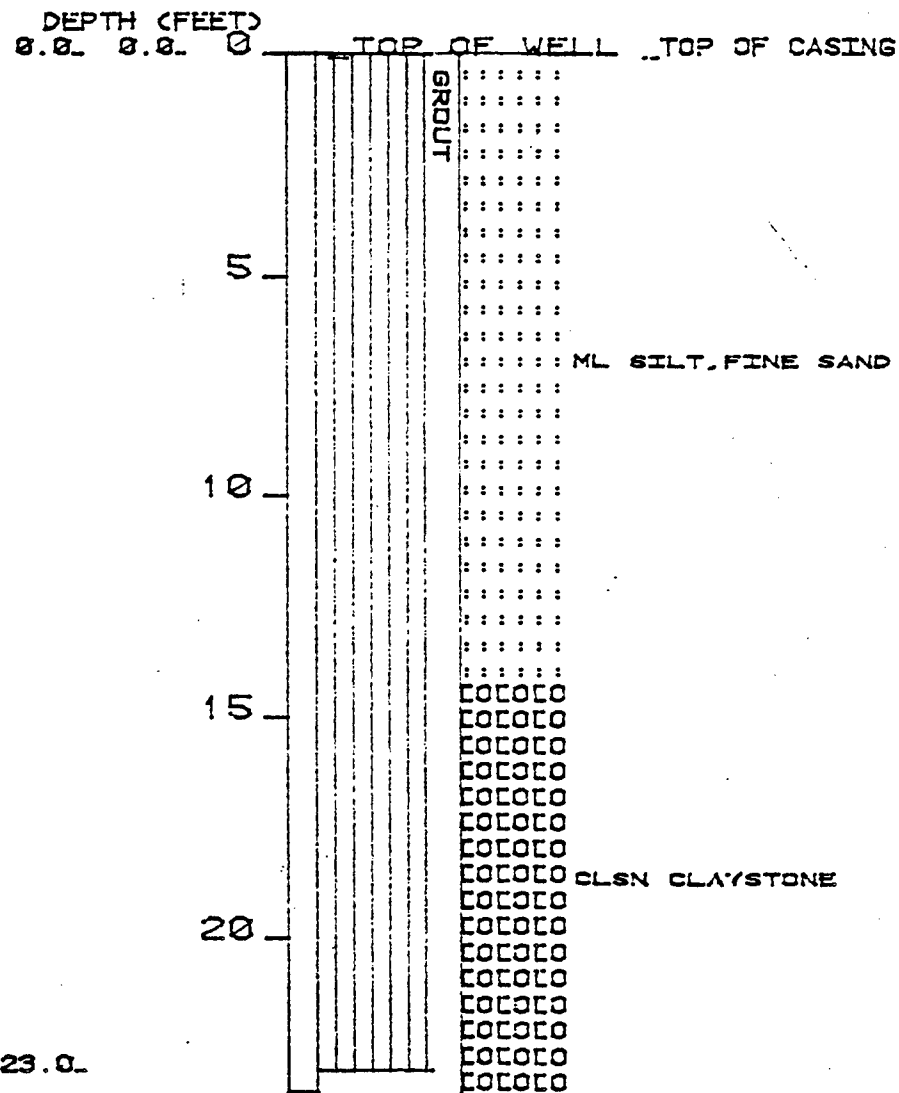


Figure 36-17-2
 FIELD BORING PROFILE FOR
 BORING 3067

SOURCE: ESE, 1986

Prepared for:
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 For Rocky Mountain Arsenal
 Aberdeen Proving Ground, Maryland

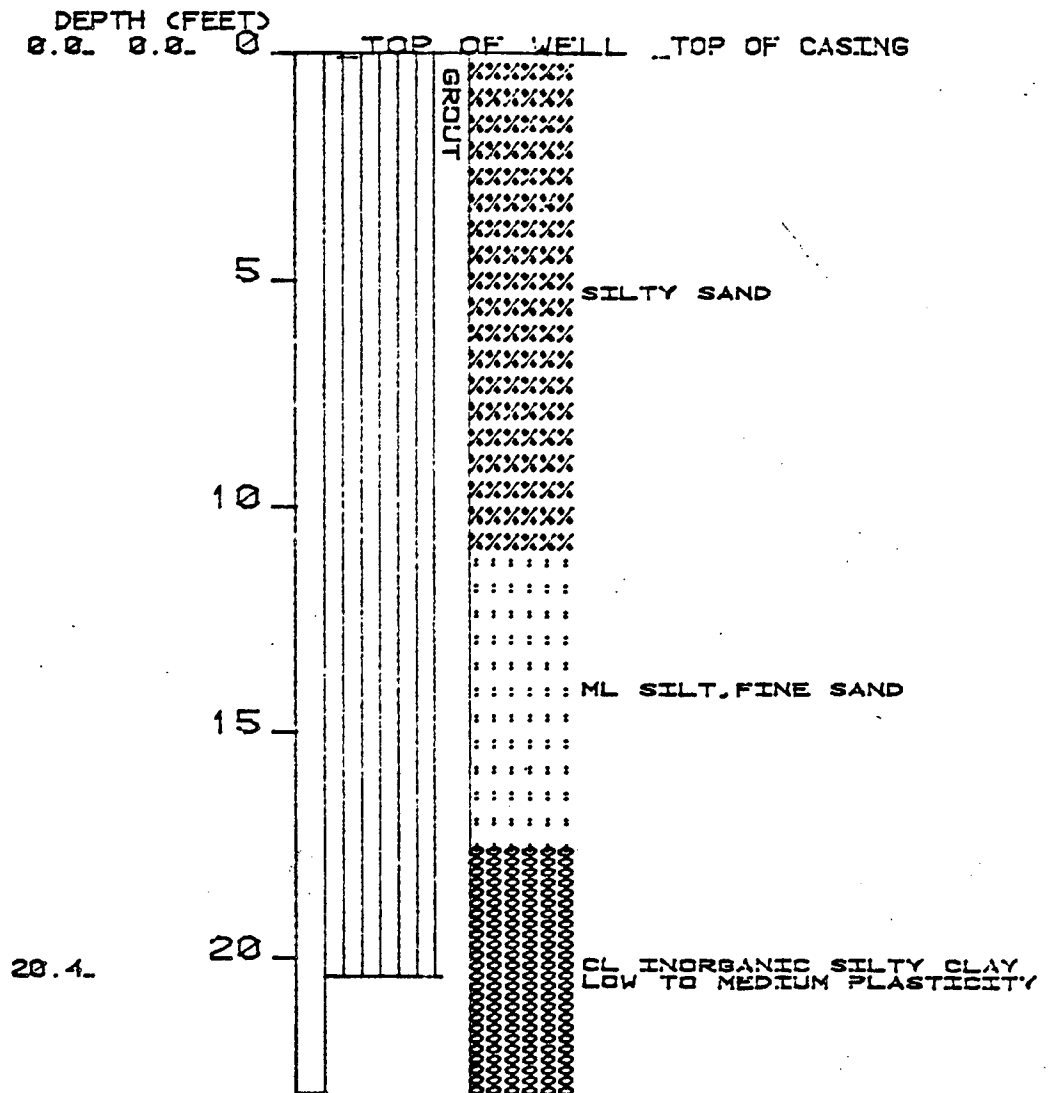


Figure 36-17-3
FIELD BORING PROFILE FOR
BORING 3083

SOURCE: ESE, 1986

Prepared for:
U.S. Army Program Manager's Office
For Rocky Mountain Arsenal
Aberdeen Proving Ground, Maryland

<u>Boring</u>	<u>Depth to Water (ft)</u>	<u>Estimated Ground Water Elevation*</u>
3084 (36-17N)	14.5	5229.0
3090	4.5	5235.0
3092	4.0	5237.5
3093	6.0	5236.0
3094	4.0	5239.0
3095	4.6	5237.0
3097	4.0	5241.0
3098	4.5	5244.0
3099	4.0	5243.5

* Rounded to nearest 0.5 ft

The estimated ground water elevations were determined using unstabilized water levels and the top of boring elevations. The data presented is in general conformance with the projections presented in the Task 1 Technical Plan.

Ponded surface water was observed directly east of Boring 3077 and south of Boring 3076. At the time of drilling there were no signs of the source of this water, however, there is a light northwest trending drainage that enters the area.

2.0 HISTORY

Disposal activity in this area was observed in the first aerial photograph of Section 36, dated 1948. Activity in this source area continued from this date through 1975. On the 1948 photo several disposal activities have been observed. In the northern portion of Source 36-17 a large bare area existed, but only two trenches were visible. In the center of this northern portion of Source 36-17, disturbances showed the existence of eight to twelve trenches. A portion of this area was used for burial of M-17 incendiary devices. The southern portion of this source remained undisturbed with the exception of activity within the Source 36-3 area where insecticides were being disposed.

The 1950 aerial photograph showed no new activity in the southern portion of this source and minimal activity in the northern portion. The site, which appeared to contain most of the trenches in 1948, appeared to be completely disturbed. The central area of the northern portion of Source 36-17 contained four round pits and four irregular dark patches which were former pools or spills.

The 1953 aerial photo showed increased trenching activity in the northern sector. One new pit and fifteen new trenches appeared in the north-northwest portion of this sector. At least two new trenches were added in the central portion of the northern sector of Source 36-17. Two new disturbed areas were also visible in the northern part of the southern sector.

The 1958 photograph showed no new activity in the southern sector, but many new trenches in the northern sector of Source 36-17. At least six new pits and fourteen new trenches appeared mostly concentrated along the western portion of this source, close to the Basin A high water mark. One large pit and several bare spots also appeared in the western portion of Source 36-17. The 1962 photo showed the addition of eleven new trenches and six new pits in Source 36-17N.

The 1975 photo showed new activities occurred in areas already occupied by previous trenches and pits. Therefore, old sites were covered and new ones were cut on a fairly routine basis. In general, half of the new trenches (about 20 trenches and several pits) in Source 36-17N were further east than the trenches apparent in the 1962 photo.

Source 36-9 was used for the testing and disposal of incendiary munitions. These munitions were reportedly ignited on the ground surface and in shallow trenches. Following burning the trenches were backfilled. The 1948 aerial photo shows activity at this site but no new activity was observed from 1950. Source 36-16 was also a primary disposal area for incendiary munitions. Many trenches and pits were observed in aerial photographs from 1948 through 1975.

3.0 EXTENT OF CONTAMINATION

3.1 SOIL

3.1.1 Previous Soils Investigations

This area did not appear to be used for pesticide disposal, based on chemical analysis of soil samples collected under the OTSG Program. Contaminants found in relatively high concentrations were copper, zinc, arsenic, and mercury. No detectable pesticides were found in soils collected from a borehole to a depth of 17 ft. However, this single sample point does not ensure that pesticide disposal did not occur in this source.

3.1.2 Phase I Contamination Survey

3.1.2.1 Phase I Soil Boring Program

The source boundaries of Source 36-17 have been slightly modified as the result of aerial photograph interpretation and field observations resulting in a revised source areal extent of 4,181,000 ft². Based on a borehole spacing of 150 ft, a total of 46 Phase I borings were completed. Boreholes ranged in depth from 5 to 23.5 ft. A borehole location map is presented in Figure 36-17-1a and 36-17-1b.

Prior to commencing drilling operations, all boring locations were cleared in accordance with the surface geophysics program detailed in the Task 1 Technical Plan. A grid, 20 feet on a side was set up at each boring location and gradiometer readings were obtained at a spacing of 5 ft throughout the grid area. These data were used to produce contour plots of the vertical magnetic gradient. Based on the contour plots the boring was relocated elsewhere within the grid or left in its original location. A metal detector was then employed to determine if any metal was present in the near surface soils (0 to 2 ft) within 5 ft of the boring locations. If metal was detected the boring was relocated again and the process repeated until satisfactory results were obtained.

The geophysics program results for Source 36-17S did not indicate the presence of buried metal at any borehole locations. Both the gradiometer survey and metal detector scans were negative for buried metal.

A total of five borings (3065, 3070, 3074, 3075, and 3086) in Source 36-17N were relocated due to potential buried metal identified by the geophysical program. Two boreholes (3065 and 3070) were relocated due to anomalies present (indicative of buried metal) in the magnetic gradient plots (Figures 36-17-4 and 36-17-5). The remaining three borings were relocated due to the metal detector scans. The contour plots of Boreholes 3075, 3083, and 3086, as shown in Figures 36-17-6 to 36-17-8, display anomalies indicative of buried metal. However, these borings did require relocation due to the anomalies, because of their spacial relationship.

The sampling program at Source 36-17 consisted of 99 samples distributed as shown in Table 36-17-1. All samples were obtained using the drill rig and continuous coring method as described in the Task 1 Technical Plan. As explained therein, predetermined sampling intervals were established every 5 ft beginning with a 0 to 1 ft sample. In some cases field conditions such as obstructions or water table position forced some adjustment in these intervals. Extra samples were taken (Intervals X, Y, or Z) when the soil column exhibited visual anomalies.

The Y interval at Boring 3086, for instance, was taken between the predetermined A and B intervals in an area where the soil column showed visual evidence of residue from burning. The chemical analysis confirmed this was probably the bottom of a burning pit for munitions disposal. All samples were subjected to analysis by GC/MS for semi-volatile organics, an ICP metals screen, and separate analyses for Hg, As, and DBCP. GC/MS analysis for volatile organics was performed on the deeper samples from selected borings.

3.1.2.2 Phase I Geophysical Investigations

Based on the complex disposal history and large areal extent of Source 36-17, a limited Phase I geophysical investigation was performed. The purpose of the investigation was to further define the approximate location and boundaries of the disposal trenches constructed in this source. Due to the lack of existing surficial evidence indicating the location of disposal trenches and pits, geophysical techniques were

Table 36-17-1. Sampling Intervals and Analytical Parameters for
Source 36-17 (Page 1 of 2)

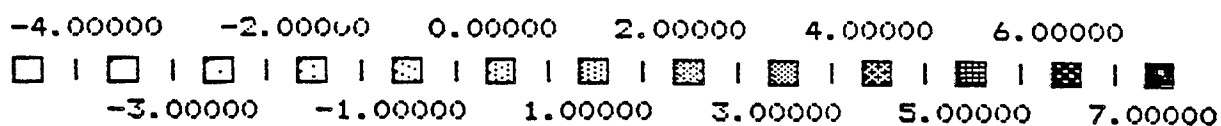
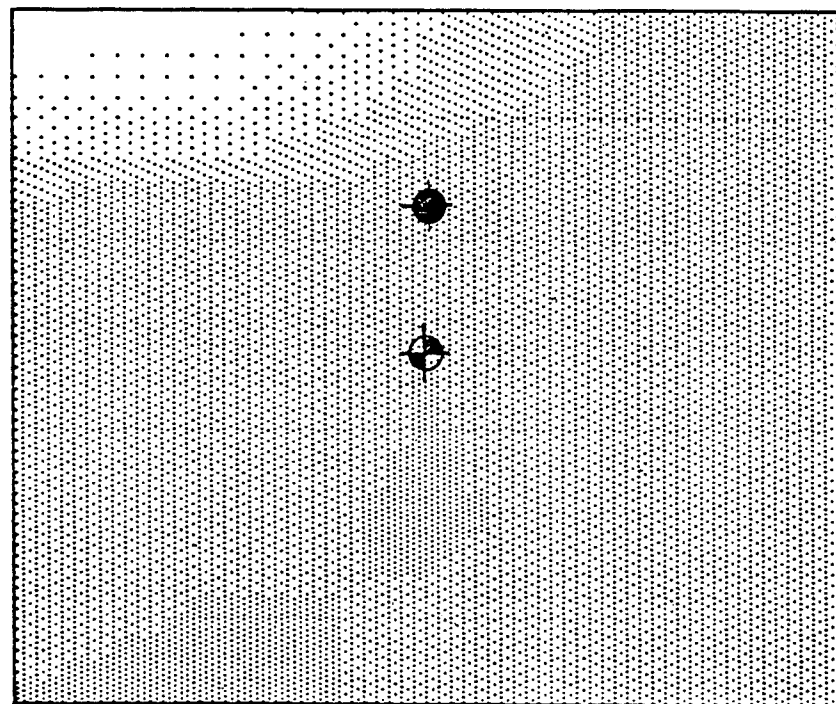
Bore Number	Sample Interval (ft)					Analytical Parameters
	A	B	C	D	E	
3059	0-1	4-5	--	--	--	*
3060	0-1	4-5	--	--	--	*
3061	0-1	4-5	--	--	--	*
3062	0-1	4-5	--	--	--	*
3063	0-1	4-5	--	--	--	*
3064	0-1	4-5	--	--	--	*
3065	0-1	4-5	9-10	12-13(Z)	--	*
3066	0-1	4-5	--	--	--	*
3067	0-1	4-5	9-10	14-15	19-20	*;** (E)
3068	0-1	4-5	--	--	--	*
3069	0-1	4-5	9-10	14-15	--	*
3070	0-1	4-5	--	--	--	*
3071	0-1	4-5	--	--	--	*
3072	0-1	4-5	--	--	--	*
3073	0-1	4-5	--	--	--	*
3074	0-1	4-5	--	--	--	*
3075	0-1	4-5	--	--	--	*
3076	0-1	4-5	--	--	--	*
3077	0-1	4-5	--	--	--	*
3078	0-1	4-5	--	--	--	*
3079	0-1	4-5	--	--	--	*
3080	0-1	4-5	9-10	14-15	--	*;** (C,D)
3081	0-1	4-5	--	--	--	*
3082	0-1	4-5	--	--	--	*
3083	0-1	4-5	9-10	14-15	19-20	*;** (E)
3084	0-1	4-5	9-10	14-15	--	*;** (C,D)
3085	0-1	4-5	--	--	--	*
3086	0-1	4-5	2-3(Y)	--	--	*
3087	0-1	4-5	--	--	--	*

Table 36-17-1. Sampling Intervals and Analytical Parameters for
Source 36-17 (Continued, Page 2 of 2)

Bore Number	Sample Interval (ft)					Analytical Parameters
	A	B	C	D	E	
3088	0-1	4-5	--	--	--	*
3089	0-1	4-5	--	--	--	*
3091	0-1	4-5	--	--	--	*
3095	0-1	4-5	--	--	--	*
3096	0-1	4-5	--	--	--	*,** (B)
3097	0-1	4-5	--	--	--	*
3098	0-1	4-5	--	--	--	*
3099	0-1	4-5	--	--	--	*
3100	0-1	4-5	--	--	--	*
3101	0-1	4-5	--	--	--	*
3102	0-1	4-5	--	--	--	*
3103	0-1	4-5	--	--	--	*
3104	0-1	4-5	--	--	--	*

* Semi-volatile organics, DBCP, ICP Metals, Arsenic, Mercury
(in all intervals).

** Volatile Organics (in Intervals Indicated Only).



EXPLANATION

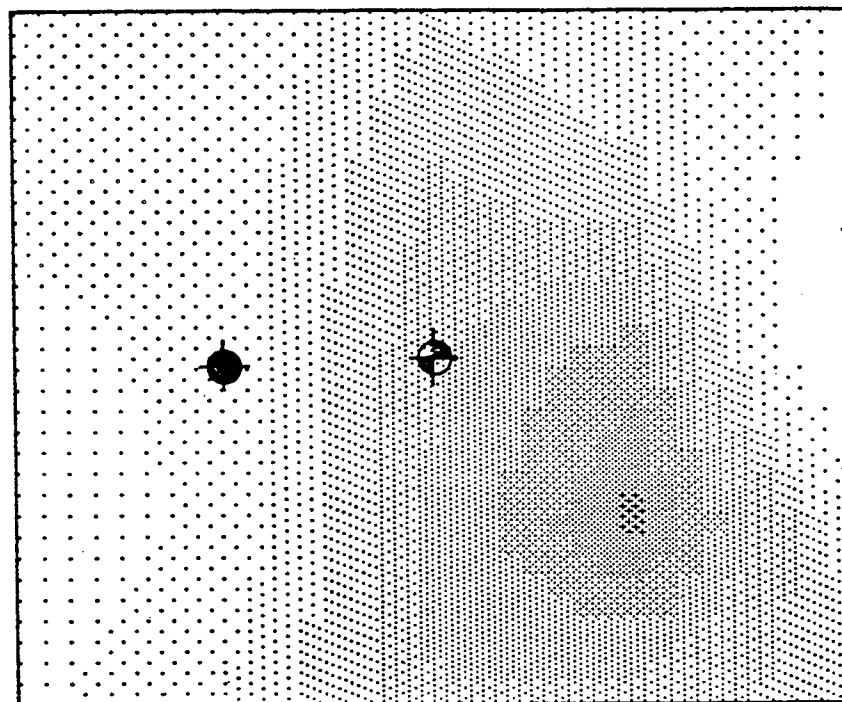
Original Boring Location

Final Boring Location

Figure 36-17-4
CONTOUR PLOT OF VERTICAL MAGNETIC
GRADIENT BORING 3065

SOURCE: HLA, 1986

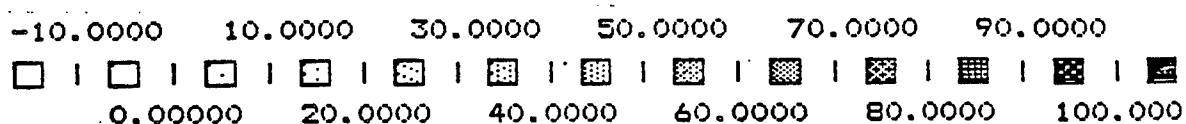
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20'



20'



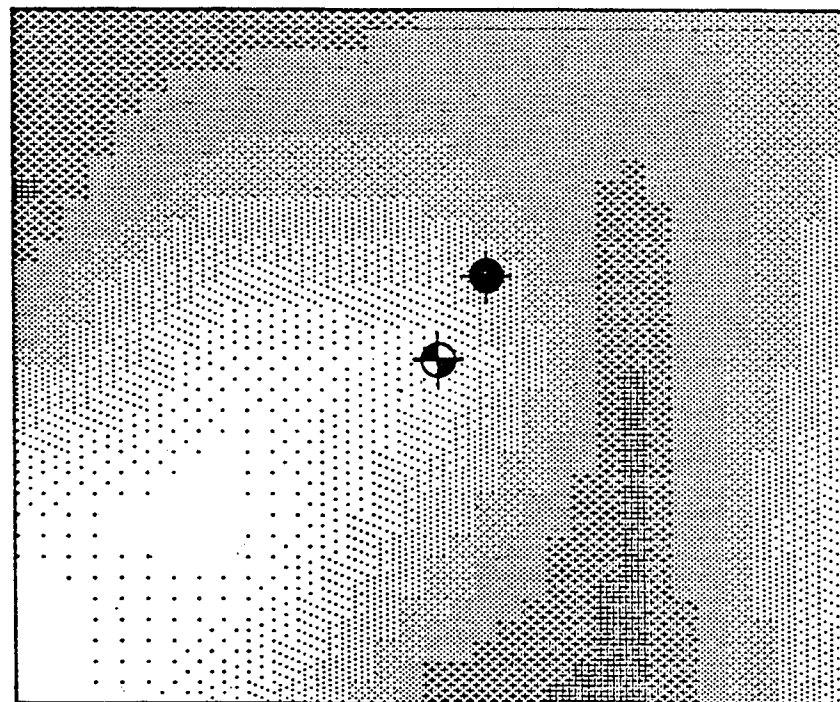
EXPLANATION

- Original Boring Location
- Final Boring Location

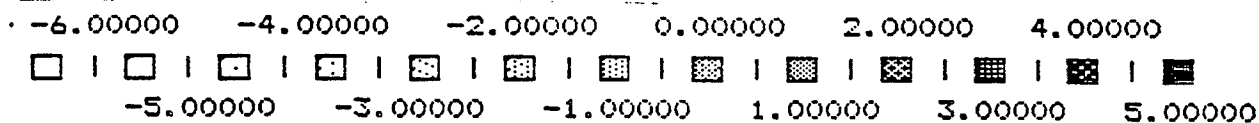
Figure 36-17-5
CONTOUR PLOT OF VERTICAL MAGNETIC
GRADIENT BORING 3070

SOURCE: HLA, 1986

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20'



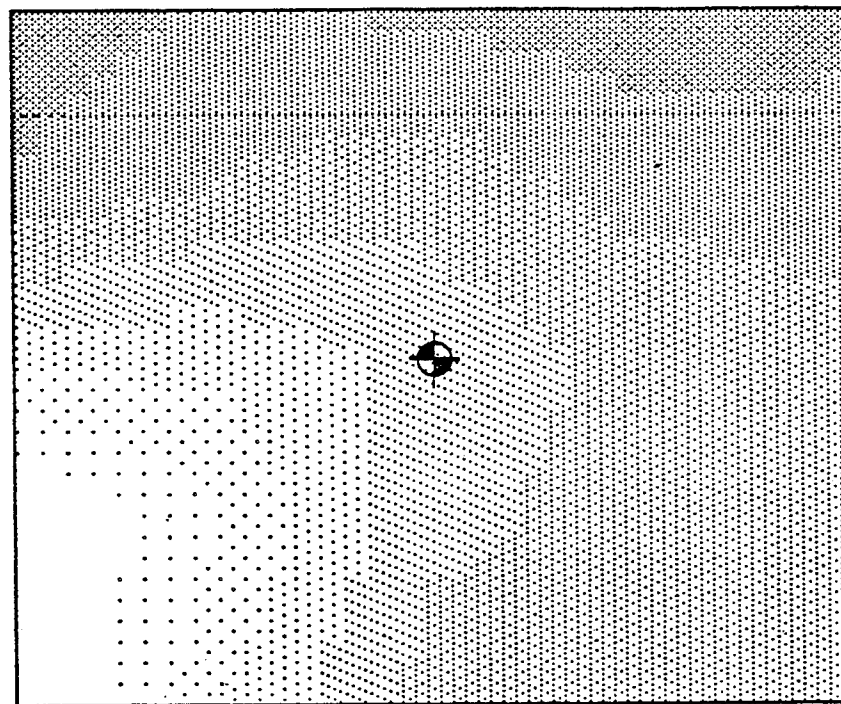
EXPLANATION

-  Original Boring Location
-  Final Boring Location

Figure 36-17-6
CONTOUR PLOT OF VERTICAL MAGNETIC
GRADIENT BORING 3075

SOURCE: HLA, 1986

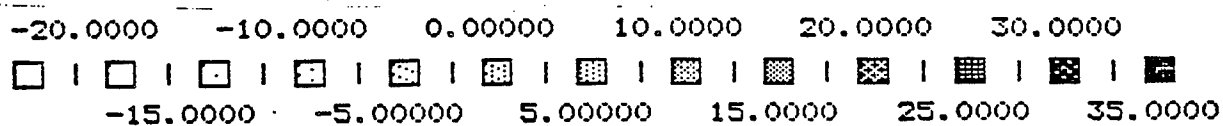
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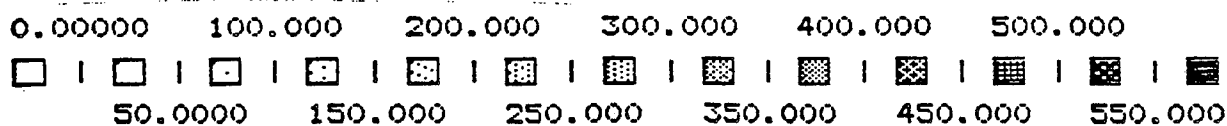
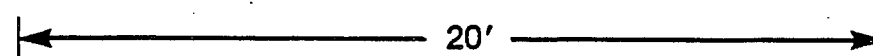
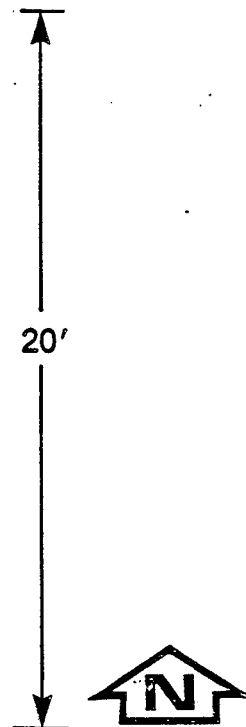
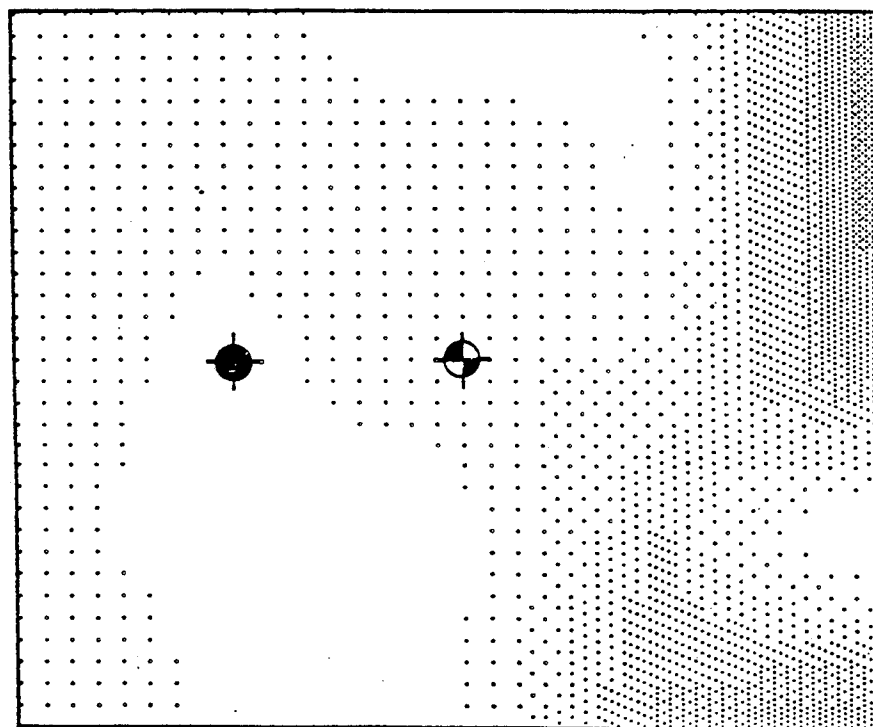
EXPLANATION

-  Original Boring Location
-  Final Boring Location

Figure 36-17-7
CONTOUR PLOT OF VERTICAL MAGNETIC
GRADIENT BORING 3083

SOURCE: HLA, 1986

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Aberdeen Proving Ground, Maryland



- EXPLANATION**
- Original Boring Location
 - Final Boring Location

Figure 36-17-8
CONTOUR PLOT OF VERTICAL MAGNETIC
GRADIENT BORING 3086

SOURCE: HLA, 1986

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deemed a more cost and time effective method of locating areas to be further investigated for the Phase II boring program.

The Phase I geophysical investigation was performed over a 500 ft by 200 ft area located at the northern boundary of Source 36-17N. Historical aerial photography indicates that this area was used extensively for disposal activities.

The Phase I geophysical program employed two of the methods used in the Source 36-3 geophysical program. These methods were Electromagnetics (EM) and Vertical Electrical Soundings (VES). Upon consideration of the results of the Source 36-3 investigation and time constraints, it was decided that a magnetometer survey would not be conducted at this time.

EM data was collected along transects spaced at 5 ft intervals throughout the study area. Strip chart recorders were utilized to provide continuous data along each transect. Data was compiled and input into an IBM-PC which generated contour plots of the EM in-phase component (sensitive to ferrous and non-ferrous metal).

A total of four VES soundings were performed within the Source 36-17N geophysical investigation area. VES soundings provide the electrical stratigraphy of the soils at the sounding location.

A detailed discussion of the geophysical methods employed and respective theory are provided in the document titled "Geophysical Investigation of Source 36-3, 36-10 and 36-17".

3.1.2.3 Phase I Field Observations

Portions of the area contained within Source 36-17 are significantly disturbed. There are distinct areas of severe vegetation stress along the boundary between Source 36-17 and Basin A. Also, there is a large barren area immediately south of Source 36-3 which contains numerous small glass bottles and broken glass. This area is surrounded by a small earthen berm approximately 1 ft high.

Trenches are still present in the north-central and southeast areas of Source 36-17N. Boring 3086 penetrated the northern trench and the southern is approximately 100 ft west of Boring 3063. Other indicators of disposal activities in this source include:

- o Large metal tanks (possibly reaction vessels) and dragline buckets are present on the surface 90 ft west of Borehole 3065;
- o A sunken concrete cistern approximately 6 ft deep near Borehole 3083;
- o A large mound of construction debris located near the Basin A boundary in the vicinity of Borehole 3230;
- o A shallow pit with metal debris is present southwest of Borehole 3084; and
- o Surface debris (broken glass, wood and metal fragments, construction debris) scattered about the area.

Air monitoring results varied significantly from Source 36-17N and 36-17S. HNU reading taken in the borehole annulus of Source 36-17N boreholes (3059-3088) ranged from 1 to 14 ppm whereas those taken from Source 36-17S boreholes (3089-3104) ranged from 60 ppm to 500 ppm. Boreholes with readings greater than 50 ppm were: 3089 (500 ppm from 0 to 1 ft, 400 ppm from 1 to 4 ft, 110 ppm from 4 to 5 ft); 3090 (400 ppm from 1 to 4 ft, 90 ppm from 4 to 5 ft); and 3099 (60 ppm from 1 to 4 ft and 4 to 5 ft). No above background readings were obtained in the breathing zone.

Field monitoring for chemical agents was negative at all locations. However, composite samples of Boreholes 3090, 3092, 3093, and 3094 sent to the RMA laboratory for agent screening were positive for mustard. These samples were delivered to RMA personnel for appropriate processing and disposal.

3.1.2.4 Phase I Contaminant Levels and Distribution

The northern portion of Source 36-17 appears to have been used almost exclusively for disposal and destruction of a variety of munitions. These munitions include bursters, bombs, bomblets, incendiary devices, WP grenades, neutralized GB, and other chemical-filled munitions. Organic

contaminants expected in this source area included mustard, GB, Lewisite, and possibly surety materials other than the more common agents. UXO was also expected in some locations.

The history of Source 36-17S is somewhat less clear. The large devegetated area south of Source 36-3 shows evidence of surface or near surface disposal of numerous small glass vials. These could have been from field identification kits or laboratory operations. The area north of Source 36-3 was reportedly used for disposal of materials generated by mustard manufacturing. Anticipated contaminants at this site were pesticides, agents, and possibly UXO.

Analytical data for the Phase I boring program have been tabulated in Appendix 36-17-B. A descriptive summary of these results is presented in Table 36-17-2. Samples containing concentrations above detection limits are tabulated in Table 36-17-3 and significant values are displayed graphically in Figure 36-17-9a and 36-17-9b.

Analysis of Source 36-17 Phase I soil samples indicated the presence of DBCP, organochlorine pesticides, and organosulfur compounds, and elevated arsenic, mercury, and metals concentrations. Organochlorine pesticides observed include aldrin, dieldrin, endrin, DIMP, chlordane, and DBCP. Concentration range from slightly greater than the associated detection limits to some very high levels in isolated areas.

All samples taken from this source were tested for presence of agents by the RMA laboratory which analyzed a composite of each days samples. If positive readings were found, individual samples from each boring were analyzed to identify location. Positive readings for mustard were found in Borings 3900, 3092, 3093, and 3094. Samples from these boring were consequently not analyzed for other constituents.

Compounds which were not part of the target list (unknowns) detected during the Phase I GC/MS analysis are included in the data file presented in Appendix 36-17-B. They are identified only as UNK123, where the three

Table 36-17-2. Summary of Analytical Results for Source 36-17 Analytical Data

Constituent	Number of Samples*	Concentrations (µg/g)				Detection Limit (µg/g)
		Range	Mean	Median	Standard Deviation	
<u>Volatiles</u>						
None Detected						
<u>Semi-Volatiles</u>						
Aldrin	3	1->1000	300	6	600	0.9
Dieldrin	6	0.3->499	80	0.9	200	0.3
Endrin	1	0.9-0.9	--	--	--	0.7
Chlordane	2	60-70	70	70	5	1
P,p'-DDE	1	3-3	--	--	--	0.3
DIMP	5	0.7-4	2	2	2	0.5
PCPMS	1	0.7-0.7	--	--	--	0.3
DBCP	6	0.012-0.44	0.12	0.07	0.16	0.005
<u>Metals</u>						
Cadmium	12	0.70-13	3.3	1.0	4.1	0.9
Chromium	83	7.0-1,400	30	11	160	7.2
Copper	95	5.0-660	21	10	68	4.8
Lead	25	17-7,100	310	23	1,400	17
Zinc	88	24-12,000	200	39	1,300	16
Arsenic	23	4.7-29	10	6.5	7.1	4.7
Mercury	26	0.050-1.2	0.18	0.12	0.24	0.05

* Number of samples in which constituent was detected.

Source: ESE, 1986

Table 36-17N-3. Concentrations of Target Analytes Above Detection Limits in Source 36-17N Soil Samples (Page 1 of 6)

Bore Number	3059A	3059B	3060A	3060B	3061A	3061B	3062A	3062B	3063A	3063B	3064A	3064B	3065A
Depth (ft)	0-1	4-5	0-1	4-5	0-1	4-5	0-1	4-5	0-1	4-5	0-1	4-5	1-2
Geologic Material	Sandy Silt	Silty Sand	Slightly Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Slightly Sandy Silt	Slightly Sandy Silt	Slightly Sandy Silt	Sandy Silt	Sandy Silt

AIR MONITORING

HNU (ppm)

BKD

BKD

BKD

BKD

BKD

BKD

BKD

BKD

BKD

BKD

BKD

SOIL CHEMISTRY

Volatiles (µg/g)

None Detected

Semi-Volatiles (µg/g)

Chlordane

70

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--

--

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--

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--

--

--

DIMP

--

0.9

--

--

--

--

--

--

--

--

--

--

--

--

>1000

>499

Metals (µg/g)

Cadmium

--

--

--

--

--

--

--

--

--

--

--

--

--

--

Chromium

16

10

14

--

18

--

11

12

11

--

--

--

2.9

--

Copper

8

--

15

8

11

5

14

11

20

9

9

11

10

11

Lead

27

--

--

--

29

--

--

--

--

--

--

--

--

--

Zinc

57

32

39

37

70

26

--

37

64

--

--

35

--

--

Arsenic

7.9

--

--

--

6.7

--

--

--

--

--

0.17

--

0.11

0.12

Mercury

0.15

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Table 36-17N-3. Concentrations of Target Analytes Above Detection Limits in Source 36-17N Soil Samples (Continued, Page 2 of 6)

Bore Number	3065B	3065C	3065Z	3066A	3066B	3067A	3067B	3067C	3067D	3067E	3068A	3068B	3069A
Depth (ft)	4-5	9-10	12-13	0-1	4-5	0-1	4-5	9-10	14-15	19-20	0-1	4-5	0-1
Geologic Material	Silty Sand	Silty Silt	Silty Silt	Silty Silt	Silty Silt	Silty Silt	Silty Silt	Silty Silt	Silty Claystone	Silty Claystone	Slightly Silty	Slightly Silty	Sandy Silt

AIR MONITORING

HNU (ppm)	1	1	1	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD
-----------	---	---	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

SOIL CHEMISTRY
Volatiles (µg/g)

None Detected

Semi-Volatiles (µg/g)

None Detected

Metals (µg/g)

Cadmium	--	14	--	--	--	--	--	0.7	0.9	1.0	--	--	--
Chromium	11	13	20	10	--	10	10	14	14	15	14	10	9
Copper	10	--	19	12	7	11	9	22	41	46	16	10	8
Lead	--	--	--	--	--	--	--	--	25	22	21	--	--
Zinc	--	37	69	--	--	34	--	51	90	86	44	32	32
Arsenic	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	0.17	--	0.12	--	0.09	--	--	--	--	--	--	--

Table 36-17N-3. Concentrations of Target Analytes Above Detection Limits in Source 36-17N Soil Samples (Continued, Page 3 of 6)

Bore Number	3069B	3069C	3069D	3070A	3070B	3071A	3071B	3072A	3072B	3073A	3073B	3074A	3074B
Depth (ft)	4-5	9-10	14-15	0-1	4-5	0-1	4-5	0-1	4-5	0-1	4-5	0-1	4-5
Geologic Material	Silty Sand	Silty Sand	Claystone	Silty Sand	Silty Sand	Silty Silt	Silty Sand	Silty Sand	Silty Sand	Silty Silt	Silty Sand	Silty Silt	Silty Sand
AIR MONITORING													
HNU (ppm)	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD
SOIL CHEMISTRY													
Volatiles (µg/g)													
None Detected													
Semi-Volatiles (µg/g)													
Dieldrin	--	--	--	--	--	--	--	--	--	0.3	--	--	--
Metals (µg/g)													
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	9	34	--	11	8	--	14	10	12	--	15	10
Copper	5	8	25	15	9	6	5	13	9	12	13	13	10
Lead	--	--	21	--	--	--	--	--	--	33	--	--	--
Zinc	24	35	69	42	43	28	29	39	--	51	37	42	31
Arsenic	--	6.1	--	4.7	6.5	--	--	--	--	5.1	5.1	--	--
Mercury	--	--	--	--	--	--	0.06	--	--	0.08	0.05	--	--

Table 36-17N-3. Concentrations of Target Analytes Above Detection Limits in Source 36-17N Soil Samples (Continued, Page 4 of 6)

Bore Number Depth (ft) Geologic Material	3075A 0-1 Silty Sand	3075B 4-5 Silty Sand	3076A 0-1 Slightly Sandy Silt	3076B 4-5 Slightly Sandy Silt	3077A 0-1 Slightly Sandy Silt	3077B 4-5 Slightly Sandy Silt	3078A 0-1 Slightly Sandy Silt	3078B 4-5 Slightly Sandy Silt	3079A 0-1 Slightly Sandy Silt	3079B 4-5 Slightly Sandy Silt	3080A 0-1 Sandy Silt	3080B 4-5 Silty Sand
	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	2.6	2.6
AIR MONITORING												
HNU (ppm)												
SOIL CHEMISTRY												
Volatiles (µg/g)												
None Detected												
Semi-Volatiles (µg/g)												
Dieldrin	--	--	3	--	1	--	--	--	--	--	--	--
Endrin	--	--	0.9	--	--	--	--	--	--	--	--	--
DIMP	--	--	--	2	--	--	--	4	--	--	--	--
Metals (µg/g)												
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	7	8	12	10	9	8	--	8	10	9	--	--
Copper	6	8	30	8	10	6	6	6	8	7	6	6
Lead	--	--	30	--	23	--	--	--	18	--	--	--
Zinc	30	39	60	44	41	32	26	35	38	38	34	30
Arsenic	--	--	27	--	11	11	8.9	--	5.0	--	--	--
Mercury	--	0.07	0.59	0.07	0.20	--	--	--	--	0.23	--	--

Table 36-17N-3. Concentrations of Target Analytes Above Detection Limits in Source 36-17N Soil Samples (Continued, Page 5 of 6)

Bore Number	3080C	3080D	3081A	3081B	3082A	3082B	3083A	3083B	3083C	3083D	3083E	3084A	3084B
Depth (ft)	9-10	14-15	0-1	4-5	0-1	4-5	0-1	4-5	9-10	14-15	19-20	0-1	4-5
Geologic Material	Silty Sand	Claystone	Sandy Silt	Silty Sand	Sandy Silt	Silty Sand	Silty Sand	Silty Sand	Silty Sand	Sandy Clayey Silt	Sandy Clay	Sandy Silt	Sandy Silt
AIR MONITORING													
HNU (ppm)	BKD	BKD	14	12	1	1.2	BKD	BKD	BKD	BKD	BKD	BKD	BKD
SOIL CHEMISTRY													
Volatiles (µg/g)													
None Detected													
Semi-Volatiles (µg/g)													
DDE	--	--	--	--	--	--	3	--	--	--	--	--	--
Metals (µg/g)													
Cadmium	1.0	--	--	--	--	--	6.9	--	--	--	--	--	--
Chromium	9	--	14	13	--	12	16	14	14	15	12	8	9
Copper	9	36	15	12	5	8	14	13	15	15	22	5	5
Lead	--	18	19	--	--	17	20	--	--	--	--	--	--
Zinc	38	66	39	39	35	48	48	39	44	50	51	27	31
Arsenic	--	--	--	--	--	5.7	--	--	--	--	--	--	--
Mercury	--	0.06	--	--	--	--	0.36	--	--	--	--	--	--

Table 36-17N-3. Concentrations of Target Analytes Above Detection Limits in Source 36-17N Soil Samples (Continued, Page 6 of 6)

Bore Number	3084C	3084D	3085A	3085B	3086A	3086B	3086Y	3087A	3087B	3088A	3088B
Depth (ft)	9-10	14-15	0-1	4-5	0-1	4-5	2-2.5	0-1	4-5	0-1	4-5
Geologic Material	Sandy Silt	Saturated Silty Sand	Slightly Clayey Silt	Sandy Silt	Silty Sand	Silty Sand	Silty Sand	Silty Sand	Silty Sand	Silty Sand	Silty Sand
AIR MONITORING											
HNU (ppm)	BKD	BKD	BKD	BKD	50-100	BKD	BKD	1.2	BKD	BKD	BKD
SOIL CHEMISTRY											
Volatiles (µg/g)											
None Detected											
Semi-Volatiles (µg/g)											
DBCP	--	--	--	--	0.012	0.14	0.11	--	--	--	--
Metals (µg/g)											
Cadmium	--	--	--	--	1.8	13	9.6	--	--	--	--
Chromium	9	--	14	8	15	33	1400	--	8	8	8
Copper	6	5	17	5	27	170	660	6	--	6	5
Lead	--	--	32	--	96	150	7100	--	--	--	--
Zinc	34	36	65	29	112	2500	12,000	27	28	30	31
Arsenic	--	--	7.8	--	--	--	--	--	--	--	--
Mercury	--	--	0.06	--	0.13	1.2	--	--	--	--	--

BKD No readings above ambient background.
-- Below detection limit.

Table 36-17S-3. Concentrations of Target Analytes Above Detection Limits in Source 36-17S Soil Samples (Page 1 of 2)

Bore Number Depth (ft) Geologic Material	3089A 0-1 Slightly Sandy Silt	3089B 4-5 Sandy Silt	3091A 0-1 Sandy Silt	3091B 4-5 Clayey Silt	3095A 0-1 Slightly Silty Sand	3095B 4-5 Slightly Silty Sand	3096A 0-1 Clayey Silt	3096B 4-5 Clayey Silt	3097A 0-1 Silty Sand	3097B 4-5 Saturated Sandy Silt	3098A 0-1 Sandy Silt	3098B 4-5 Silty Sand
AIR MONITORING												
HNU (ppm)	500	400	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD
SOIL CHEMISTRY												
Volatiles (µg/g)												
None Detected												
Semi-Volatiles (µg/g)												
Dieldrin	0.7	--	--	--	--	--	--	--	--	0.6	--	--
Chlordane	60	--	--	--	--	--	--	--	--	--	--	--
DIMP	--	0.7	--	--	--	--	--	--	4	--	--	--
DSCP	--	--	--	0.031	--	--	--	--	--	--	--	0.013
Aldrin	--	--	--	--	--	--	--	--	--	1	--	--
PCPMS	--	--	--	--	--	--	--	--	--	--	--	--
Metals (µg/g)												
Cadmium	--	--	--	--	0.7	--	--	0.8	--	--	--	--
Chromium	11	14	12	11	15	11	16	18	7	--	10	22
Copper	7	9	8	7	17	13	22	17	7	--	7	8
Lead	--	19	25	--	20	--	--	--	25	--	18	--
Zinc	48	46	44	39	52	41	71	45	62	34	37	43
Arsenic	16	--	--	4.9	21	--	--	29	6.2	--	5.1	5.4
Mercury	0.20	--	0.06	--	0.09	--	--	--	0.13	--	0.07	--

Table 36-17S-3. Concentrations of Target Analytes Above Detection Limits in Source 36-17S Soil Samples (Continued, Page 2 of 2)

Bore Number Depth (ft) Geologic Material	3099A 0-1 Clayey Silt	3099B 4-5 Saturated Clayey Silt	3100A 0-1 Silty Sand	3100B 4-5 Silty Sand	3111A 0-1 Clayey Silt	3101B 4-5 Clayey Silt	3102A 0-1 Silty Sand	3102B 4-5 Clayey Sand	3103A 0-1 Sandy Silt	3103B 4-5 Silty Sand	3104A 0-1 Sandy Silt	3104B 4-5 Silty Sand
AIR MONITORING												
HNU (ppm)	60	90	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD	BKD
SOIL CHEMISTRY												
Volatiles (µg/g)												
None Detected												
Semi-Volatiles (µg/g)												
Dieldrin	--	--	--	--	--	--	--	--	--	--	--	--
Chlordane	--	--	--	--	--	--	--	--	--	--	--	--
DIMP	--	--	--	--	--	--	--	--	--	--	--	--
DBCP	--	0.44	--	--	--	--	--	--	--	--	--	--
Aldrin	--	6	--	--	--	--	--	--	--	--	--	--
PCPMS	--	0.7	--	--	--	--	--	--	--	--	--	--
Metals (µg/g)												
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	14	10	17	16	18	--	9	11	16	15	21	11
Copper	9	7	16	15	10	--	13	11	15	14	17	12
Lead	22	--	--	--	26	--	--	--	--	--	--	--
Zinc	47	36	52	45	60	24	39	--	44	41	59	--
Arsenic	4.8	--	--	--	6.9	--	--	--	--	--	--	--
Mercury	--	--	--	--	--	--	--	--	--	0.16	--	--

BKD No readings above ambient background.

-- Below detection limit.

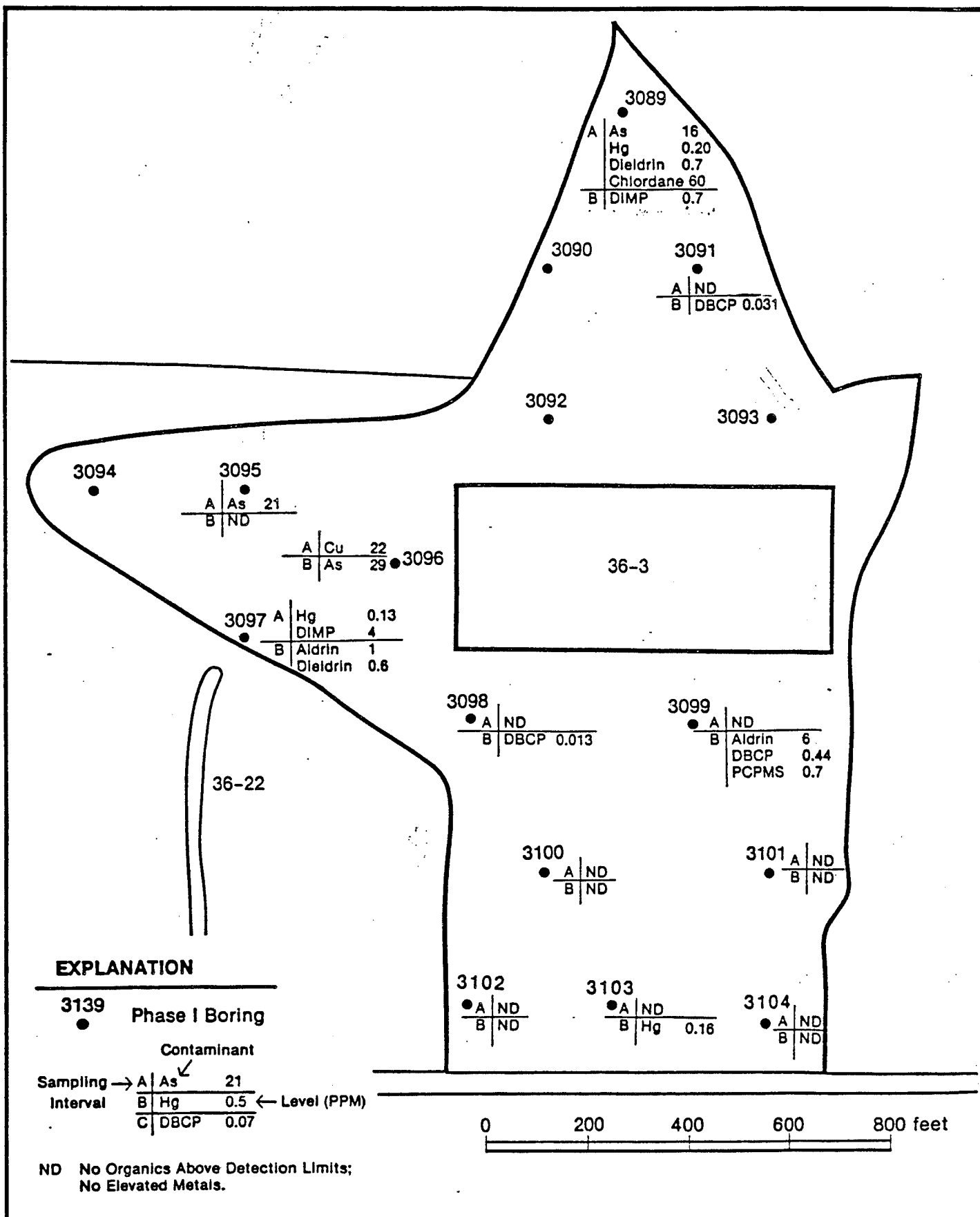


Figure 36-17-9b
SOURCE 36-17S
PHASE I CHEMICAL ANALYSIS
SOURCE: ESE, 1986

Prepared for:
U.S. Army Program Manager's Office
For Rocky Mountain Arsenal
Aberdeen Proving Ground, Maryland

digit number is relative retention time. Library searches were run against the unknowns, and an attempt at positive identification was made as summarized in Table 36-17-4.

3.1.2.4 Phase I Contamination Assessment

The pattern of contamination observed at Source 36-17N is generally consistent with the reported history as a trench disposal area. Many of the Phase I borings encountered little or no evidence of contamination. All borings east of a line between 3073 and 3066 were free of significant contamination. This could indicate the area was not used for trench disposal. However, the data for 3086 and surrounding areas indicates this conclusion would be premature. Boring 3186 exhibited visual staining in the column, and the chemical results show the highest levels of metals found in Section 36, in addition to some DBCP. The surrounding holes exhibit little evidence of contamination. This pattern illustrates that contamination within Source 36-17 is severe in isolated areas, but large portions of the area are probably uncontaminated.

The deeper intervals of Borings 3067 and 3069 exhibit Cr, Cu, and Zn concentrations slightly above those seen elsewhere. These levels are within the indicator ranges used as representative of natural variations. This is regarded as indicative of the phenomenon discussed in the Executive Summary of elevated metals levels in shales. These deeper borings penetrated the Denver Formation, which has exhibited similar metals levels in other sources (Source 36-12).

The portion of Source 36-17N adjacent to Basin A exhibits a pattern of pesticide contamination not seen in the remainder of the area. Pesticides including dieldrin, endrin, and DIMP are prevalent in Borings 3077 and 3076, as they are in the adjacent Boring 3233 in Basin A. This would suggest a particular source of contamination in this area. DIMP is not commonly found elsewhere in Basin A or Source 36-17N.

Table 36-17-4. Tentative Identification of Non-Target Compounds in Source 36-17. (Page 1 of 9)

Borehole Number	Interval Depth (ft)	Unknown Number	Concentration (ppm)	Sample Number	Lot	Best Fit*	Phase II Analysis Required	Comments*
3059	0-1	609	0.9	505600	BIB	No match found	N	No positive identification
		611	5			No good library match found	N	No positive identification
		612	0.7			No good library match found	N	No positive identification
		614	2			No good library match found	N	No positive identification
		619	0.6			B-p-Ts coelocite	N	No positive identification
3059	4-5	523	0.4	505601	BIB	Phthalate	N	In blank
		634	0.3			Phthalate	N	Plasticizer
		637	0.7			Phthalate	N	Plasticizer
		654	0.4				N	Plasticizer
							N	
3060	0-1	608	0.3	505606	MEK	Hexadecanoic acid	N	Naturally occurring
		615	1			Alkene hydrocarbon	N	Oil
3060	4-5	614	1	505607	MEK	Dibutyl nonanoate	N	Naturally occurring
3061	0-1	523	0.3	505612	BIB	Octadecanol	N	In blank
		614	0.9			Octadecenal	N	In blank
		631	0.4			Phthalate	N	By-product
		633	0.4			Diheptyl phthalate	N	Plasticizer
		636	0.7				N	Plasticizer
							N	
3061	4-5	523	0.3	505613	BIB	Phthalate	N	In blank
		634	0.4			Phthalate	N	Plasticizer
		637	0.9			Phthalate	N	Plasticizer
		641	0.3			Phthalate	N	Plasticizer
		654	0.4				N	Plasticizer
							N	
3062	0-1	542	1	505618	MEJ	1,3 Butanediol	N	Naturally occurring
		579	0.4			Isobutyl butenedioate	N	Naturally occurring
		609	1			Hexadecanoic acid	N	Naturally occurring
		633	0.5			Hydrocarbon unknown	N	Oil, No positive identification
		634	0.3			Unknown hydrocarbon	N	Oil, No positive identification
							N	
3062	4-5	542	1	505619	MEJ	1,3 butanediol	N	No positive identification
		544	0.3			Unknown	N	Naturally occurring
		579	2			Isobutyl butenedioate	N	Naturally occurring
		609	3			Hexadecanoic acid	N	Naturally occurring
		633	2			Alkene hydrocarbon C ₁₈ or higher	N	Oil, No positive identification
							N	
3063	0-1	608	0.3	505624	MEK	Hexadecanoic acid	N	Naturally occurring
		633	0.6			Alkene hydrocarbon	N	Oil, No positive identification

Table 36-17-4. Tentative Identification of Non-Target Compounds in Source 36-17. (Continued, Page 2 of 9)

Borehole Number	Interval Depth (ft)	Unknown Number	Concentration (ppm)	Sample Number	Lot	Best Fit*	Phase II Analysis Required	Comments*
3063	4-5	614 635	0.8 2	505625	MEK	Dibutyl nonanoate Bis (2-ethyl hexyl) Phthalate	N N	Naturally occurring Plasticizer
3064	0-1	542 579 609 629	0.3 0.3 0.3 2	505630	MEJ	1,3, butanediol Isobutyl butenedioate Hexadecanoic acid Diethyl adipate	N N N N	Naturally occurring Naturally occurring Naturally occurring
3064	4-5	542 579 609 633	0.9 0.4 0.5 0.3	505631	MEJ	1,3 butanediol Isobutyl butenedioate Hexadecanoic acid Alkene hydrocarbon	N N N N	Naturally occurring Naturally occurring Oil, No positive identification
3065	0-1	596 601 604 606 612 613 617 621 622 633	20 20 20 20 10 20 40 100 20 10	505636	MEJ	Pentachlorooctahydromethano- cyclopropentene Chlorinated unknown Unknown Chlorinated unknown Unknown Chlorinated unknown Chlorinated unknown Chlorinated unknown Unknown Chlorinated unknown		
3065	4-5	542 579 604 621 629	2 0.5 1 0.5 3	505637	MEJ	1,3 butanediol Isobutyl butenedioate Unknown Unknown organophosphate Diethyl adipate	N N N N	Naturally occurring No positive identification Naturally occurring
3065	9-10	542 579 609 632	2 0.5 0.4 0.4	505638	MEJ	1,3 butanediol Isobutyl butenedioate Hexadecanoic acid Alkene hydrocarbon	N N N N	Naturally occurring Naturally occurring Oil, No positive identification
3065	12-13	614 629	0.5 1	505672	MEK	Dibutyl nonanoate Diethyl adipate	N N	Naturally occurring Naturally occurring
3066	0-1	542 579 633	0.9 0.5 0.3	505642	MEJ	1,3 butanediol Isobutyl butenedioate Alkyl hydrocarbon	N N N	Naturally occurring Oil, No positive identification

Table 36-17-4. Tentative Identification of Non-Target Compounds in Source 36-17 (Continued, Page 3 of 9)

Borehole Number	Interval Depth (ft)	Unknown Number	Concentration (ppm)	Sample Number	Lot	Best Fit*	Phase II Analysis Required	Comments*
3066	4-5	542	1	505643	MEJ	1,3 butanediol	N	Naturally occurring
		579	1			Isobutyl butenedioate	N	Naturally occurring
		609	0.3			Hexadecanoic acid	N	Oil, No positive identification
		633	1			Alkyl hydrocarbon		
3067	0-1	542	2	505648	MEJ	1,3 butanediol	N	Naturally occurring
		579	0.5			Isobutyl butenediol	N	Naturally occurring
		609	0.4			Hexadecanoic acid	N	Oil, No positive identification
		633	0.7			Alkyl hydrocarbon		
3067	4-5	542	1	505649	MEJ	1,3 butanediol	N	Naturally occurring
		579	0.5			Isobutyl butenedioate	N	Naturally occurring
		609	0.3			Hexadecanoic acid	N	Oil, No positive identification
		633	0.6			Alkyl hydrocarbon		
3067	9-10	602	0.6	505650	MEK	Unknown	N	No positive identification
		608	0.6			Hexadecanoic acid	N	Naturally occurring
		614	6			Dibutyl nonanoate	N	Naturally occurring
		633	0.8			Alkene hydrocarbon	N	Oil, No positive identification
3067	14-15	635	1			Bis (2-ethyl hexyl) Phthalate	N	Plasticizer
				505651			N	None detected
				505652	MEK	Dibutyl nonanoate	N	Naturally occurring
		614	0.8			Alkene hydrocarbon	N	Oil, No positive identification
3068	0-1	579	0.2	505654	MEK	Diisobutyl butenoate	N	Naturally occurring
		608	0.3			Hexadecanoic acid	N	Naturally occurring
		614	0.5	505655	MEK	Dibutyl nonanoate	N	Naturally occurring
		635	0.6			Bis (2 ethyl hexyl) Phthalate	N	Plasticizer
3069	0-1	530	5	505660	BIC	Tetrachloroethane	N	Lab contaminant
		542	1			No good library match	N	No positive identification
		554	1			No good library match	N	No positive identification
		555	9			No match found	N	No positive identification
3069	4-5	614	6	505661	BIC	Octadecenyloxy ethanol	N	In blank
		614	2			Octadecanol	N	In blank
		530	2	505662		Tetrachloroethane	N	Lab contaminant
		555	3			No library match found	N	No positive identification
3069	9-10	530	2				N	In blank
		555	3				N	No positive identification
		614	2				N	In blank

Table 36-17-4. Tentative Identification of Non-Target Compounds in Source 36-17. (Continued, Page 4 of 9)

Borehole Number	Interval Depth (ft)	Unknown Number	Concentration (ppm)	Sample Number	Lot	Best Fit*	Phase II Analysis Required	Comments*
3069	14-15	544 614	1 2	505663	BIC	1,3-dichlorobenzene-d4	N N	Surrogate In blank
3070	0-1	614	2	505666			N	In blank
3070	4-5			505667			N	None detected
3071	0-1	513 530 555 614	0.8 6 10 14	505700	BIC	Trichloroethane (1,1,1,2) Tetrachloroethane No library match found	N N N N	Lab contaminant Lab contaminant No positive identification In blank
3071	4-5	614	2.0	505701	BIC	Dibutyl nonanedioate	N	Naturally occurring
3072	0-1	633	0.4	505706	MEL	Alkyl hydrocarbon	N	Oil, No positive identification Plasticizer
3072	4-5	631	0.6	505707	MEL	Bis (2-ethyl hexyl) Phthalate Diethyl adipate	N N	Naturally occurring Naturally occurring
3073	0-1	567 575 614 618 619	0.9 1 1 1 3.0	505712	BID	Tetradecane Heptadecane Octadecenoic acid Octadecanoic acid	N N N N N	Hydrocarbon aliphatic Hydrocarbon aliphatic In blank Naturally occurring Naturally occurring
3073	4-5	523	2	505713	BID		N	In blank
3074	0-1	542 629 635	0.2 2 0.3	505718	MEL	1,3 butanediol Diethyl adipate Bis (2 ethyl-hexyl) phthalate	N N N	Naturally Occurring Plasticizer
3074	4-5	635	0.7	505719	MEL	Bis (2 ethyl hexyl) phthalate	N	Plasticizer
3075	0-1	523	1	505724	BID		N	In blank
3075	4-5			505725			N	None detected
3076	0-1			505730			N	None detected
3076	4-5			505731			N	None detected
3077	0-1	614	4	505736	BIE	Dibutyl nonanedioate	N	Naturally occurring
3077	4-5		1	505737			N	None detected
3078	0-1	614	1	505742	BID	Dibutyl nonanedioate	N	Naturally occurring

Table 36-17-4. Tentative Identification of Non-Target Compounds in Source 36-17. (Continued, Page 5 of 9)

Borehole Number	Interval Depth (ft)	Unknown Number	Concentration (ppm)	Sample Number	Lot	Best Fit*	Phase II Analysis Required	Comments*
3078	4-5	637	8	505743	BID	Bis (2-ethyl hexyl) phthalate	N	Plasticizer
3079	0-1	538	1	505748	BIE	Dimethoxymethane		Solvent
3079	4-5			505749			N	None detected
3080	0-1	614	3.0	505754	BIC		N	In blank
3080	4-5			505755			N	None detected
3080	9-10			505756			N	None detected
3080	14-15	614	3	505757	BIC		N	In blank
3081	0-1	633	0.3	505760	MEL	Alkene	N	Oil, No positive identification
		635	0.4			Bis (2-ethyl hexyl) phthalate	N	Plasticizer
3082	0-1	609	1	505766	BIC	Dibutyl phthalate	N	Plasticizer
		614	10			Octadecanol	N	In blank
		614	4					
3082	4-5	614	20	505767	BIC	Octadecanol		
		614	5					
3083	0-1	576	1	505800	MEL	Hydrocarbon C ₁₄	N	Oil, No positive identification
		580	0.9			Hydrocarbon	N	Oil, No positive identification
		582	1			Hydrocarbon	N	Oil, No positive identification
		620	3			C ₁₄ H ₂₈ Cl ₁₄		Isomer of DDE
		635	1			Bis (2-ethyl hexyl) phthalate	N	Plasticizer
3083	4-5	589	8	505801	MEM	Diethyl phthalate	N	Plasticizer
		632	0.2			17-Pentatriacontene	N	Oil
		635	1			Bis (2-ethyl hexyl) phthalate	N	Plasticizer
3083	9-10	635	0.6	505802	MEM	Bis (2-ethyl hexyl) phthalate	N	Plasticizer
3083	14-15	579	0.2	505803	MEM	Isobutyl butenoate	N	Naturally occurring
		589	10			Diethyl phthalate	N	Plasticizer
		614	0.8			Dibutyl nonandioate	N	Naturally occurring
		632	0.5			Eicosene	N	Oil
		635	9			Bis (2-ethyl hexyl) Phthalate	N	Plasticizer

Table 36-17-4. Tentative Identification of Non-Target Compounds in Source 36-17. (Continued, Page 6 of 9)

Borehole Number	Interval Depth (ft)	Unknown Number	Concentration (ppm)	Sample Number	Lot	Best Fit*	Phase II Analysis Required	Comments*
3083	19-20	614 629 632 635	0.4 0.4 0.4 10	505804	MEM	Dibutyl nonanedioate Di-n-octyl adipate Alkene hydrocarbon Bis (2-ethyl hexyl) phthalate	N N N N	Naturally occurring Naturally occurring Oil Plasticizer
3084	0-1			505806			N	None detected
3084	4-5	523	1	505807	BID		N	In blank
3084	9-10	513 614	0.9 2	505808	BID	Toluene Dibutyl nonanedioate	N	Solvent Naturally occurring
3084	14-15	513 639	1 5	505809	BID	Toluene Bis (2-ethyl hexyl) phthalate	N	Solvent Plasticizer
3085	0-1	614	2	505812	BID		N	In blank
3085	4-5			505813			N	None detected
3086	0-1	577 578 589 623 635	2 1 10 0.7 2	505818	MEM	Trichloro aniline Trichlorinated unknown Diethyl phthalate Chlorinated unknown Bis (2-ethyl hexyl) phthalate	N	Plasticizer Plasticizer
3086	2-3	524 562 567 569 574 576 580 582 588 591 594 595 600	600 200 200 200 300 300 300 300 400 200 300 200 100	505872	MEM	Tetrachloroethane C13 alkane C14 alkane C13 alkane C15 alkane C14 alkane Unknown alkane C15 alkane C16 alkane Unknown alkane C17 alkane Unknown alkane Unknown alkane		Oil Oil Oil Oil Oil Oil Oil Oil Oil Oil Oil Oil Oil
3086	4-5	525 562 567 569 574 576 580 582 588	1000 90 90 70 100 80 100 100 100	505819	MEM	Tetrachloroethane C13 alkane Unknown alkane Unknown alkane C15 alkane C14 alkane Unknown alkane C15 alkane		Oil Oil Oil Oil Oil Oil Oil Plasticizer
						Unknown alkane + diethyl phthalate		

Table 36-17-4. Tentative Identification of Non-Target Compounds in Source 36-17. (Continued, Page 7 of 9)

Borehole Number	Interval Depth (ft)	Unknown Number	Concentration (ppm)	Sample Number	Lot	Best Fit*	Phase II Analysis Required	Comments*
3087	0-1	591	90	505824	BID	Unknown alkane	N	Oil
		594	40			C17 alkane		Oil
		595	100			Unknown alkane		Oil
		600	70			C14 alkane		Oil
		605	40			Unknown alkane		Oil
		609	30			Dibutyl phthalate		Plasticizer
3088	0-1	635	70	505830	BID	Bis (2-ethyl hexyl) phthalate	N	Plasticizer
		637	10			di-n-Octylphthalate-d4		Surrogate
		523	2					In blank
		523	2					In blank
3089	0-1	614	1	505831	BIB	Methyl octyne	N	In blank
		638	2.0			Bis (2-ethyl hexyl) Phthalate		Plasticizer
		609	1			No good library match found		No positive identification
		612	0.7			No good library match found		No positive identification
3091	0-1	614	1	505848	BIB	Octadecanol	N	In blank
		615	2			No good library match found		No positive identification
		637	0.8			Phthalate		Plasticizer
		523	0.6			Similar to 2,7-dimethyl-3,6-dimethylene-1,7-octadiene		In blank
3091	0-1	579	0.7	505849	BIB	Methyl-tricyclooctene carboxylate and Methyl benzene propanoate	N	No positive identification
		636	0.7			Phthalate		Plasticizer
		660	0.4			Phthalate		Plasticizer
		523	0.3			Cyclohexenone		In blank
3091	0-1	532	0.3	505849	BIB	Octadecenoic acid	N	Solvent
		618	0.4			Phthalate		Naturally occurring
		633	0.3			Diheptyl phthalate		Plasticizer
		636	0.6					Plasticizer
3091	4-5	523	0.3	505849	BIB	Similar to 2,7-dimethyl-3,6-dimethylene-1,7-octadiene	N	In blank
		579	0.4			Similar to UNK 579, lower intensities		No positive identification
		585	0.5			Phthalate		No positive identification
		633	0.4			Diheptyl phthalate		Plasticizer
3091	4-5	636	0.7	505849	BIB		N	Plasticizer
		636	0.7					Plasticizer

Table 36-1 Tentative Identification of Non-Target Compounds in Source 36 (Continued, Page 8 of 9)

Borehole Number	Interval Depth (ft)	Unknown Number	Concentration (ppm)	Sample Number	Lot	Best Fit*	Phase II Analysis Required	Comments*
3095	0-1	579 609 629 633	0.3 0.3 0.2 0.3	505900	MEN	Diisobutyl butenediol Hexadecanoic acid Diethyl adipate Alkene	N N N N	Naturally occurring Naturally occurring Naturally occurring Oil, No positive identification
3095	4-5	604	1	505901	MEN	Diisobutyl phthalate	N	Plasticizer
3096	0-1	629	1	505906	MEN	Diethyl adipate	N	Naturally occurring
3096	4-5	635	2	505907	MEN	Bis (2-ethyl hexyl) phthalate	N	Plasticizer
3097	0-1	614	1	505912	BIE	Octadecanol	N	In blank
3097	4-5	538 610 614	2 1 1	505913	BIE	Dimethoxy methane		Solvent
3098	0-1			505918			N	None detected
3098	4-5			505919			N	None detected
3099	0-1	523 636 641 654	0.8 1 0.4 0.6	505924	BIA	Diheptyl phthalate Phthalate Phthalate	N N N N	In blank Plasticizer Plasticizer Plasticizer
3099	4-5	523 547 547 636	1 2 9 1	505925	BIA	Alpha-methyl-benzene methanol 1-phenyl-ethanone Diheptyl phthalate	N N	In blank Plasticizer
3100	0-1	542 593 609 632 635	10 2 7 2 2	505930	MEI	1,3 butanediol Methoxy unknown Diethyl phthalate Alkene hydrocarbon Bis (2-ethyl hexyl) phthalate	N N N N N	No positive identification Plasticizer Oil, No positive identification Plasticizer
3100	4-5	544 579 608 632 635	2 1 1 5 1	505931	MEI	1,3 butanediol Diisobutyl butenoate Hexadecanoic acid Alkene hydrocarbon Bis (2-ethyl hexyl) phthalate	N N N N N	Naturally occurring Naturally occurring Oil, No positive identification Plasticizer
3101	0-1	513 636	2 1	505936	BIA	Toluene Diheptyl phthalate	N	Plasticizer

4. Tentative Identification of Non-Target Compounds in Source

Borehole Number	Interval Depth (ft)	Unknown Number	Concentration (ppm)	Sample Number	Lot	Best Fit*	Phase II Analysis Required	Comments*
3101	4-5	637	3	505937	BIA	Bis (2-ethyl hexyl) phthalate	N	Plasticizer
		654	0.6			Phthalate	N	Plasticizer
		523	1			Cyclohexenol	N	In blank
		527	0.5				N	Solvent
		532	0.9			Diheptyl phthalate	N	In blank
		636	0.7			Phthalate	N	Plasticizer
3102	0-1	654	0.3	505942	MEI		N	Plasticizer
		579	0.7			Diisobutyl butenoate	N	Naturally occurring
		604	3			Diisobutyl phthalate	N	Plasticizer
		609	1			Di-n-butyl phthalate	N	Plasticizer
		632	2			Alkene hydrocarbon	N	Oil, No positive identification
		635	7			Bis (2 ethyl hexyl) phthalate	N	Plasticizer
3102	4-5	542	0.4	505943	MEI	1,3 butanediol	N	Naturally occurring
		579	1			Diisobutyl butenoate	N	Naturally occurring
		608	0.3			Hexadecanoic acid	N	Oil, No positive identification
		632	1			Alkene hydrocarbon	N	Plasticizer
		635	3			Bis (2 ethyl hexyl) phthalate	N	
3103	0-1	546	2	505948	MEI	1,3 butanediol	N	Naturally occurring
		579	0.7			Diisobutyl butenoate	N	Naturally occurring
		608	0.7			Hexadecanoic acid	N	Plasticizer
		609	1			Dibutyl Phthalate	N	Oil, No positive identification
		632	2			Alkene hydrocarbon	N	
3103	4-5	542	2	505949	MEI	1,3 butanediol	N	Naturally occurring
		608	0.9			Hexadecanoic acid	N	Oil, No positive identification
		633	1			Alkene hydrocarbon	N	Plasticizer
		635	3			Bis (2-ethyl hexyl) phthalate	N	No positive identification
		634	0.5			Unknown	N	
3104	0-1	543	0.1	505954	MEI	1,3 butanediol	N	Naturally occurring
		579	0.5			Diisobutyl butenoate	N	Naturally occurring
		608	0.8			Hexadecanoic acid	N	Oil, No positive identification
		632	1			Alkene hydrocarbon	N	Plasticizer
		635	6			Bis (2-ethyl hexyl) phthalate	N	
3104	4-5	548	3	505955	MEI	1,3 butanediol	N	Naturally occurring
		579	0.4			Diisobutyl butenoate	N	Naturally occurring
		608	0.8			Hexadecanoic acid	N	Oil, No positive identification
		632	1			B-alkene hydrocarbon	N	Plasticizer
		635	0.8			Bis (2-ethyl hexyl) Phthalate	N	

The southwestern corner of Source 36-17N exhibits an unusual pattern, which is also found in the northern dip of Source 36-17S (Boring 3089). Very high levels of chlordane are found in this area, in addition to dieldrin, endrin, and DIMP. Historical records show Army Source 36-16 in this area, a reported munitions disposal area. This may explain the metals found in Boring 3202 in Basin A, but does not explain the pesticides. The chemical data would indicate the many trenches and pits observed in this area were likely used for pesticide disposal. The vertical stratification of this contamination would seem to indicate surface rather than trench disposal. The metals and chlordane are only found in the surface interval. However, the 4 to 5 foot samples contained DIMP and DBCP. This may be due to weathering or migration, but could also indicate a combination of disposal methods.

Most of the data in the northern half of Source 36-17S was lost due to presence of mustard in Borings 3090, 3092, 3093, and 3094. This precluded further analysis of samples from these holes. Borings 3213, 3214, and 3215, adjacent to Source 36-17S in Basin A, show DBCP and DIMP contamination. This suggests a possible link to Source 36-17, as these compounds are not found further west in Basin A.

The central portion of Source 36-17S shows some moderate levels of arsenic in addition to pesticides. The area just south of 3603 shows fairly high levels of DBCP, PCPMS, and aldrin. This would indicate that the broken vials found in this area may have contained pesticides. South of a line between borings 3100 and 3101, Source 36-17S appears uncontaminated. This is consistent with the lack of observed disturbances in this area.

The Phase I geophysical investigation of Source 36-17N was designed to provide more information as to the location, orientation, and dimensions of disposal trenches or pits. The EM data was contoured and interpreted to define trench or pit boundaries. The positions of large negative EM anomalies or troughs were interpreted to indicate the presence of a metal bearing trench or pit.

The Phase I geophysical survey resulted in the identification of four anomalies representative of disposal trenches or pits. In addition, the survey also resulted in the identification of an anomaly suggestive of a buried pipeline. Comparison of RMA Contaminant Source Maps and Plate 10 (Geophysical Investigation of Source 36-3, 36-10, and 36-17, 1986) indicates that this line is very likely the cast iron chemical pipeline originating in the North Plants and terminating at Basin A.

As no Phase I borings were constructed thru or adjacent to these anomalies the existence of these trenches and/or soil contamination has not been verified. The Phase II soil boring program will include borings in these areas to provide the requisite verifications.

Results of the VES soundings do not indicate anomalous data suggestive of grossly contaminated soils. However, they do suggest that if soil contamination does exist within the study area it is confined to an area near the existing excavation.

Ground water analytical data for the period of 1976 through 1985 were retrieved from the USATHAMA RMA data base and reviewed. The most recent analyses from each well were selected for inclusion in this report. See Figures 36-17-10a and 36-17-10b and Table 36-17-5a and 36-17-5b. In some cases, less recent data were included in order to allow comparison between two or more wells. The data have been annotated to indicate whether one or more analyses are available for each well over the period investigated, and whether target compounds were detected in determinations not included in this report. Although these data are limited in nature, they do provide additional insight regarding the interrelationship between vadose and phreatic zone contamination in the vicinity of Source 36-17.

The existing well distribution in the vicinity of Source 36-17 is suitable for an evaluation of upgradient and downgradient conditions in the alluvial aquifer, however, the parameter suits and sampling dates do not permit such an analysis in most cases. The ground water analytical

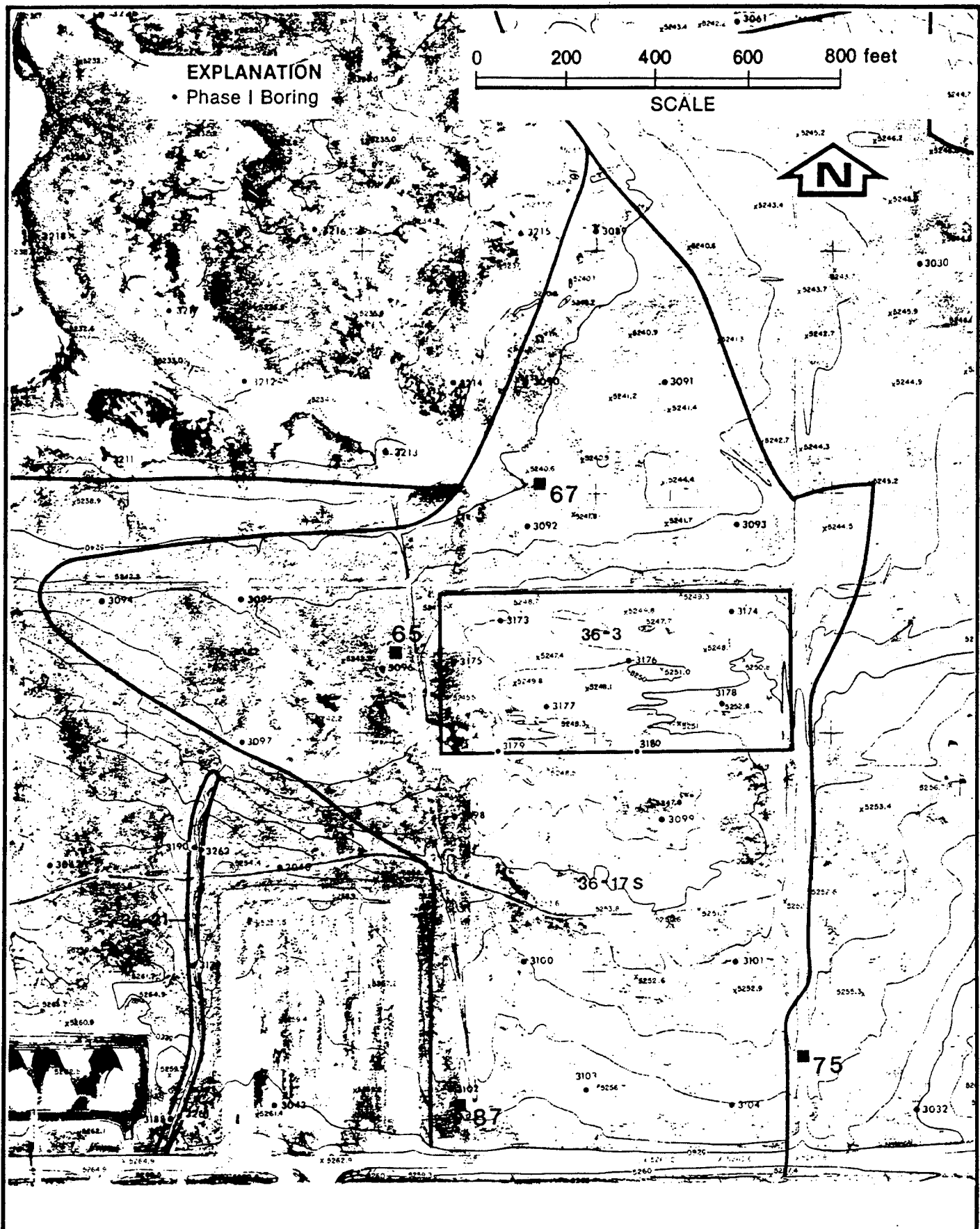


Figure 36-17-10b
LOCATION OF SELECTED MONITORING
WELLS IN THE VICINITY OF
SOURCE 36-17S
SOURCE: ESE, 1986

Prepared for:
U.S. Army Program Manager's Office
For Rocky Mountain Arsenal
Aberdeen Proving Ground, Maryland

Table 36-17-5a. Selected Analytical Results for Ground Water Samples
 Collected Near Source 36-17N (units in µg/g or ppb)

Aquifer Date	Well Designation					
	63 Alluvial 79046 ²	80 Alluvial 79047 ²	84 Alluvial 79047 ²	84 Alluvial 83145 ²	88 Alluvial 79047 ²	88 Alluvial 83143 ²
Arsenic	<0.5	<0.5	0.015*	—	0.016*	—
Aldrin	<1.0	<1.0	<1.0*	<0.2*	<1.0	<0.2
Dieldrin	1.54	<0.5	<0.5*	<0.2*	<0.5*	<0.2*
Endrin	0.5	<0.5	<0.5*	<0.2*	<0.5*	<0.2*
Isodrin	<0.5	<0.5	<0.5*	9.42	<0.5*	0.55
DBCP	<0.4	<0.4*	<0.4*	0.23*	<0.4*	<0.2*
DCPD	<10.0	<10.0	<10.0	<1.0	<10.0	<1.0
DIMP	2.13	7540*	11590*	13900*	129.0*	223*
PCMS	<5.0	<5.0	<5.0	—	<5.0*	—
PCMSO	<5.0	<5.0	<5.0	<20.0	<5.0*	<20.0
PCMSO ₂	<5.0	30.9	129.0*	<20.0	<5.0	<20.0
Dithiane	<5.0	25.7*	450.0*	611.0*	<5.0*	1050.0*
Oxathiane	<0.5	5.65*	196.0*	—	92.9*	—
Carbon Tetrachloride	—	—	—	<1.0	—	<1.0
Chloroform	—	—	—	34.0	—	11.0
Trichloroethene	—	—	—	1089.0	—	1.0
Tetrachloroethene	—	—	—	9.0	—	<1.0
Benzene	—	—	—	16.0	—	11.0
Chlorobenzene	—	—	—	<1.0	—	<1.0
Dichlorobenzene	—	—	—	<1.0	—	<1.0
Toluene	—	—	—	<1.0	—	<1.0
Xylene	—	—	—	<0.1	—	<0.1

¹ One date available.

² Multiple dates available.

* Positive results on other date.

Table 36-17-5b. Selected Analytical Results for Ground Water Samples
Collected Near Source 36-17S (units in µg/g or ppb)

Aquifer Date	Well Designation				
	65 Alluvial 79081 ²	67 Alluvial 79080 ²	75 Alluvial 79080 ²	75 Alluvial 83119 ²	87 Alluvial 79081 ²
Arsenic	<0.5	<0.5	<0.5	—	<0.5
Aldrin	<1.0	<1.0*	<1.0	<0.2	<1.0
Dieldrin	<0.5	0.79*	0.85*	0.46*	<0.5*
Endrin	<0.5	<0.5*	<0.5	<0.2	<0.5
Isodrin	<0.5	<0.5*	<0.5*	<0.2*	<0.5*
DBCP	<0.4	<0.4	<0.4*	<0.2*	<0.4*
DCPD	<10.0	<10.0*	<10.0	<1.0	<10.0
DIMP	<2.0	<2.0*	<2.0*	<10.0*	3.4*
PCPMS	<5.0	<5.0	<5.0	—	<5.0
PCPMSO	<5.0	<5.0*	<5.0	<20.0	<5.0*
PCPMSO ₂	<5.0	<5.0*	<5.0	<20.0	13.1*
Dithiane	<5.0	<5.0*	<5.0	<20.0	<5.0
Oxathiane	<5.0	<5.0	<5.0	—	<5.0 ¹
Carbon Tetrachloride	—	—	—	<1.0 ¹	—
Chloroform	—	—	—	65.0 ²	—
Trichloroethene	—	—	—	<1.0 ²	—
Tetrachloroethene	—	—	—	<1.0 ²	—
Benzene	—	—	—	47.0 ¹	—
Chlorobenzene	—	—	—	<1.0 ¹	—
Dichlorobenzene	—	—	—	<1.0 ¹	—
Toluene	—	—	—	<1.0 ¹	—
Xylene	—	—	—	<0.1 ¹	—

¹ One date available.

² Multiple dates available.

* Positive results on other date.

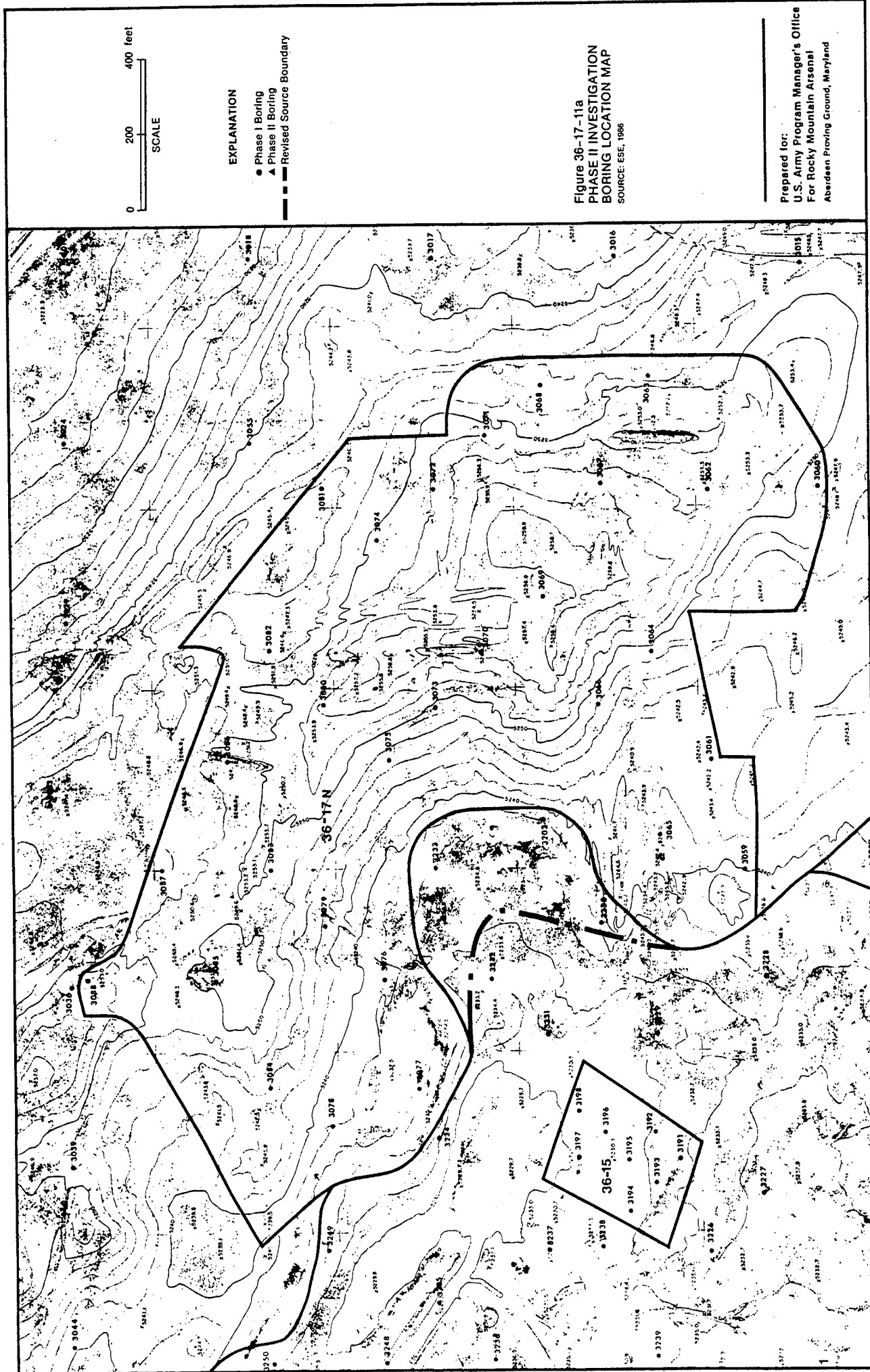
data indicate the presence of numerous contaminants in the alluvial aquifer including chlorinated pesticides, DBCP, DCPD, organosulfur compounds, aromatic solvents, halogenated aliphatic, and aromatic solvents. Although a precise determination of the source of these compounds is difficult, they are consistent with reported disposal of pesticides and herbicide process wastes and mustard in the area. Contributions of pesticide and herbicide wastes and solvents may also be derived from Source 36-3, the Shell insecticide pits.

3.1.3 Phase II Contamination Survey

3.1.3.1 Revised Phase II Program

Historical disposal activities within Source 36-17N have resulted in contamination being confined to the immediate vicinity of disposal trenches or burn pits. This resulted in Phase I chemical data which for the most part do not exceed contaminant indicator levels. The localized nature of contamination within this source area is confirmed by the soil quality data generated at Borehole 3086. Extremely elevated concentrations are present in soils contained within a former trench site, and little or no contamination is found in adjacent areas.

Based on an evaluation of Phase I analytical data, a minor modification was made to the Source 36-17N boundaries. This modification, shown in Figure 36-17-11a, is the inclusion of a small basin in the eastern portion of Basin A into the Source 36-17 area. This was based on the observation that contaminants detected in Boreholes 3233, 3202, and 3230 do not occur in adjacent portion of Basin A. Although this portion of Section 36 is a natural depression, it is at a slightly higher elevation than the main portion of Basin A. This area was also utilized for trenched disposal of materials as evidenced by interpretation of aerial photographs. Although much of the soil between Sources 36-1 and 36-17 contains contaminants which have resulted from several process boundaries of sources have been defined such that areas which deviate from recognized Basin A contaminant patterns are included within the associated portions of Source 36-17.



As contamination in Source 36-17N appears to be confined to very isolated areas, a Phase II boring program alone would provide only "hit or miss" information on the extent of contamination. It is anticipated that many of the numerous trenches observed in historical aerial photographs contain contaminated soil similar to that observed in Borehole 3086. Therefore the primary thrust of the initial Phase II program will be to use available resources to accurately locate these trenches.

Based on the success of the limited geophysical investigation of Source 36-17N, more intensive Phase II geophysical program will be implemented map areas that most likely contain disposal trenches. The Phase II geophysical program will employ both EM and magnetometer methods. The entire area of Source 36-17N will be covered by transects spaced at 10 foot intervals. EM and magnetometer data will be collected on transects and spaced at 20 ft, but offset 10 ft from each other (e.g., EM data will be obtained at lines 0, 20, and 40 ft and magnetometer data at 10, 30, 50 ft). This provides continuous data collected along transects spaced at 10 foot intervals.

A detailed Phase II soil boring program for Source 36-17N will be formulated at the conclusion of this geophysical program. Areas that exhibit anomalies suggestive of disposal trenches will be thoroughly investigated by Phase II boring. For budget estimation and manpower requirement purposes, a proposed Phase II boring program is presented below:

<u>Number of Borings</u>	<u>Depth (ft)</u>	<u>Number of Samples</u>
10	20	50
20	10	60
<u>10</u>	5	<u>20</u>
40		130

Sampling intervals are assumed to be the same for Phase I, that is 0 to 1, 4 to 5, 9 to 10, 14 to 15, and 19 to 20 ft.

The analytical program for Source 36-17N is summarized below. This is only an estimate and is based on the assumption that borings in the northern half of the site (half of the sample total) will be analyzed for the Phase I contaminants and in the southern half will be analyzed for specified compounds. This assumption is derived from a better understanding of the contaminants in the southern area. Volatile organics will be performed on approximately 10 percent of the sample population.

<u>Analytical Method</u>	<u>Number of Samples</u>
Semi-Volatiles	65
Volatile Organics	13
Metals	130
Organochlorine Compounds	65
Organosulfur Compounds	65
Arsenic	130
Mercury	130

Following the evaluation of analytical data generated by the Phase I investigative program the boundaries Source 36-17S were also revised. These revisions, shown in Figure 36-17-11b were significant for the southern, western, and northern borders of this area. As no contaminants were detected in significant concentrations in the southern portion of Source 36-17S (Boreholes 3102, 3103, and 3104) this area has been deleted from the Phase II investigation. The revised southern boundary is located through a line connecting Phase I Boreholes 3100 and 3101 as well as "uncontaminated" Borehole 3040 none of which detected contaminant compounds.

The western edge of this source area has been modified to include the area south of Borehole 3097 where DIMP and pesticides were detected and to meet with the revised boundaries of Basin A (Source 36-1) in this area. The exact location of the source boundary in this region is uncertain due to the loss of samples from Borehole 3094 as a result of the presence of mustard. The northwest edge of Source 36-17S has been modified to include an area formerly included in Source 36-1. The reason

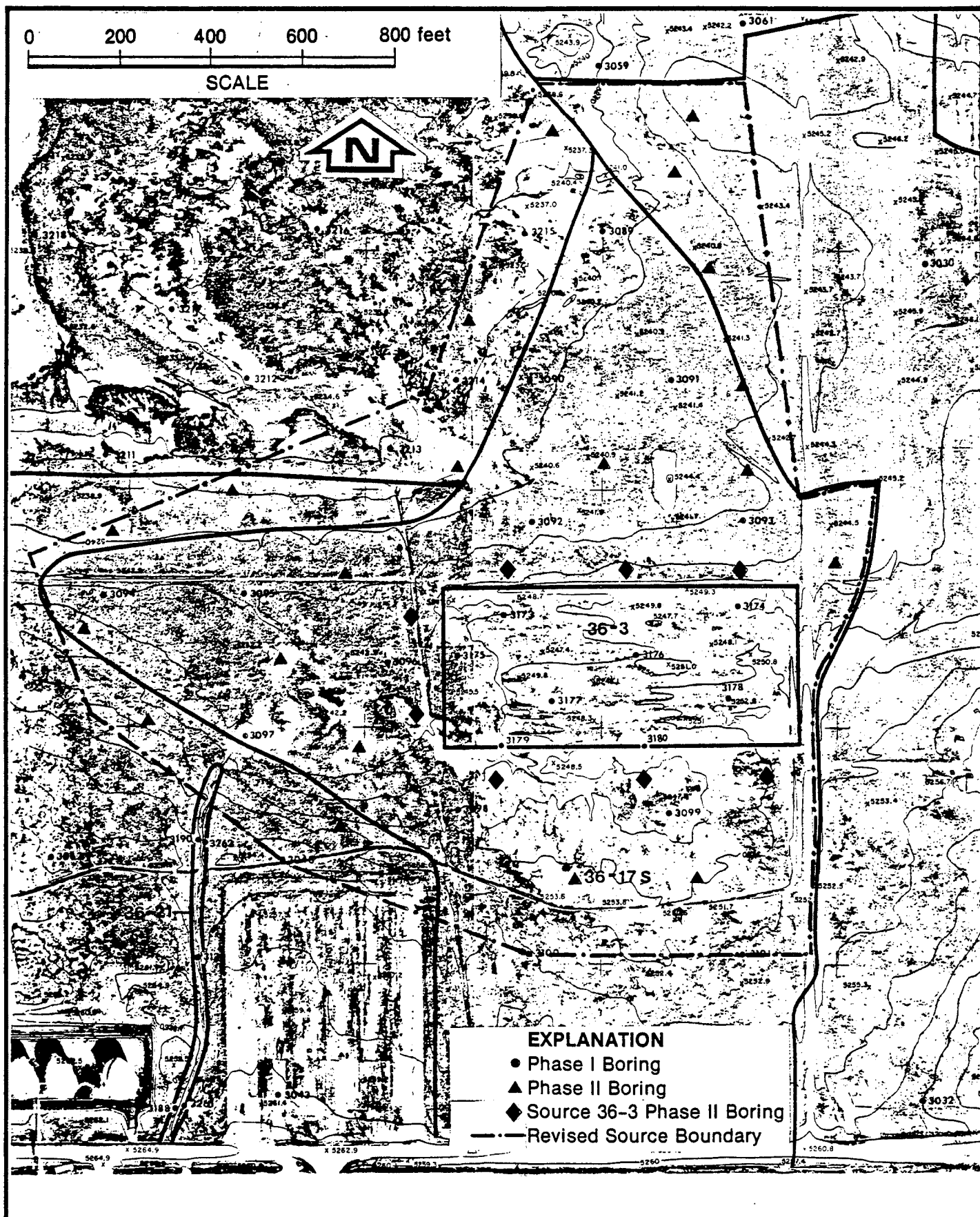


Figure 36-17-11b
 PHASE II INVESTIGATION
 BORING LOCATION MAP
 SOURCE: ESE, 1986

Prepared for:
 U.S. Army Program Manager's Office
 For Rocky Mountain Arsenal
 Aberdeen Proving Ground, Maryland

for this reallocation of this area is the presence of DIMP, organosulfur compounds, and DBCP in Boreholes 3213, 3214, and 3215, which is uncharacteristic of contaminant trends in adjacent portions of Basin A. Again the exact location of this portion of the Source 36-17 boundary is questionable due to the loss of samples from Boreholes 3090 and 3092 as a result of mustard contamination.

The final alteration in the boundary of this source area is in the northeast section. Contaminants detected in Boreholes 3089 and 3059 (Source 36-17N) have caused revisions of the source boundary to connect these two areas. An area of significant vegetation stress in this location is now included within the Source 36-17 boundary. The two portions of Source 36-17 will remain separate even though they are contiguous. The area of this source may be redistributed or subdivided based on Phase II results.

To aid in disposal trench location a geophysical program will be performed directly north of Source 36-3. The techniques utilized and the program design will be the same as for those in Source 36-17N. The results of the Phase II geophysical program will be combined with the results of aerial photograph interpretation and field mapping of surface expressions to design the Phase II soil boring program. As samples from four boreholes in the source area were not analyzed due to the presence of mustard, geophysics and field mapping may be the only method of estimating volumes of contaminated soil unless chemical analyses can be performed at some location on mustard contaminated soils.

The Phase II soil boring program for Source 36-17S will be finalized after geophysical studies are complete. A Phase II program has been proposed for estimation purposes. The exact locations of boreholes and sampling intervals may be altered prior to development of the final Phase II plan.

Source 36-17S Phase II soil sampling plan is shown in Figure 36-17-11b. Eight boreholes proposed adjacent to Source 36-3 are part of the Phase II program for Source 36-3 to define the areal extent of contamination for this source. Modifications of the Source 36-3 boundary will not be made until completion of the Phase II investigation due primarily to lack of data directly north of this source (mustard contaminated soils not analyzed). The Phase II program consists of the construction of 200 soil borings. Sampling intervals will be 0 to 1, 4 to 5, and 9 to 10 ft. Of the 20 remaining boreholes anticipated for this source 9 will be to depths of 5 ft, and 11 to depths of 10 ft.

<u>Number of Borings</u>	<u>Depth (ft)</u>	<u>Number of Samples</u>
11	10	33
<u>9</u>	5	<u>18</u>
TOTAL 30		51

The analytical schedule for this source area is listed below. The lack of chemical data in certain portions of this source area necessitates a repeat of the Phase I analytical schedule. Samples to the north of Source 36-3 will be analyzed for a full range of analytes. Samples from the six borings south and west of Source 36-3 will be tested for organochlorine pesticides, DBCP, DIMP, and organosulfur compounds (see Figure 36-17-12).

<u>Analytical Method</u>	<u>Number of Samples</u>
Organochlorine pesticides	35
Organosulfur Compounds	17
DBCP	51
Metals	35
Organophosphorus Compounds	33
DIMP/DMMP	33
Arsenic	51
Mercury	51
Volatile Organics	12
Extractable Organics	18

Based on Phase I chemical analysis results, it is anticipated that all Phase II investigations in Source 36-17 will require use of full Level C Protection.

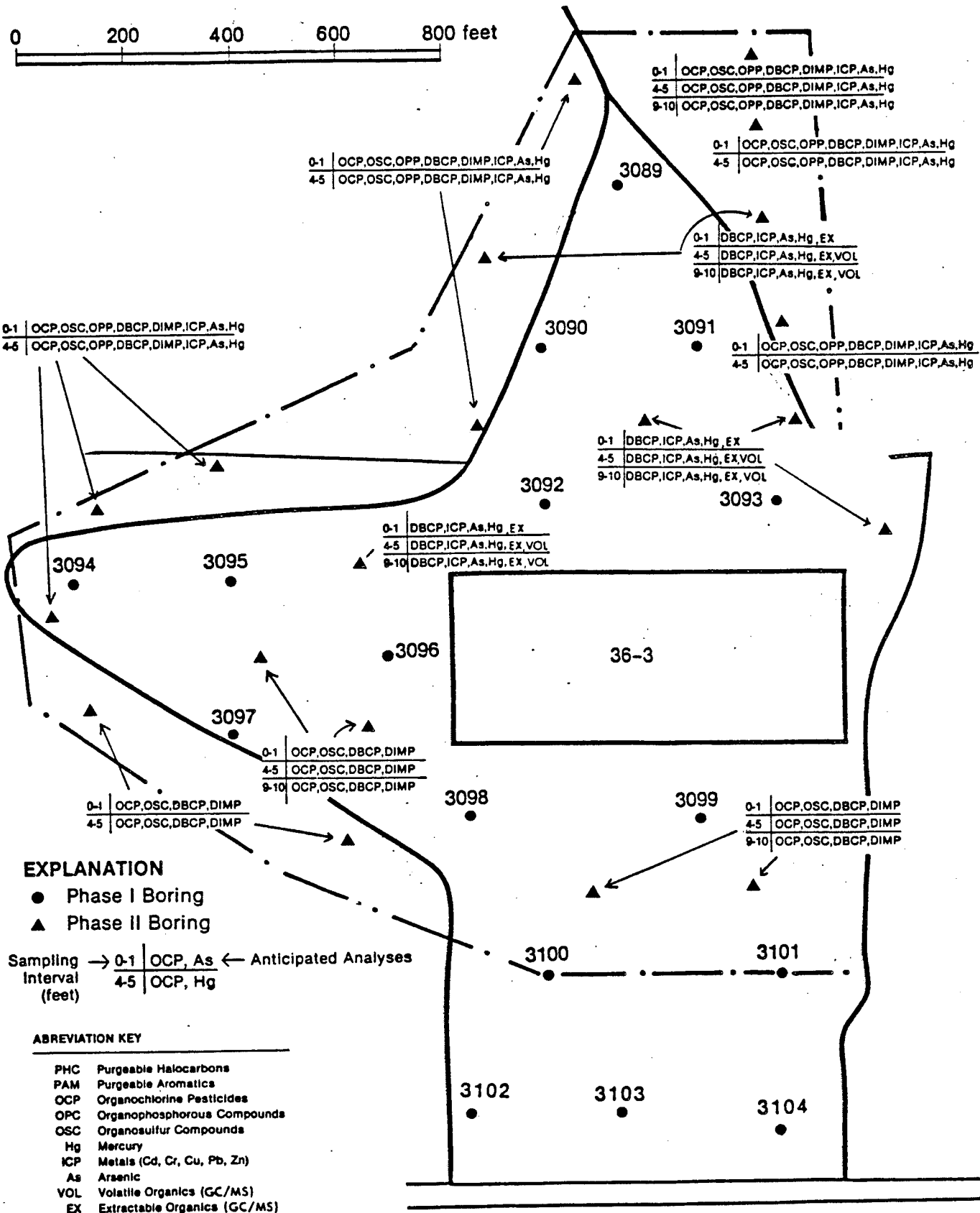
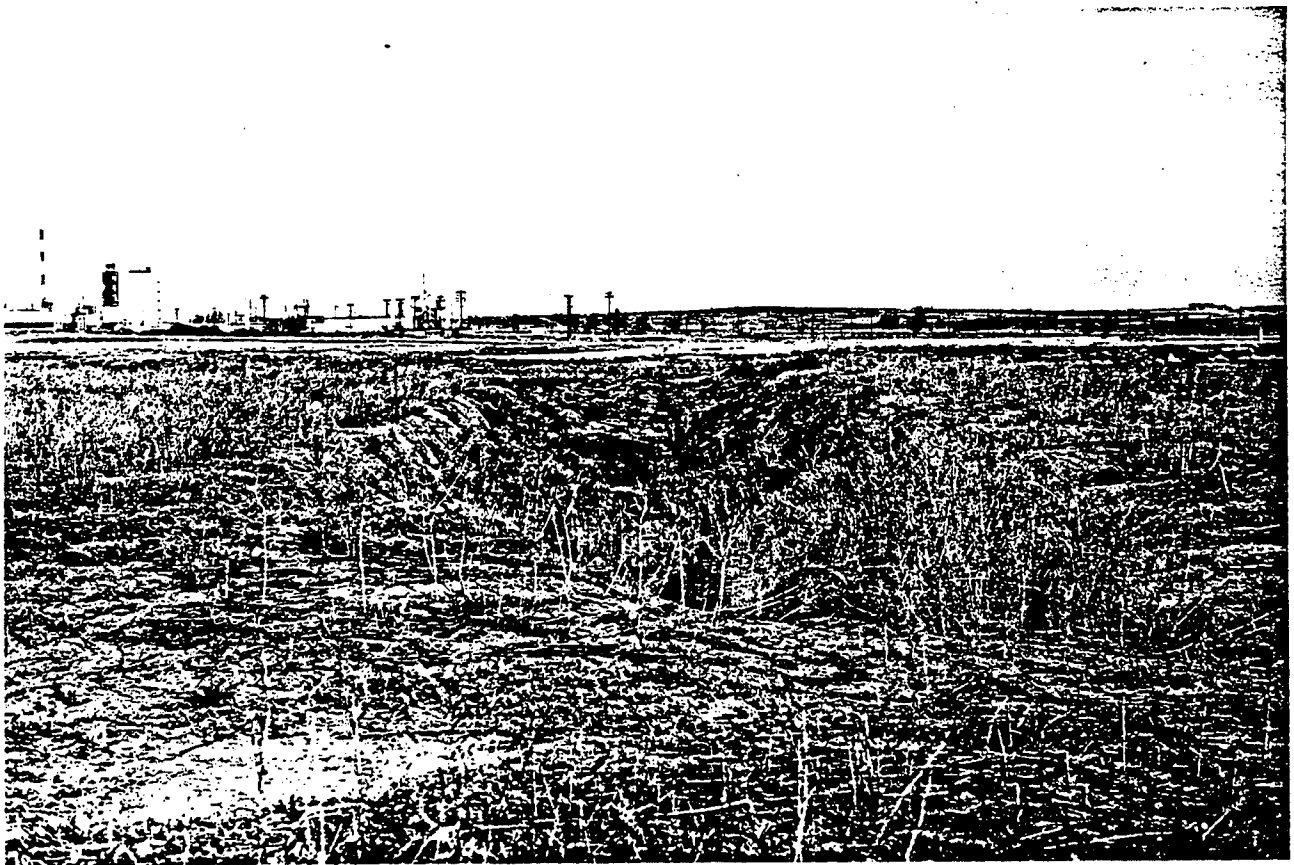


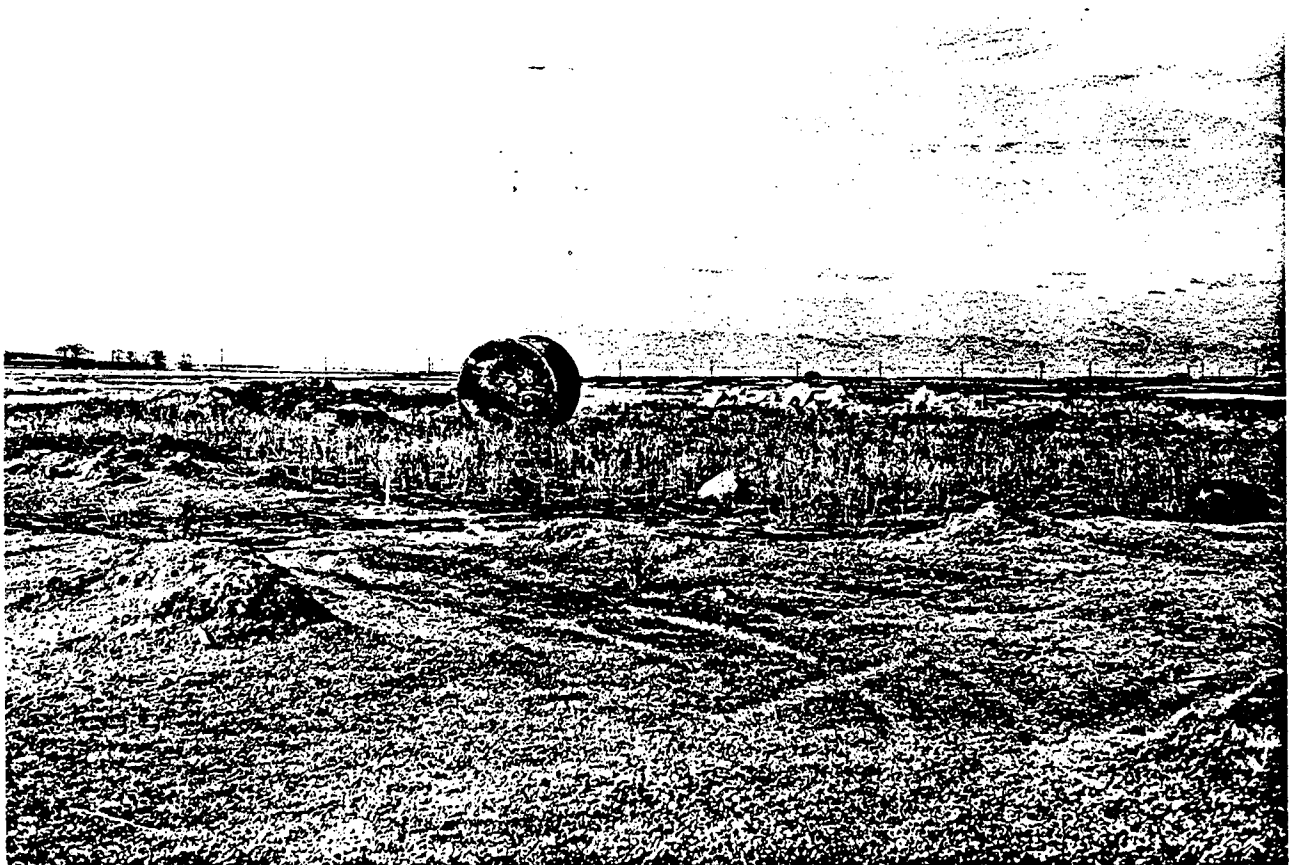
Figure 36-17-12
SOURCE 36-17
PHASE II CHEMICAL ANALYSIS SCHEDULE
SOURCE: ESE, 1986

Prepared for:
U.S. Army Program Manager's Office
For Rocky Mountain Arsenal
Aberdeen Proving Ground, Maryland

APPENDIX 37-17-A



SOURCE 36-17N
View North



SOURCE 36-17N
View West



SOURCE 36-17S
View Northwest



SOURCE 36-17S
View Southwest

APPENDIX 36-17-B

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 04936300

PROJECT NAME SECTION 36 RMA

FIELD GROUP: 3617H SAMPLES: ALL

PROJECT MANAGER: BILL FRASER

FIELD GROUP LEADER: GEISZLER/BERGDOLL

PARAMETERS	STORET #	3059A 505600	3059B 505601	3060A 505606	3060B 505607	3061A 505612	3061B 505613	3062A 505618	3062B 505619	3063A 505624	3063B 505625
DATE	METHOD #	6/25/85	6/25/85	6/27/85	6/27/85	6/27/85	6/25/85	6/27/85	6/27/85	6/27/85	6/27/85
TIME		1247	1300	1301	1313	1330	1340	956	1009	1346	1358
SAMPLE TYPE		71999 0	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE DEPTH(CH)		99758 0	0	0	122	0	122	0	122	0	122
SITE TYPE 1		99759 0	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE
INSTALLATION CODE		99720 0	RK	RK	RK	RK	RK	RK	RK	RK	RK
SAMPLING TECHNIQUE		72005 0	S	S	S	S	S	S	S	S	S
MOISTURE(ZMET WT)		70320 0	9.2	6.1	7.7	3.3	2.5	1.9	7.5	5.0	5.3
CADMIUM,SED (UG/G-DRY)		1028 0	<0.9	<0.9	<0.5	<0.5	<0.9	<0.5	<0.5	<0.5	<0.5
CR,SUIL (UG/G-DRY)		99584 0	16	10	14	<7	18	<7	11	11	9
COPPER,SED (UG/G-DRY)		1043 0	8	<5	15	8	11	5	14	20	9
LEAD,SED (UG/G-DRY)		1052 0	27	<17	<16	<16	29	<17	<16	<16	<16
ZINC,SED (UG/G-DRY)		1093 0	57	32	39	37	70	26	<28	64	<28
ARSENIC,SED (UG/G-DRY)		1003 0	7.9	<4.7	<5.2	<5.2	6.7	<4.7	<5.2	<5.2	<5.2
MERCURY,SED (UG/G-DRY)		71921 0	0.15	<0.05	<0.07	<0.07	<0.05	<0.05	<0.07	<0.07	<0.07
ALDRIN,SED (UG/G-DRY)		98356 0	<0.900	<0.900	<0.500	<0.500	<0.900	<0.500	<0.500	<0.500	<0.500
DIELDRIN(UG/G-DRY)		98365 0	<0.300	<0.300	<0.600	<0.600	<0.300	<0.600	<0.600	<0.600	<0.600
DDE,PP*(UG/G-DRY)		98364 0	<0.400	<0.400	<2.00	<2.00	<0.400	<2.00	<2.00	<2.00	<2.00
ENDRIN (UG/G-DRY)		98369 0	<0.700	<0.700	<1.00	<1.00	<0.700	<1.00	<1.00	<1.00	<1.00
CHLORDANE,SED(UG/G-DRY)		98361 0	70.1	<1.00	<6.00	<6.00	<1.00	<6.00	<6.00	<6.00	<6.00
DDE,PP*(UG/G-DRY)		98363 0	<0.300	<0.300	<0.500	<0.500	<0.300	<0.500	<0.500	<0.500	<0.500
1,4 OXATHIANE (UG/G-DRY)		98644 0	<0.300	<0.300	<0.500	<0.500	<0.300	<0.500	<0.500	<0.500	<0.500

ENVIRONMENTAL SCIENCE & ENGINEERING				01/11/86				STATUS: PRELIMINARY				
PROJECT NUMBER 84936300				PROJECT NAME SECTION 36 RMA				PROJECT MANAGER: BILL FRASER				
FIELD GROUP: 3617H				FIELD GROUP LEADER: GEISZLER/BERGROLL								
PARAMETERS: ALL				SAMPLES: ALL								
PARAMETERS				STORET #	3059A 505600	3059B 505601	3060A 505606	3060B 505607	SAMPLE NUMBERS			30633 505625
									3061A 505612	3061B 505613	3062A 505616	3062B 505619
DATE				METHOD #	6/25/85	6/25/85	6/27/85	6/27/85	6/25/85	6/25/85	6/27/85	6/27/85
TIME					1247	1300	1301	1313	1330	1340	956	1009
TRANS-1,2-DICHLOROT ENE(UG/G-D)				98687	NA	NA	NA	NA	NA	NA	NA	NA
ETHYLBENZENE (UG/G-DRY)				98688	NA	NA	NA	NA	NA	NA	NA	NA
METHYLENE CHLORIDE (UG/G-DRY)				98689	NA	NA	NA	NA	NA	NA	NA	NA
TETRACHLOROETHENE (UG/G-DRY)				98690	NA	NA	NA	NA	NA	NA	NA	NA
TOLUENE (UG/G-DRY)				98691	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-TRICHLOROETHAN E(UG/G-D)				98692	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-TRICHLOROETHAN E(UG/G-D)				98693	NA	NA	NA	NA	NA	NA	NA	NA
TRICHLOROETHENE (UG/G-DRY)				98694	NA	NA	NA	NA	NA	NA	NA	NA
M-XYLENE (UG/G-DRY)				98695	NA	NA	NA	NA	NA	NA	NA	NA
MIBK (UG/G-DRY)				98696	NA	NA	NA	NA	NA	NA	NA	NA
DNDS (UG/G-DRY)				98697	NA	NA	NA	NA	NA	NA	NA	NA
BENZENE (UG/G-DRY)				98699	NA	NA	NA	NA	NA	NA	NA	NA
O-AND/OR P-XYLENE (UG/G-DRY)				98700	NA	NA	NA	NA	NA	NA	NA	NA
PCPMS02 UG/G-DRY				98703	<0.300	<0.300	<0.400	<0.400	<0.300	<0.300	<0.400	<0.400
COORDINATE, E/N(STP)				98393	2186494	2186494	2187550	2187550	2186802	2186802	2187549	2187549
COORDINATE, N/S(STP)				98392	182870	182870	182664	182664	182966	182966	182962	183123
UNK542 (UG/G)				90024			NA	NA		1.19	1.05	NA
UNK579 (UG/G)				90043						0.432	2.09	
UNK609 (UG/G)				90066	* 0.869		NA	NA		0.973	3.14	NA
UNK633 (UG/G)				90085					* 0.412	0.540	2.09	0.631

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

FIELD GROUP: 3617H

PROJECT NAME: SECTION 36 RNA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BIRGDOLL

PROJECT MANAGER: BILL FRASER

FIELD GROUP LEADER: GEISLER/BERGOLL

FIELD GROUP: 3017H
PARAMETERS: ALL
SAMPLES: ALL

SAMPLE NUMBERS	
3059A	3060B
3059B	3060A
3059C	3060C
3059D	3060D
3059E	3060E
3059F	3060F
3059G	3060G
3059H	3060H
3059I	3060I
3059J	3060J
3059K	3060K
3059L	3060L
3059M	3060M
3059N	3060N
3059O	3060O
3059P	3060P
3059Q	3060Q
3059R	3060R
3059S	3060S
3059T	3060T
3059U	3060U
3059V	3060V
3059W	3060W
3059X	3060X
3059Y	3060Y
3059Z	3060Z

PARAMETERS	STORE #	505600	505601	505606	505607	505612	505613	505618	505619	505624	505625
PARAMETERS	STORE #	505600	505601	505606	505607	505612	505613	505618	505619	505624	505625

SAMPLE NUMBERS

[illegible]

TIME	1247	1300	1301	1313	1330	1340	956	1009	1346	1358
------	------	------	------	------	------	------	-----	------	------	------

UNK619 (UG/G) 90105 * 0.605

0
4 0 307
4 0 867

UNR637 (UG/G) 90089 0 0.0001

UNK654 (UG/G) 90113 Δ 0.375 Δ 0.438

03002 0 A 0.375

UNR63X (06/6)
90063
0
0000

UNK636 (UG/G) 90088 * 0.713

UNW641 (UG/G) 90107 0 Δ 0.311

0

STATUS: PRELIMINARY

PROJECT NAME: SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISLER/BERGDOHL

01/11/86

STATUS: PRELIMINARY

PARAMETERS	STORET #	DATE	METHOD #	SAMPLE NUMBERS										30673	30674	30675
				30644	30648	30654	30658	30659	30660	30661	30662	30663	30664			
DATE		06/26/85		06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85
TIME		1014		1031	1340	1358	1414	1059	1115	715	732	733				
SAMPLE TYPE	71999	SO		SO	SO	SO	SO	SO	SO	SO	SO	SO				
SAMPLE DEPTH(CM)	99758	0		122	0	122	274	0	122	0	122	274				
SITE TYPE 1	99759	BORE		BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE				
INSTALLATION CODE	99720	RK		RK	RK	RK	RK	RK	RK	RK	RK	RK				
SAMPLING TECHNIQUE	72005	S		S	S	S	S	S	S	S	S	S				
MOISTURE(2WET HT)	70320	7.4		3.4	10.3	8.6	14.7	7.6	5.6	6.2	3.4	9.9				
CADMIUM,SED (UG/G-DRY)	1028	<0.5		2.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
CR,SOIL (UG/G-DRY)	99584	13		10	10	11	14	10	<7	10	10	14				
COPPER,SED (UG/G-DRY)	1043	11		8	11	10	13	12	7	11	9	22				
LEAD,SED (UG/G-DRY)	1052	<16		<16	<16	<16	<16	<16	<16	<16	<16	<16				
ZINC,SED (UG/G-DRY)	1093	35		<28	<28	<28	37	<28	<28	34	<28	51				
ARSENIC,SED (UG/G-DRY)	1003	<5.2		<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2				
MERCURY,SED (UG/G-DRY)	71921	0.17		0.11	0.12	<0.07	0.17	0.12	<0.07	0.09	<0.07	<0.07				
ALDRIN,SED (UG/G-DRY)	98356	<0.500		<0.500	>1000	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500				
DIELDRIN(UG/G-DRY)	98365	<0.600		<0.600	>499	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600				
DDT,PP(UG/G-DRY)	98364	<2.00		<2.00	<20.0	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00				
ENDRIN (UG/G-DRY)	98369	<4.00		<4.00	<40.0	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00				
CHLORDANE,SED(UG/G-DRY)	98361	<6.00		<6.00	<60.0	<6.00	<6.00	<6.00	<6.00	<6.00	<6.00	<6.00				
DDE,PP(UG/G-DRY)	98363	<0.500		<0.500	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500				
1,4 OXATHIANE (UG/G-DRY)	98644	<0.500		<0.500	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500				

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300
FIELD GROUP: 36174
PARAMETERS: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BLKGDULL

PARAMETERS	STORET #	3069A 505630	3064B 505631	3065A 505636	3065B 505637	3065C 505638	3066A 505642	3066B 505643	3067A 505648	3067B 505649	3067C 505650
DATE	METHOD #	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/27/85	06/27/85	06/27/85
TIME		1014	1031	1340	1358	1414	1059	1115	115	732	753
TRANS-1,2-DICHLOROT ENE (UG/G-D	98687	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.300
ETHYLBENZENE	98688	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.400
METHYLENE CHLORIDE	98689	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TETRACHLOROETHENE	98690	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.500
TOLUENE	98691	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.300
1,1,1-TRICHLOROETHAN E (UG/G-D	98692	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.500
1,1,2-TRICHLOROETHAN E (UG/G-D	98693	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.600
TRICHLOROETHENE	98694	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.800
M-XYLENE	98695	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.300
MIBK	98696	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.400
DMS	98697	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.00
BENZENE	98699	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.00
O-AND/OR P-XYLENE	98700	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.500
PCPMS02 UG/G-DRY	98703	<0.400	<0.400	<4.00	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400
COORDINATE E/W/S (IP)	98393	2187101	2187101	2186590	2186590	2186590	2186952	2186952	2187554	2187554	2187554
COORDINATE N/S (IP)	98392	183127	183127	183110	183110	183110	183273	183273	183264	183264	183264
UNK542 (UG/G)	90024	0.324	0.932	IL	1.53	1.64	0.866	1.38	2.13	1.04	1.04
UNK579 (UG/G)	90043	0.324	0.414	IL	0.547	0.469	0.541	0.956	0.533	0.518	0.518
UNK609 (UG/G)	90066	0.324	0.518	IL	IL	0.352	IL	0.319	0.427	0.311	0.311
UNK633 (UG/G)	90085	IL	0.311	11.2	IL	0.352	0.325	0.956	0.747	0.621	0.777

ENVIRONMENTAL SCIENCE & ENGINEERING		01/11/86		STATUS: PRELIMINARY	
PROJECT NUMBER 84936300		PROJECT NAME SECTION 36 RMA		PROJECT MANAGER: BILL FRASER	
FIELD GROUP: 3617H		FIELD GROUP LEADER: GEISLER/BERGROLL			
PARAMETERS: ALL		SAMPLES: ALL			

PARAMETERS	STORET #	3064A	3064B	3065A	3065B	3065C	3066A	3066B	3067A	3067B	3067C
		505630	505631	505636	505637	505638	505642	505643	505648	505649	505650

DATE	METHOD #	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/26/85	06/27/85	06/27/85	06/27/85
TIME		1014	1031	1340	1358	1414	1059	1115	1115	1132

UNK619 (UG/G)	90105	0
UNK637 (UG/G)	90089	0
UNK654 (UG/G)	90113	0
UNK631 (UG/G)	90083	0
UNK636 (UG/G)	90088	0
UNK641 (UG/G)	90107	0
UNK530 (UG/G)	90019	0
UNK554 (UG/G)	90096	0
UNK555 (UG/G)	90097	0

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER: 84936300
FIELD GROUP: 3617M
PARAMETERS: ALL

PROJECT NAME: SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GLISZLER/BERGDUHL

PARAMETERS	STORET #	3067D 505651	3067E 505652	3068A 505654	3068B 505655	SAMPLE NUMBERS 3069A 3069B 505660 505661	3069C 505662	3069D 505663	3070A 505666	3073A 505667
DATE	METHOD #	06/27/85	06/27/85	06/27/85	06/27/85	7/1/85	7/1/85	7/1/85	7/1/85	7/1/85
TIME		822	852	1446	1502	748	804	933	1104	1120
DIMP (UG/G-DRY)	98645	<3.00	<3.00	<3.00	<3.00	<0.500	<0.500	<0.500	<0.500	<0.500
DICHLORVOS (UG/G-DRY)	98646	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
HEXACHLOROCYCLOPENTADIENE (UG/G-DRY)	98647	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MALATHION (UG/G-DRY)	98648	<2.00	<2.00	<2.00	<2.00	<0.600	<0.600	<0.600	<0.600	<0.600
ISODRIN (UG/G-DRY)	98649	<0.600	<0.600	<0.600	<0.600	<0.300	<0.300	<0.300	<0.300	<0.300
1,4 DITHIANE (UG/G-DRY)	98650	<2.00	<2.00	<2.00	<2.00	<0.300	<0.300	<0.300	<0.300	<0.300
DICYCLOPENTADIENE (UG/G-DRY)	98651	<6.00	<6.00	<6.00	<6.00	<0.300	<0.300	<0.300	<0.300	<0.300
DBCP (NEMAGON) (UG/G-DRY)	98652	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
P-CLPHEMETHETHSULFIDE (UG/G-DRY)	98653	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
P-CLPHEMETHETHSULFIDE (UG/G-DRY)	98654	<1.00	<1.00	<1.00	<1.00	<0.400	<0.400	<0.400	<0.400	<0.400
ATRAZINE (UG/G-DRY)	98655	<0.500	<0.500	<0.500	<0.500	<0.700	<0.700	<0.700	<0.700	<0.700
SUPONA (UG/G-DRY)	98656	<0.900	<0.900	<0.900	<0.900	<0.500	<0.500	<0.500	<0.500	<0.500
DHMP (UG/G-DRY)	98657	<3.00	<3.00	<3.00	<3.00	<2.00	<2.00	<2.00	<2.00	<2.00
ETP-PARATHION (UG/G-DRY)	98658	<2.00	<2.00	<2.00	<2.00	<0.700	<0.700	<0.700	<0.700	<0.700
CARBON TETRACHLORIDE (UG/G-DRY)	98680	NA	<0.400	NA	NA	NA	NA	NA	NA	NA
CHLOROBENZENE (UG/G-DRY)	98681	NA	<0.300	NA	NA	NA	NA	NA	NA	NA
CHLOROFORM (UG/G-DRY)	98682	NA	<0.700	NA	NA	NA	NA	NA	NA	NA
1,1-DICHLOROETHANE (UG/G-DRY)	98683	NA	<0.500	NA	NA	NA	NA	NA	NA	NA
1,2-DICHLOROETHANE (UG/G-DRY)	98684	NA	<0.400	NA	NA	NA	NA	NA	NA	NA
BICYCLOHEPTADIENE (UG/G-DRY)	98686	NA	<0.800	NA	NA	NA	NA	NA	NA	NA

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300
FIELD GROUP: 3617H
PARAMETERS: ALL

PROJECT NAME SECTION 36 RHA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISLER/BEFCOULL

SAMPLES: ALL

PARAMETERS	STORET #	3067D 505651	3067E 505652	3068A 505654	3068B 505655	3069A 505660	3069B 505661	3069C 505662	3069D 505663	307CA 505665	307CJ 505667
DATE	METHOD #	06/22/85	06/22/85	06/22/85	06/22/85	7/1/85	7/1/85	7/1/85	7/1/85	7/1/85	7/1/85
TIME		822	852	1446	1502	748	804	928	933	1104	1123
TRANS-1,2-DICHLOROB ENE(UG/G-D)	98687 0	NA	<0.800	NA	NA	NA	NA	NA	NA	NA	NA
ETHYLBENZENE (UG/G-DRY)	98688 0	NA	<0.400	NA	NA	NA	NA	NA	NA	NA	NA
METHYLENE CHLORIDE (UG/G-DRY)	98689 0	NA		NA	NA	NA	NA	NA	NA	NA	NA
TETRACHLOROETHENE (UG/G-DRY)	98690 0	NA	<0.500	NA	NA	NA	NA	NA	NA	NA	NA
TOLUENE (UG/G-DRY)	98691 0	NA	<0.300	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-TRICHLOROETHAN E(UG/G-D)	98692 0	NA	<0.500	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-TRICHLOROETHAN E(UG/G-D)	98693 0	NA	<0.600	NA	NA	NA	NA	NA	NA	NA	NA
TRICHLOROETHENE (UG/G-DRY)	98694 0	NA	<0.600	NA	NA	NA	NA	NA	NA	NA	NA
M-XYLENE (UG/G-DRY)	98695 0	NA	<0.300	NA	NA	NA	NA	NA	NA	NA	NA
MIBK (UG/G-DRY)	98696 0	NA	<0.400	NA	NA	NA	NA	NA	NA	NA	NA
DMDS (UG/G-DRY)	98697 0	NA	<4.00	NA	NA	NA	NA	NA	NA	NA	NA
BENZENE (UG/G-DRY)	98699 0	NA	<1.00	NA	NA	NA	NA	NA	NA	NA	NA
O-AND/OR P-XYLENE (UG/G-DRY)	98700 0	NA	<0.500	NA	NA	NA	NA	NA	NA	NA	NA
PCPMSU2 UG/G-DRY	93703 0	<0.400	<0.400	<0.400	<0.400	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
COORDINATE, E/H(SIP)	98393 0	2187554	2187554	2187848	2187848	2187252	2187252	2187252	2187252	2187096	2187295
COORDINATE, N/S(SIP)	98392 0	183264	183264	183415	183415	183419	183419	183419	183419	183591	183591
UNK542 (UG/G)	90024 0	NA		NA	NA	A C.997					
UNK579 (UG/G)	90043 0	NA		0.211							
UNK609 (UG/G)	90066 0	NA		NA	NA						
UNK633 (UG/G)	90085 0	NA	0.500								

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

FIELD GROUP: 3617H

PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME SECTION 36 PHA

PROJECT MANAGER: BILL FRASER

FIELD GROUP LEADER: GEISLER/BERGMILL

PARAMETERS	STORET #	DATE	METHOD #	SAMPLE NUMBERS									
				3067D	3067E	3068A	3068B	3068C	3069A	3069B	3069C	3070A	3070B
		06/27/85		505651	505652	505654	505655	505660	505661	505662	505663	505666	505667
		06/27/85		822	852	1446	1502	748	804	828	933	1104	1120
UNK634 (UG/G)	90086	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK544 (UG/G)	90026	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK629 (UG/G)	90082	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK604 (UG/G)	90061	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK621 (UG/G)	90075	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK596 (UG/G)	90055	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK601 (UG/G)	90058	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK606 (UG/G)	90063	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK612 (UG/G)	90068	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK613 (UG/G)	90069	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK617 (UG/G)	90072	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK622 (UG/G)	90076	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK608 (UG/G)	90065	NA		NA	NA	0.317	NA	NA	NA	NA	NA	NA	NA
UNK615 (UG/G)	90071	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK614 (UG/G)	90070	NA		NA	0.750	NA	0.525	NA	NA	NA	NA	NA	NA
UNK635 (UG/G)	90087	NA		NA	NA	NA	0.630	NA	NA	NA	NA	NA	NA
UNK602 (UG/G)	90059	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK545 (UG/G)	90027	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK523 (UG/G)	90092	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK611 (UG/G)	90067	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

* 2.26

* 2.43

* 1.72

* 5.63

0.525

0.630

0.750

0.317

0.525

0.630

0.750

0.317

ENVIRONMENTAL SCIENCE & ENGINEERING				01/11/86				STATUS: PRELIMINARY			
PROJECT NUMBER 84936300				PROJECT NAME SECTION 36 RMA				PROJECT MANAGER: BILL FRASER			
FIELD GROUP: 3617H				FIELD GROUP LEADER: GEISLER/BERGOLL							
PARAMETERS: ALL				SAMPLES: ALL							
PARAMETERS	STORE #	BLK	BLK	BLK	BLK	BLK	BLK	SAMPLE NUMBERS	BLK	BLK	BLK
		30652	505672	505680	505681	505690	505691	505692			
DATE	METHOD #	06/26/85	6/25/85	7/1/85	06/27/85	06/27/85	06/27/85	06/27/85			
TIME		1428	0	0	0	0	0	0			
DIMP (UG/G-DRY)	98645	<3.00	<0.500	<0.500	<3.00	<3.00	<3.00	<3.00			
DICHLORVUS (UG/G-DRY)	98646	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300			
HEXCLCYPENOL (UG/G-DRY)	98647	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00			
MALATHION (UG/G-DRY)	98648	<2.00	<0.600	<0.600	<2.00	<2.00	<2.00	<2.00			
ISODIAM (UG/G-DRY)	98649	<0.600	<0.300	<0.300	<0.600	<0.600	<0.600	<0.600			
1,4 DITHIANE (UG/G-DRY)	98650	<2.00	<0.300	<0.300	<2.00	<2.00	<2.00	<2.00			
DICYCLOPENTADIENE (U G/G-DRY)	98651	<6.00	<0.300	<0.300	<6.00	<6.00	<6.00	<6.00			
DBCP(NEHAGON) (UG/G-DRY)	98652	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005
P-CLPHENYLMETHYLSULFI DE(UG/G-D)	98653	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300			
P-CLPHENYLMETHYLSULF NE(UG/G-D)	98654	<1.00	<0.400	<0.400	<1.00	<1.00	<1.00	<1.00			
ATRAZINE (UG/G-DRY)	98655	<0.500	<0.700	<0.700	<0.500	<0.500	<0.500	<0.500			
SUPONA (UG/G-DRY)	98656	<0.900	<0.500	<0.500	<0.900	<0.900	<0.900	<0.900			
DMNP (UG/G-DRY)	98657	<3.00	<2.00	<2.00	<3.00	<3.00	<3.00	<3.00			
ETP-PARATHION (UG/G-DRY)	98658	<2.00	<0.700	<0.700	<2.00	<2.00	<2.00	<2.00			
CARBON TETRACHLORIDE (UG/G-DRY)	98660	<0.400			<0.400	<0.400	<0.400	<0.400			
CHLOROBENZENE	98661	<0.300			<0.300	<0.300	<0.300	<0.300			
CHLOROFORM	98662	<0.700			<0.700	<0.700	<0.700	<0.700			
1,1-DICHLORETHANE	98663	<0.500			<0.500	<0.500	<0.500	<0.500			
1,2-DICHLOROETHANE	98664	<0.400			<0.400	<0.400	<0.400	<0.400			
BICYCLOHEPTADIENE	98666	<0.800			<0.800	<0.800	<0.800	<0.800			

ENVIRONMENTAL SCIENCE & ENGINEERING 01/11/86 STATUS: PRELIMINARY
 PROJECT NUMBER 84936300 PROJECT NAME SECTION 36 RHA
 FIELD GROUP: 3617M PROJECT MANAGER: BILL FRASER
 PARAMETERS: ALL SAMPLES: ALL FIELD GROUP LEADER: GEIS/LLH/BERG/DILL

PARAMETERS	STORET #	30652 505672	BLK 505680	BLK 505681	BLK 505690	BLK 505691	BLK 505692
DATE	METHOD #	06/26/85	6/25/85	7/1/85	06/27/85	06/27/85	06/27/85
TIME		1420	0	0	0	0	0
UNK634 (UG/G)	90086					IL	
UNK544 (UG/G)	90026					IL	
UNK629 (UG/G)	90082	1.02				IL	
UNK604 (UG/G)	90061					IL	
UNK621 (UG/G)	90075					IL	
UNK596 (UG/G)	90055					IL	
UNK601 (UG/G)	90058					IL	
UNK606 (UG/G)	90063					IL	
UNK612 (UG/G)	90068					IL	
UNK613 (UG/G)	90069					IL	
UNK617 (UG/G)	90072					IL	
UNK622 (UG/G)	90076					IL	
UNK608 (UG/G)	90065					IL	
UNK615 (UG/G)	90071					IL	
UNK614 (UG/G)	90070	0.508		1.02			
UNK635 (UG/G)	90087						
UNK602 (UG/G)	90059						
UNK545 (UG/G)	90027						2.76
UNK523 (UG/G)	90092		0.286				
UNK611 (UG/G)	90067						

ENVIRONMENTAL SCIENCE & ENGINEERING
 PROJECT NUMBER 04936300
 FIELD GROUP: 3617H
 PARAMETERS: ALL
 SAMPLES: ALL
 STATUS: PRELIMINARY
 PROJECT NAME SECTION 36 AM
 PROJECT MANAGER: BILL FRASER
 FIELD GROUP LEADER: GEISLER/BERGCHILL

01/11/86

PARAMETERS STORET # 30652 505672 505680 505681 505690 505691 505692
 SAMPLE NUMBERS
 BLK BLK BLK

DATE 06/26/85 6/25/85 7/1/85 06/27/85 06/27/85 06/27/85
 TIME 1428 0 0 0 0 0

METHOD #
 90105
 0
 90089
 0
 90113
 0
 90093
 0
 90068
 0
 90107
 0
 90019
 0
 90096
 0
 90097
 0

UNK619 (UG/G)
 UNK637 (UG/G)
 UNK654 (UG/G)
 UNK631 (UG/G)
 UNK636 (UG/G)
 UNK641 (UG/G)
 UNK530 (UG/G)
 UNK554 (UG/G)
 UNK555 (UG/G)

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

FIELD GROUP: 3617X

SAMPLES: ALL

PROJECT NAME SECTION 36 RMA

PROJECT MANAGER: BILL FRASER

FIELD GROUP LEADER: GEISLER/BERGDOLL

SAMPLE NUMBERS

PARAMETERS	STORET #	DATE							
		7/1/85	7/1/85	07/03/85	07/03/85	7/8/85	7/8/85	07/02/85	7/8/85
TIME		1421	1445	721	732	735	749	1408	1422
SAMPLE TYPE	71999	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE DEPTH(CM)	99758	0	122	0	122	0	122	0	122
SITE TYPE 1	99759	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE
INSTALLATION CODE	99720	RK	RK	RK	RK	RK	RK	RK	RK
SAMPLING TECHNIQUE	72005	S	S	S	S	S	S	S	S
MOISTURE(ZMET HT)	70320	5.5	3.7	8.1	4.4	5.3	13.4	9.5	4.5
CADMIUM,SED (UG/G-DRY)	1028	<0.9	<0.9	<0.5	<0.5	<0.9	<0.9	<0.5	<0.5
CR,SOIL (UG/G-DRY)	99584	8	<7	14	10	12	<7	15	10
COPPER,SED (UG/G-DRY)	1043	6	5	13	9	12	13	13	10
LEAD,SED (UG/G-DRY)	1052	<17	<17	<16	<16	33	<17	<16	<16
ZINC,SED (UG/G-DRY)	1093	28	29	39	<28	51	37	42	31
ARSENIC,SED (UG/G-DRY)	1003	<4.7	<4.7	<5.2	<5.2	5.1	5.1	<5.2	<5.2
MERCURY,SED (UG/G-DRY)	71921	<0.05	0.06	<0.07	<0.07	0.08	0.05	<0.07	<0.07
ALDRIN,SED (UG/G-DRY)	98356	<0.900	<0.900	<0.500	<0.500	<0.900	<0.900	<0.500	<0.500
DIELDRIN(UG/G-DRY)	98365	<0.300	<0.300	<0.600	<0.600	0.322	<0.300	<0.600	<0.600
DUT,PP*(UG/G-DRY)	98364	<0.400	<0.400	<2.00	<2.00	<0.400	<0.400	<2.00	<2.00
ENDRIN (UG/G-DRY)	98369	<0.700	<0.700	<4.00	<4.00	<0.700	<0.700	<4.00	<4.00
CHLORDANE,SED(UG/G-DRY)	98361	<1.00	<1.00	<6.00	<6.00	<1.00	<1.00	<6.00	<6.00
DDP,PP*(UG/G-DRY)	98363	<0.300	<0.300	<0.500	<0.500	<0.300	<0.300	<0.500	<0.500
1,4 OXATHIANE (UG/G-	98644	<0.300	<0.300	<0.500	<0.500	<0.300	<0.300	<0.500	<0.500

ENVIRONMENTAL SCIENCE & ENGINEERING

PROJECT NUMBER 04936300
FIELD GROUP: 3617X
PARAMETERS: ALL SAMPLE

SAMPLES: ALL

01/27/86

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BERGDOLL

[illegible]

ENVIRONMENTAL SCIENCE & ENGINEERING

01/27/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

FIELD GROUP: 3617X

PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BERGDOUL

PARAMETERS	STORET #	DATE	METHOD #	SAMPLE NUMBERS									
				3071A	3071B	3072A	3072B	3073A	3073B	3074A	3074B	3075A	3075B
		7/1/85		505700	505701	505706	505707	505712	505713	505718	505719	505724	505725
		7/1/85	1421		1445	721	732	735	749	1408	1422	829	848
TRANS-1,2-DICHLOROLET	98687		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ENE(UG/G-D	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHYLBENZENE	98688		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHYLENE CHLORIDE	98689		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TETRACHLOROETHENE	98690		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOLUENE	98691		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-TRICHLOROLTHAN	98692		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-TRICHLOROLTHAN	98693		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRICHLOROLTHENE	98694		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-XYLENE	98695		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MIBK	98696		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DMS	98697		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BENZENE	98699		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
O-AND/OR P-XYLENE	98700		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCPMS02	98703		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COORDINATE,N/(SIP)	98392		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COORDINATE,E/(SIP)	98393		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G-DRY)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK633	90085		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK635	90087		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK542	90024		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UNK629	90082		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(UG/G)	0		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

0.332 0.733

0.221

1.99

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA

PROJECT MANAGER: BILL FRASER

FIELD GROUP LEADER: GEISLER/BERGDOLL

STREET #

ONI 34

1421

90093

12006

990066

90116

67006

93097

90070

76092

93076

12176

90073

50105

90064

90123

SAMPLE NUMBERS

30748 3075A 30758
505719 505724 505725

7/8/85

848

0.628

*** U-791**

46.47

49.78

*** 13.6**

A 1.04

A 2046

* 0.898

* 0.951

* 1.46

* 3.14

*** 1.21 ***

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BERGDOLL

FIELD GROUP LEADER: GEISZLER/BERGOOLI

[illegible]

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BERGDOLL

FIELD GROUP LEADER: GEISLER/BERGDOLL

[illegible]

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BERGDOLL

[illegible]

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA

PROJECT MANAGER: BILL FRASER

FIELD GROUP LEADER: GEISLER/BERGDOLL

138015

QRT17H

800

90083

17076

99066

9116

61036

92097

93070

90092

92036

12106

90073

90105

90089

90123

★ 3.26

* 1.49

A 4.01

▲ 8.50

★ 1.05

ENVIRONMENTAL SCIENCE & ENGINEERING

01/27/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

FIELD GROUP: 3617X

PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISLER/BERGOOLL

PARAMETERS	STORET #	METHOD #	SAMPLE NUMBERS										BLK	BLK	BLK	BLK	BLK
			3080C 505756	3080D 505757	3081A 505760	3081B 505761	3082A 505766	3082B 505767	3082C 505780	3082D 505781	3082E 505782	3082F 505783					
DATE			7/2/85	7/2/85	07/02/85	07/02/85	7/2/85	7/2/85	7/1/85	7/8/85	7/10/85	7/9/85					
TIME			811	833	1252	1313	953	1006	0	0	0	0					
SAMPLE TYPE	71999	U	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO					
SAMPLE DEPTH(CM)	99758	0	274	427	0	122	0	122	0	0	0	0					
SITE TYPE 1	99759	0	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE					
INSTALLATION CODE	99720	0	RK	RK	RK	RK	RK	RK	RK	RK	RK	RK					
SAMPLING TECHNIQUE	72005	0	S	S	S	S	S	S	S	S	S	S					
MOISTURE(ZHET WT)	70320	0	8.1	20.5	4.6	8.5	5.1	5.5	2.0	2.0	2.0	2.0					
CADMIUM,SED (UG/G-DRY)	1028	0	1.0	<0.9	0.7	<0.5	<0.9	<0.9	NA	NA	NA	NA					
CR,SOIL (UG/G-DRY)	99564	0	9	<7	14	13	<7	12									
COPPER,SED (UG/G-DRY)	1043	0	9	36	15	12	5	8									
LEAD,SED (UG/G-DRY)	1052	0	<17	18	19	<16	<17	17									
ZINC,SED (UG/G-DRY)	1093	0	38	66	39	39	35	48									
ARSENIC,SED (UG/G-DRY)	1003	0	<4.7	<4.7	<5.2	<5.2	<4.7	5.7									
MERCURY,SED (UG/G-DRY)	71921	0	<0.05	0.06	<0.07	<0.07	<0.05	<0.05									
ALDRIN,SED (UG/G-DRY)	98356	0	<0.900	<0.900	<0.500	<0.500	<0.900	<0.900	<0.900	<0.900	<0.900	<0.900					
DIELDRIN(UG/G-DRY)	98365	0	<0.300	<0.300	<0.600	<0.600	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300					
DDE,PP* (UG/G-DRY)	98364	0	<0.400	<0.400	<2.00	<2.00	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400					
ENDRIN (UG/G-DRY)	98369	0	<0.700	<0.700	<4.00	<4.00	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700					
CHLORDANE,SED(UG/G-DRY)	98361	0	<1.00	<1.00	<6.00	<6.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00					
DDE,PP* (UG/G-DRY)	98363	0	<0.300	<0.300	<0.500	<0.500	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300					
1,4 OXATHIANE (UG/G-DRY)	98644	0	<0.300	<0.300	<0.500	<0.500	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300					

ENVIRONMENTAL SCIENCE & ENGINEERING

01/27/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300
FIELD GROUP: 3617X
PARAMETERS: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BERGDOLL

PARAMETERS	STORET #	3080C 505756	7/2/85	811	7/2/85	3080D 505757	3081A 505760	3081B 505761	3082A 505766	3082B 505767	BLK 505760	BLK 505761	BLK 505762	BLK 505763
DATE	METHOD #		7/2/85		7/2/85	07/02/85	07/02/85	7/2/85	7/2/85	7/11/85	7/8/85	7/10/85	7/9/85	
TIME														
DIMP (UG/G-DRY)	98645	<0.500	811	833	1252	1313	953	1006	0	0	0	0	0	0
DICHLOROS (UG/G-DRY)	98646	<0.300		<0.500	<3.00	<3.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
HEXACHLOROCYCLOPENTADIENE (UG/G-DRY)	98647	<1.00		<1.00	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
MALATHIOLIN (UG/G-DRY)	98648	<0.600		<0.600	<2.00	<2.00	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600
ISODRIN (UG/G-DRY)	98649	<0.300		<0.300	<0.600	<0.600	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
1,4 CITHIANE (UG/G-DRY)	98650	<0.300		<0.300	<2.00	<2.00	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
DICYCLOPENTADIENE (U G/G-DRY)	98651	<0.300		<0.300	<6.00	<6.00	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
DBCP (NEMAGEN) (UG/G-DRY)	98652	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
P-CLPHENYLMETHYLSULFI	98653	<0.300		<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
CE (UG/G-DRY)	98654	<0.400		<0.400	<1.00	<1.00	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400
ATRAZINE (UG/G-DRY)	98655	<0.700		<0.700	<0.500	<0.500	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700
SUPONA (UG/G-DRY)	98656	<0.500		<0.500	<0.900	<0.900	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
DMHP (UG/G-DRY)	98657	<2.00		<2.00	<3.00	<3.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
ETP-PARATHION (UG/G-DRY)	98658	<0.700		<0.700	<2.00	<2.00	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700
CARBON TETRACHLORIDE (UG/G-DRY)	98659	<0.300		<0.300	NA	NA	NA	NA	NA	NA	<0.300	<0.300	<0.300	<0.300
CHLOROBENZENE (UG/G-DRY)	98660	<0.300		<0.300	NA	NA	NA	NA	NA	NA	<0.300	<0.300	<0.300	<0.300
CHLOROFORM (UG/G-DRY)	98661	<0.300		<0.300	NA	NA	NA	NA	NA	NA	0.945	0.945	0.945	0.945
1,1-DICHLOROETHANE (UG/G-DRY)	98662	<0.300		<0.300	NA	NA	NA	NA	NA	NA	<0.300	<0.300	<0.300	<0.300
1,2-DICHLOROETHANE (UG/G-DRY)	98663	<0.300		<0.300	NA	NA	NA	NA	NA	NA	<0.300	<0.300	<0.300	<0.300
BICYCLOHEPTADIENE (UG/G-DRY)	98664	<0.300		<0.300	NA	NA	NA	NA	NA	NA	<0.300	<0.300	<0.300	<0.300
BICYCLOHEPTADIENE (UG/G-DRY)	98665	<0.300		<0.300	NA	NA	NA	NA	NA	NA	<0.300	<0.300	<0.300	<0.300

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA

PROJECT MANAGER: BILL FRASER

FIELD GROUP LEADER: GEISZLER/BERGDOLL

8LK 505781
8LK 505782
8LK 505783

7/10/85 7/9/85

ENVIRONMENTAL SCIENCE & ENGINEERING

01/27/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300
FIELD GROUP: 3617X
PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BERGOOLL

PARAMETERS	STORET #	3080C 505756	3080D 505757	3081A 505760	3081B 505761	SAMPLE NUMBERS				BLK 505780	BLK 505781	BLK 505782	BLK 505783
DATE	METHOD #	7/2/85	7/2/85	07/02/85	07/02/85	7/2/85	7/2/85	7/1/85	7/8/85	7/10/85	7/9/85		
TIME		811	833	1252	1313	953	1006	0	0	0	0		
UNK631 (UG/G)	90083												
	0												
UNK533 (UG/G)	90021												
	0												
UNK609 (UG/G)	90066												
	0												
UNK513 (UG/G)	90116												
	0												
UNK530 (UG/G)	90019												
	0												
UNK555 (UG/G)	90097												
	0												
UNK614 (UG/G)	90070												
	0												
UNK523 (UG/G)	90092												
	0												
UNK567 (UG/G)	90036												
	0												
UNK575 (UG/G)	90121												
	0												
UNK618 (UG/G)	90073												
	0												
UNK619 (UG/G)	90105												
	0												
UNK637 (UG/G)	90039												
	0												
UNK538 (UG/G)	90123												
	0												

* 1.11

* 1.21

* 1.56

* 2.63

* 19.3

* 13.5

ENVIRONMENTAL SCIENCE & ENGINEERING

01/27/86

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISLER/BERGDOLL

PROJECT NUMBER 84936300
FIELD GROUP: 3617X
PARAMETERS: ALL SAMPLES: ALL

SAMPLE NUMBERS

PARAMETERS	STORET #	BLK 505790	BLK 505791	BLK 505792
DATE	METHOD #	07/02/85	07/02/85	07/02/85
TIME		0	0	0
SAMPLE TYPE	71999	SO	SO	SO
SAMPLE DEPTH(CH)	99758	0	0	0
SITE TYPE 1	99759	QCHB	QCHB	QCHB
INSTALLATION CODE	99720	RK	RK	RK
SAMPLING TECHNIQUE	72005	G	G	G
MOISTURE(ZHET HT)	70320	2.0	2.0	2.0
CADMIUM,SED (UG/G- DRY)	1028	NA	NA	NA
CR+SOIL (UG/G-DRY)	99584			
COPPER,SED (UG/G- DRY)	1043			
LEAD,SED (UG/G-DRY)	1052			
ZINC,SED (UG/G-DRY)	1093			
ARSENIC,SED (UG/G- ERY)	1003			
MERCURY,SED (UG/G- ERY)	71921	<0.07		
ALDRIN,SED (UG/G- DRY)	98356	<0.500		
DIELDRIN(UG/G-DRY)	98365	<0.600		
DDT,PP*(UG/G-DRY)	98364	<2.00		
ENDRIN (UG/G-DRY)	98369	<4.00		
CHLORDANE,SED(UG/G- DRY)	98361	<6.00		
ODE,PP*(UG/G-DRY)	98363	<0.500		
1,4 OXATHIANE (UG/G- GRY)	98644	<0.500		

ENVIRONMENTAL SCIENCE & ENGINEERING

01/27/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300
FIELD GROUP: 3617X
PARAMETERS: ALL

PROJECT NAME SECTION 36 RHA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BERGDOLL

SAMPLE NUMBERS

PARAMETERS	STORET #	BLK 505790	BLK 505791	BLK 505792
DATE	METHOD #	07/02/85	07/02/85	07/02/85
TIME		0	0	0
DIMP (UG/G-DRY)	98645	<3.00		
DICHLOROS (UG/G-DRY)	98646	<0.300		
HEXCLCYPENDI (UG/G-DRY)	98647	<1.00		
MALATHION (UG/G-DRY)	98648	<2.00		
ISODRIN (UG/G-DRY)	98649	<0.600		
1,4 DITHIOL (UG/G-DRY)	98650	<2.00		
DICYCLOPENTADIENE (U G/G-DRY)	98651	<6.00		
DBCP (NEMAGN) (UG/G-DRY)	98652	<0.005		
P-CLPHENYLETHIUSULFI	98653	<0.300		
DL (UG/G-D)	98654	<1.00		
P-CLPHENYLETHIUSULFO	98655	<0.500		
ATRAZINE (UG/G-DRY)	98656	<0.900		
SUPONA (UG/G-DRY)	98657	<3.00		
DHP (UG/G-DRY)	98658	<2.00		
ETH*PARATHION (UG/G-DRY)	98659			
CARBON TETRACHLORIDE (UG/G-DRY)	98660			
CHLOROBENZENE (UG/G-DRY)	98661			
CHLOROFORM (UG/G-DRY)	98662			
1,1-DICHLOROMETHANE (UG/G-DRY)	98663			
1,2-DICHLOROETHANE (UG/G-DRY)	98664			
BICYCLOHEPTADIENE (UG/G-DRY)	98665			

ENVIRONMENTAL SCIENCE & ENGINEERING

01/27/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

PROJECT NAME SECTION 36 RMA

FIELD GROUP: 361/X

PROJECT MANAGERS: BILL FRASER

PARAMETERS: ALL SAMPLES: ALL

FIELD GROUP LEADER: GEISLER/BERGDOLL

SAMPLE NUMBERS

PARAMETERS	STORET #	BLK 505790	BLK 505791	BLK 505792
DATE	METHOD #	07/02/85	07/02/85	07/02/85
TIME		0	0	0
TRANS-1,2-DICHLOROLET	98687			
ENE (UG/G-D	0			
ETHYLBENZENE	98688			
(UG/G-DRY)	0			
METHYLENE CHLORIDE	98689			
(UG/G-DRY)	0			
TETRACHLOROETHENE	98690			
(UG/G-DRY)	0			
TOLUENE	98691			
(UG/G-DRY)	0			
1,1,1-TRICHLOROETHAN	98692			
E (UG/G-D)	0			
1,1,2-TRICHLOROETHAN	98693			
E (UG/G-D)	0			
TRICHLOROETHENE	98694			
(UG/G-DRY)	0			
M-XYLENE	98695			
(UG/G-DRY)	0			
MIBK	98696			
(UG/G-DRY)	0			
DHDS	98697			
(UG/G-DRY)	0			
BENZENE (UG/G-DRY)	98699			
0-AND/OR P-XYLENE	98700			
(UG/G-DRY)	0			
PCPMS02 UG/G-DRY	98703			
	0			
COORDINATE N/S (STP)	98392			
COORDINATE E/W (STP)	98393			
UNK633 (UG/G)	98685			
UNK635 (UG/G)	98687			
	0			
UNK542 (UG/G)	98624			
	0			
UNK629 (UG/G)	98682			
	0			

<0.400

0.918

ENVIRONMENTAL SCIENCE & ENGINEERING

01/27/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

FIELD GROUP: 3617X

PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME SECTION 36 RHA

PROJECT MANAGER: BILL FRASER

FIELD GROUP LEADER: GEISZLER/BERGDOLL

SAMPLE NUMBERS

PARAMETERS	STORET #	BLK 505790	BLK 505791	BLK 505792
DATE	METHOD #	07/02/85	07/02/85	07/02/85
TIME		0	0	0
UNK631 (UG/G)	90083			
UNK533 (UG/G)	90021	1.22		
UNK609 (UG/G)	90066			
UNK513 (UG/G)	90116			
UNK530 (UG/G)	90019			
UNK555 (UG/G)	90097			
UNK614 (UG/G)	90070			
UNK523 (UG/G)	90092			
UNK567 (UG/G)	90036			
UNK575 (UG/G)	90121			
UNK618 (UG/G)	90073			
UNK619 (UG/G)	90105			
UNK637 (UG/G)	90089			
UNK538 (UG/G)	90123			

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300
FIELD GROUP: 3617V
PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GILSZLER/BERGOTLI

PARAMETERS	SURET #	3083A 505800	3083B 505801	3083C 505802	3083D 505803	3083E 505804	3084A 505806	3084B 505807	3084C 505808	3084D 505809	3085A 505812
DATE	METHOD #	07/03/85	07/03/85	07/03/85	07/03/85	07/03/85	7/9/85	7/9/85	7/9/85	7/9/85	7/9/85
TIME		813	826	844	906	946	1009	1027	1249	1137	124
SAMPLE TYPE	71999 0	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE DEPTH(CM)	99758 0	0	122	274	427	579	0	122	274	427	0
SITE TYPE 1	99759 0	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE
INSTALLATION CODE	99720 0	RK	RK	RK	RK	RK	RK	RK	RK	RK	RK
SAMPLING TECHNIQUE	72005 0	S	S	S	S	S	S	S	S	S	S
MOISTURE(2MET HT)	70320 0	6.3	5.5	6.4	12.7	20.2	3.0	3.6	7.0	16.3	3.7
CADMIUM,SED (UG/G-DRY)	1028 0	6.9	<0.5	<0.5	<0.5	<0.5	<0.9	<0.9	<0.9	<0.9	<0.9
CR,SOIL (UG/G-DRY)	99584 0	16	14	14	15	12	8	9	9	<7	14
COPPER,SED (UG/G-DRY)	1043 0	14	13	15	15	22	5	5	6	5	17
LEAD,SED (UG/G-DRY)	1052 0	20	<16	<16	<16	<16	<17	<17	<17	<17	32
ZINC,SED (UG/G-DRY)	1093 0	48	39	44	50	51	27	31	34	36	65
ARSENIC,SED (UG/G-DRY)	1003 0	<5.2	<5.2	<5.2	<5.2	<5.2	<4.7	<4.7	<4.7	<4.7	7.3
MERCURY,SED (UG/G-DRY)	71921 0	0.36	<0.07	<0.07	<0.07	<0.07	<0.05	<0.05	<0.05	<0.05	0.06
ALDRIN,SED (UG/G-DRY)	98356 0	<0.500	<0.500	<0.500	<0.500	<0.500	<0.900	<0.900	<0.900	<0.900	<0.900
DELDORIN(UG/G-DRY)	98365 0	<0.600	<0.600	<0.600	<0.600	<0.600	<0.300	<0.300	<0.300	<0.300	<0.300
DDT,PP(UG/G-DRY)	98364 0	<2.00	<2.00	<2.00	<2.00	<2.00	<0.400	<0.400	<0.400	<0.400	<0.400
ENDRIN (UG/G-DRY)	98369 0	<4.00	<4.00	<4.00	<4.00	<4.00	<0.700	<0.700	<0.700	<0.700	<0.700
CHLORDANE,SED(UG/G-DRY)	98361 0	<6.00	<6.00	<6.00	<6.00	<6.00	<1.00	<1.00	<1.00	<1.00	<1.00
DDE,PP(UG/G-DRY)	98363 0	2.87	<0.500	<0.500	<0.500	<0.500	<0.300	<0.300	<0.300	<0.300	<0.300
1,4 OXATHIANE (UG/G-DRY)	98644 0	<0.500	<0.500	<0.500	<0.500	<0.500	<0.300	<0.300	<0.300	<0.300	<0.300

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

FIELD GROUP: 36177

PARAMETERS: ALL

PROJECT NAME SECTION 36 RMA

PROJECT MANAGER: BILL FRASER

FIELD GROUP LEADER: GEISLER/BERGOLL

SAMPLES: ALL

SAMPLE NUMBERS

PARAMETERS	STORET #	3083A 505800	3083B 505801	3083C 505802	3083D 505803	3083E 505804	3084A 505806	3084B 505807	3084C 505808	3084D 505809	3085A 505812
DATE	07/03/85	07/03/85	07/03/85	07/03/85	07/03/85	07/03/85	7/9/85	7/9/85	7/9/85	7/9/85	7/9/85
TIME	013	026	044	096	946	1009	1027	1049	1137	124	
UNK609 (UG/G)	90066	NA									
UNK524 (UG/G)	90015	NA									
UNK533 (UG/G)	90021										
UNK557 (UG/G)	90031	NA									
UNK612 (UG/G)	90068										
UNK615 (UG/G)	90071										
UNK637 (UG/G)	90089										
UNK523 (UG/G)	90092										
UNK585 (UG/G)	90102										
UNK636 (UG/G)	90088										
UNK660 (UG/G)	90120										
UNK532 (UG/G)	90020										
UNK618 (UG/G)	90073										
UNK633 (UG/G)	90085										
UNK513 (UG/G)	90116										
UNK639 (UG/G)	90122										
UNK638 (UG/G)	90090										

* 1.05

* 0.926

* 1.04

* 5.37

ENVIRONMENTAL SCIENCE & ENGINEERING										01/11/86										STATUS: PRELIMINARY									
PROJECT NUMBER 84936300										PROJECT NAME SECTION 36 RMA										PROJECT MANAGER: BILL FRASER									
FIELD GROUP: 36177										FIELD GROUP LEADER: GEISLER/BERGMOLL																			
PARAMETERS: ALL										SAMPLES: ALL																			
PARAMETERS										STORET #										SAMPLE NUMBERS									
30858										30860										30870									
508613										508618										508619									
3087A										3087B										30880									
508824										508825										508830									
3089A										3089B										3089C									
508937										508938										508939									
3091A										3091B										3091C									
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3115Y																													

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 94936300

PROJECT NAME SECTION 36 RHA

FIELD GROUP: 3617Y

PROJECT MANAGER: BILL FRASER

PARAMETERS: ALL

FIELD GROUP LEADER: GEISLER/HIRCOWILL

SAMPLES: ALL

PARAMETERS	STORET #	30858	30864	30868	3087A	3087B	3088A	30883	3089A	3089B	3091A
		505813	505818	505819	505824	505825	505830	505831	505836	505837	505848
DATE	METHOD #	7/7/85	07/03/85	07/03/85	7/8/85	7/8/85	7/8/85	7/8/85	6/25/85	6/25/85	6/25/85
TIME		741	1101	1117	942	954	1025	1047	1300	1010	935
TRANS-1,2-DICHLOROETHENE (UG/G-DRY)	98687	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ETHYLBENZENE (UG/G-DRY)	98688	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METHYLENE CHLORIDE (UG/G-DRY)	98689	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TETRACHLOROETHENE (UG/G-DRY)	98690	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOLUENE (UG/G-DRY)	98691	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-TRICHLOROETHANE (UG/G-DRY)	98692	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-TRICHLOROETHANE (UG/G-DRY)	98693	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRICHLOROETHENE (UG/G-DRY)	98694	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-XYLENE (UG/G-DRY)	98695	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MIBK (UG/G-DRY)	98696	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DMS	98697	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BENZENE (UG/G-DRY)	98699	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
O-AND/OR P-XYLENE (UG/G-DRY)	98700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCPMS02 UG/G-DRY	98703	<0.300	<0.400	<0.0	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
COORDINATE N/S/SIP	98392	184319	184285	184265	184470	184470	184617	184617	182524	182524	182522
COORDINATE E/W/SIP	98393	2186202	2186800	2186800	2186503	2186503	2186205	2186205	2186502	2186502	2186502
UNK620 (UG/G)	98074		NA	NA							
UNK635 (UG/G)	98087		2.29	66.8							
UNK582 (UG/G)	98045			107							
UNK576 (UG/G)	98040			80.1							

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER: 84936300
 FIELD GROUP: 36177
 PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME: SECTION 36 RMA
 PROJECT MANAGER: BILL FRASER
 FIELD GROUP LEADER: GEISLER/BIFG0011

PARAMETERS	STORET #	30858 505813	3086A 505818	30868 505819	3087A 505824	SAMPLE NUMBERS 30878 505825	3088A 505830	30888 505831	3089A 505836	30898 505837	3091A 505840
DATE	METHOD #	1/9/85	07/03/85	07/03/85	7/8/85	7/8/85	7/8/85	7/8/85	6/25/85	6/25/85	6/25/85
TIME		741	1101	1117	942	954	1025	1047	1060	1010	3.5
UNK580 (UG/G)	90044			120							
UNK539 (UG/G)	90050		11.5								
UNK632 (UG/G)	90084										
UNK614 (UG/G)	90070										
UNK629 (UG/G)	90082										
UNK579 (UG/G)	90043										
UNK577 (UG/G)	90041		2.29								
UNK570 (UG/G)	90042		1.15								
UNK623 (UG/G)	90077		0.687								
UNK525 (UG/G)	90016			1270							
UNK562 (UG/G)	90033			93.5							
UNK567 (UG/G)	90036			93.5							
UNK569 (UG/G)	90030			66.8							
UNK574 (UG/G)	90039			134							
UNK588 (UG/G)	90049			107							
UNK591 (UG/G)	90051			93.5							
UNK594 (UG/G)	90053			40.1							
UNK595 (UG/G)	90054			134							
UNK600 (UG/G)	90057			66.8							
UNK605 (UG/G)	90062			40.1							

* 0.665

* 1.02 * 0.990 * 1.10

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 34936300
FIELD GROUP: 3617Y
PARAMETERS: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GELTZLER/BERGODILL

PARAMETERS	STORET #	3091B 505849	3086 505872	BLK 505880	BLK 505881	BLK 505882	BLK 505890	BLK 505891	BLK 505892
DATE	METHOD #	6/25/85	07/03/85	6/25/85	7/8/85	7/9/85	07/03/85	07/03/85	07/03/85
TIME		819	1111	0	0	0	0	0	0
SAMPLE TYPE	71999	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE DEPTH(CM)	99758	122	61	0	0	0	0	0	0
SITE TYPE 1	99759	BORE	BORE	QCM8	QCM8	QCM8	QCM8	QCM8	QCM8
INSTALLATION CODE	99720	RK	RK	RK	RK	RK	RK	RK	RK
SAMPLING TECHNIQUE	72005	S	S	G	G	G	G	G	G
MOISTURE(2WET WT)	70320	11.3	18.4	2.3	2.3	2.3	2.0	2.0	2.0
CADMIUM,SED (UG/G-DRY)	1028	<0.9	9.6	NA	NA	NA	<0.5	NA	NA
CR,SOIL (UG/G-DRY)	99584	11	1450	15	13	16	37	5.2	0.07
COPPER,SED (UG/G-DRY)	1043	7	657	7100	11800	<5.2	<0.07	<50.0	<60.0
LEAD,SED (UG/G-DRY)	1052	<17	39	4.9	<0.05	<0.900	<0.300	<0.400	<0.700
ZINC,SED (UG/G-DRY)	1093	0	0	0	0	0	0	0	0
ARSENIC,SED (UG/G-DRY)	1003	0	0	0	0	0	0	0	0
MERCURY,SED (UG/G-DRY)	71921	0	0	0	0	0	0	0	0
ALDRIN,SED (UG/G-DRY)	98356	0	0	0	0	0	0	0	0
DIELDRIN(UG/G-DRY)	98365	0	0	0	0	0	0	0	0
DDT,PP* (UG/G-DRY)	98364	0	0	0	0	0	0	0	0
ENDRIN (UG/G-DRY)	98369	0	0	0	0	0	0	0	0
CHLOROCAR,SED(UG/G-DRY)	98361	0	0	0	0	0	0	0	0
DDT,PP* (UG/G-DRY)	98363	0	0	0	0	0	0	0	0
1,4 OXATHIANE (UG/G-DRY)	98644	0	0	0	0	0	0	0	0

ENVIRONMENTAL SCIENCE & ENGINEERING

PROJECT NUMBER 84936300
FIELD GROUP: 3617Y SAMPLES: ALL
PARAMETERS: ALL

01/11/86

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GLISZLER/BERGDOHL

PARAMETERS	STORET #	30918 505849	3086 505872	BLK 505880	BLK 505881	BLK 505882	BLK 505890	BLK 505891	DLK 505892
DATE	METHOD #	6/25/85	07/03/85	6/25/85	7/8/85	7/9/85	07/03/85	07/03/85	07/03/85
TIME		819	1111	0	0	0	0	0	0
DIMP (UG/G-DRY)	98645	<0.500	<300				<1.00		
DICHLORVCS (UG/G-DRY)	98646	<0.300	<30.0				<0.300		
HEXCLCYPENDI (UG/G-DRY)	98647	<1.00	<100				<1.00		
HALATHION (UG/G-DRY)	98648	<0.600	<200				<2.00		
ISODRIN (UG/G-DRY)	98649	<0.300	<60.0				<0.600		
1,4 DITHIANE (UG/G-DRY)	98650	<0.300	<200				<2.00		
DICYCLOPENTADIENE (U G/G-DRY)	98651	<0.300	<600				<6.00		
DBCP (NEMAGUN) (UG/G-DRY)	98652	0.031	0.109				<0.005		
P-CLPHENYLTHIYLSULFI	98653	<0.300	<30.0				<0.300		
LE (UG/G-DRY)	98654	<0.400	<100				<1.00		
P-CLPHENYLTHIYLSULFO	98655	<0.700	<50.0				<0.500		
NETUG/G-DRY)	98656	<0.500	<90.0				<0.900		
ATRAZINE (UG/G-DRY)	98657	<2.00	<300				<3.00		
SUPONA (UG/G-DRY)	98658	<0.700	<200				<2.00		
DIMP (UG/G-DRY)	98659	NA	NA	<0.300			<0.400		
ETYOPARATHION (UG/G-DRY)	98660	NA	NA	<0.300			<0.300		
CARBON TETRACHLORIDE (UG/G-DRY)	98661	NA	NA	<1.18			<0.700		
CHLOROBENZENE (UG/G-DRY)	98662	NA	NA	<0.300			<0.500		
CHLOROFORM (UG/G-DRY)	98663	NA	NA	<0.300			<0.400		
1,1-DICHLOROETHANE (UG/G-DRY)	98664	NA	NA	<0.300			<0.600		
1,2-DICHLOROETHANE (UG/G-DRY)	98665	NA	NA	<0.300			<0.600		
81CYCLOHEPTADIENE (UG/G-DRY)	98666	NA	NA	<0.300			<0.600		

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

FIELD GROUP: 3617Y SAMPLES: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/BERGOLL

PARAMETERS	SOURCE #	3086 505872	BLK 505880	BLK 505881	BLK 505882	BLK 505890	BLK 505891	BLK 505892
DATE	6/25/85	07/03/85	6/25/85	7/8/85	7/9/85	07/03/85	07/03/85	07/03/85
TIME	819	1111	0	0	0	0	0	0
TRANS-1,2-DICHLOROTETRAHYDRO-1,2-DIBENZENE (UG/G-DRY)	98687	NA	<0.300			<0.600		
ETHYLBENZENE (UG/G-DRY)	98688	NA	<0.300			<0.400		
METHYLENE CHLORIDE (UG/G-DRY)	98689	NA	<0.869					
TETRACHLOROETHYLENE (UG/G-DRY)	98690	NA	<0.300			<0.500		
TOLUENE (UG/G-DRY)	98691	NA	<0.300			<0.300		
1,1,1-TRICHLOROETHANE (UG/G-DRY)	98692	NA	<0.760			<0.500		
1,1,2-TRICHLOROETHANE (UG/G-DRY)	98693	NA	<0.300			<0.600		
TRICHLOROETHYLENE (UG/G-DRY)	98694	NA	<0.300			<0.600		
M-XYLENE (UG/G-DRY)	98695	NA	<0.300			<0.300		
MIBK (UG/G-DRY)	98696	NA	<0.500			<0.400		
DMSO (UG/G-DRY)	98697	NA	<0.300			<4.00		
BENZENE (UG/G-DRY)	98698	NA	<0.300			<1.00		
O-AND/OR P-XYLENE (UG/G-DRY)	98700	NA	<0.500			<0.500		
PCPMS02 (UG/G-DRY)	98703	<0.300				<0.400		
COORDINATE N/S (SIP)	98392	182222	184285					
COORDINATE E/W (SIP)	98393	2186652	2186600					
UNK620 (UG/G)	90074	NA						
UNK635 (UG/G)	90087							
UNK502 (UG/G)	90045	270						
UNK576 (UG/G)	90040	294						

1.02

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936360

FIELD GROUP: 36177

PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISLER/BERGQUL

PARAMETERS	SIDRET #	30918 505849	3086 505872	BLK 505880	BLK 505881	SAMPLE NUMBERS BLK 505882	BLK 505891	BLK 505892
DATE	METHOD #	6/25/85	07/03/85	6/25/85	7/8/85	7/9/85	07/03/85	07/03/85
TIME		819	1111	0	0	0	0	0
UNK580 (UG/G)	90644		270					
UNK589 (UG/G)	90650							
UNK632 (UG/G)	90084							
UNK614 (UG/G)	90678							
UNK629 (UG/G)	90082							
UNK579 (UG/G)	90643	0.374						
UNK577 (UG/G)	90041							
UNK578 (UG/G)	90042							
UNK623 (UG/G)	90077							
UNK525 (UG/G)	90016							
UNK562 (UG/G)	90033		184				1.02	
UNK567 (UG/G)	90036		196					
UNK569 (UG/G)	90038		196					
UNK574 (UG/G)	90039		257					
UNK586 (UG/G)	90049		604					
UNK591 (UG/G)	90051		184					
UNK594 (UG/G)	90053		319					
UNK595 (UG/G)	90054		245					
UNK600 (UG/G)	90057		123					
UNK605 (UG/G)	90062							

STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISLER/BERGDOLL

PARAMETERS		STORET #	SAMPLE NUMBERS															
			3095A 505900	3095B 505901	3096A 505906	3096B 505907	3097A 505912	3097B 505913	3098A 505918	3098B 505919	3099A 505924	3099B 505925						
DATE	METHOD #		07/11/85	07/11/85	07/11/85	07/11/85	7/10/85	7/10/85	7/10/85	7/10/85	6/24/85	6/25/85						
TIME			828	846	725	740	1109	1129	958	1012	819	843						
SAMPLE TYPE	71999		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO						
SAMPLE DEPTH(CM)	93758		0	122	0	122	0	122	0	122	0	122						
SITE TYPE 1	93759		BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE						
INSTALLATION CODE	99720		RK	RK	RK	RK	RK	RK	RK	RK	RK	RK						
SAMPLING TECHNIQUE	72005		S	S	S	S	S	S	S	S	S	S						
MOISTURE(ZWET WT)	70320		7.0	15.2	11.4	13.7	12.9	17.4	5.3	19.4	12.8	12.3						
CADMIUM,SED (UG/G-DRY)	1028		0.7	<0.5	<0.5	0.8	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9						
CHLORIDE (UG/G-DRY)	99584		15	11	16	18	7	<7	10	22	14	10						
COPPER,SED (UG/G-DRY)	1043		17	13	22	17	7	<5	7	8	9	7						
LEAD,SED (UG/G-DRY)	1052		20	<16	<16	<16	25	<17	18	<17	22	<17						
ZINC,SED (UG/G-DRY)	1093		52	41	71	45	62	34	37	43	47	36						
ARSENIC,SED (UG/G-DRY)	1003		21	<5.2	<5.2	29	6.2	<4.7	5.1	5.4	4.0	<4.7						
MERCURY,SED (UG/G-DRY)	71921		0.09	<0.07	<0.07	<0.07	0.13	<0.05	0.07	<0.05	<0.05	<0.05						
ALDRIN,SED (UG/G-DRY)	98356		<0.500	<0.500	<0.500	<0.500	<0.900	0.966	<0.900	<0.900	<0.900	6.01						
DIELDRIN(UG/G-DRY)	98365		<0.600	<0.600	<0.600	<0.600	<0.300	0.616	<0.300	<0.300	<0.300	<0.300						
DDT,PP*(UG/G-DRY)	98364		<2.00	<2.00	<2.00	<2.00	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400						
ENDRIN (UG/G-DRY)	98369		<4.00	<4.00	<4.00	<4.00	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700						
CHLORDANE,SED(UG/G-DRY)	98361		<6.00	<6.00	<6.00	<6.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00						
DDE,PP*(UG/G-DRY)	98363		<0.500	<0.500	<0.500	<0.500	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300						
1,4 OXATHIANE (UG/G-DRY)	98644		<0.500	<0.500	<0.500	<0.500	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300						

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 04936300
FIELD GROUP: 36172
PARAMETERS: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GELSIZER/BERGOLL

PARAMETERS	STORET #	3095A 505900	3095B 505901	3096A 505906	3096B 505907	3097A 505912	3097B 505913	3098A 505916	3098B 505919	3099A 505924	3099B 505925
DATE	METHOD #	07/11/85	07/11/85	07/11/85	07/11/85	07/10/85	7/10/85	7/10/85	7/10/85	6/24/85	6/25/85
TIME		020	046	725	740	1109	1129	958	1912	819	340
DIMP (UG/G-DRY)	98645	<3.00	<3.00	<3.00	<3.00	4.47	<0.500	<0.500	<0.500	<0.500	<0.500
DICHLOROUS (UG/G-DRY)	93646	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
HEXACHLOROCYCLOPENTADIENE (UG/G-DRY)	98647	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MALATHION (UG/G-DRY)	98648	<2.00	<2.00	<2.00	<2.00	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600
ISODRIN (UG/G-DRY)	98649	<0.600	<0.600	<0.600	<0.600	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
1,4 DITHIANE (UG/G-DRY)	98650	<2.00	<2.00	<2.00	<2.00	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
DICYCLOPENTADIENE (U G/G-DRY)	98651	<6.00	<6.00	<6.00	<6.00	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
DBCP (NEMAGON) (UG/G-DRY)	98652	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.013	<0.005	0.436
P-CLPHENYLTHIETHYL SULFIDE (UG/G-DRY)	93653	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300	0.563
P-CLPHENYLTHIETHYL SULFIDE (UG/G-DRY)	98654	<1.00	<1.00	<1.00	<1.00	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400
ATRAZINE (UG/G-DRY)	98655	<0.500	<0.500	<0.500	<0.500	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700
SUFONIA (UG/G-DRY)	98656	<0.900	<0.900	<0.900	<0.900	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
DHRP (UG/G-DRY)	98657	<3.00	<3.00	<3.00	<3.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
ETHYLPARATHION (UG/G-DRY)	98658	<2.00	<2.00	<2.00	<2.00	<0.700	<0.700	<0.700	<0.700	<0.700	<0.700
CARBON TETRACHLORIDE (UG/G-DRY)	98659	NA	NA	NA	<0.400	NA	NA	NA	NA	NA	NA
CHLOROBENZENE (UG/G-DRY)	98660	NA	NA	NA	<0.300	NA	NA	NA	NA	NA	NA
CHLOROFORM (UG/G-DRY)	98661	NA	NA	NA	<0.700	NA	NA	NA	NA	NA	NA
1,1-DICHLOROETHANE (UG/G-DRY)	98662	NA	NA	NA	<0.500	NA	NA	NA	NA	NA	NA
1,2-DICHLOROETHANE (UG/G-DRY)	98663	NA	NA	NA	<0.400	NA	NA	NA	NA	NA	NA
BICYCLOHEPTADIENE (UG/G-DRY)	98664	NA	NA	NA	<0.800	NA	NA	NA	NA	NA	NA

ENVIRONMENTAL SCIENCE & ENGINEERING

98/11/10

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

PROJECT NAME SECTION 36 RMA

FIELD GROUP: 36172

PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISLER/RENGOLD

PARAMETERS: ALL SAMPLES: ALL

FIELD GROUP LEADER: GEISLER/AFEGALL

SAMPLE NUMBERS

PARAMETERS STORED IN

METHOD

DATE	TIME	07/11/85	07/11/85	07/11/85	07/11/85	7/10/85	7/10/85	7/10/85	6/24/85	6/25/85
UNK597 (UG/G)	90094	828	846	725	740	1109	1129	956	1012	843
UNK637 (UG/G)	90089									A 9.32
UNK527 (UG/G)	90017									
UNK614 (UG/G)	90070					* 1.63	* 1.21			
UNK538 (UG/G)	90123						* 1.73			
UNK610 (UG/G)	90124						* 1.24			

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300
FIELD GROUP: 36172
PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISLER/BERGMILL

PARAMETERS	STORET #	3100A 505930	3100B 505931	3101A 505936	3101B 505937	3102A 505942	3102B 505943	3103A 505948	3103B 505949	3104A 505954	3104B 505955
DATE	METHOD #	06/20/85	06/20/85	6/24/85	6/24/85	06/20/85	06/20/85	06/20/85	06/20/85	06/20/85	06/20/85
TIME		1017	1030	736	751	913	931	823	837	739	742
SAMPLE TYPE	71999	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE DEPTH(CM)	99758	0	122	0	122	0	122	0	122	0	122
SITE TYPE 1	99759	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE	BORE
INSTALLATION CODE	99720	RK	RK	RK	RK	RK	RK	RK	RK	RK	RK
SAMPLING TECHNIQUE	72005	S	S	S	S	S	S	S	S	S	S
MOISTURE(2MET WT)	70320	9.1	17.6	7.8	8.6	3.8	11.6	5.7	12.4	12.9	9.4
CADMIUM,SED (UG/G-DRY)	1028	<0.5	<0.5	<0.9	<0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CR,SOIL (UG/G-DRY)	99584	17	16	18	<7	9	11	16	15	21	11
COPPER,SED (UG/G-DRY)	1043	16	15	10	<5	13	11	15	14	17	12
LEAD,SED (UG/G-DRY)	1052	<16	<16	26	<17	<16	<16	<16	<16	<16	<16
ZINC,SED (UG/G-DRY)	1093	52	45	60	24	39	<28	44	41	59	<23
ARSENIC,SED (UG/G-DRY)	1003	<5.2	<5.2	6.9	<4.7	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2
MERCURY,SED (UG/G-DRY)	71921	<0.07	<0.07	<0.05	<0.05	<0.07	<0.07	<0.07	0.16	<0.07	<0.07
ALDRIN,SED (UG/G-DRY)	98356	<0.500	<0.500	<0.900	<0.900	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
DIELDRIN(UG/G-DRY)	98365	<0.600	<0.600	<0.300	<0.300	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600
DDT,PP*(UG/G-DRY)	98364	<2.00	<2.00	<0.400	<0.400	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
ENDRIN (UG/G-DRY)	98369	<4.00	<4.00	<0.700	<0.700	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00
CHLORDANE,SED(UG/G-DRY)	98361	<6.00	<6.00	<1.00	<1.00	<6.00	<6.00	<6.00	<6.00	<6.00	<6.00
ODE,PP*(UG/G-DRY)	98363	<0.500	<0.500	<0.300	<0.300	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
1,4 OXATHIANE (UG/G-DRY)	98644	<0.500	<0.500	<0.300	<0.300	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/66

STATUS: PRELIMINARY

PROJECT NUMBER 04936300

PROJECT NAME SECTION 36 RNA

FIELD GROUP: 36172

PROJECT MANAGER: BILL FRASER

PARAMETERS: ALL

FIELD GROUP LEADER: GEISZLER/BERGDUU

SAMPLES: ALL

SAMPLE NUMBERS

PARAMETERS	STORET #	3100A 505930	31003 505931	3101A 505936	31018 505937	3102A 505942	31028 505943	3103A 505948	3103B 505949	3104A 505954	3104B 505955
DATE	METHOD #	06/20/85	06/20/85	6/24/85	6/24/85	06/20/85	06/20/85	06/20/85	06/20/85	06/20/85	06/20/85
TIME		1017	1030	736	751	913	931	823	637	729	752
UNK635 (UG/G)	90087	2.20	1.21			7.28	3.39		3.42	5.74	0.773
UNK593 (UG/G)	90052	2.20						1.06			
UNK609 (UG/G)	90066	>6.60				1.04					
UNK632 (UG/G)	90084	2.20	4.85			2.08	1.13	2.12		1.15	1.10
UNK543 (UG/G)	90025									0.115	
UNK579 (UG/G)	90043		1.09			0.728	1.13	0.743		0.459	0.442
UNK544 (UG/G)	90026		2.43								
UNK604 (UG/G)	90061					3.12					
UNK546 (UG/G)	90028										
UNK548 (UG/G)	90029										
UNK629 (UG/G)	90082	NA	NA			NA	NA	NA	NA	NA	>3.31
UNK522 (UG/G)	90014										
UNK517 (UG/G)	90012	NA	NA			NA	NA	NA	NA	NA	NA
UNK513 (UG/G)	90116			1.71							
UNK523 (UG/G)	90092				1.42						
UNK532 (UG/G)	90020				0.869						
UNK655 (UG/G)	90119										
UNK636 (UG/G)	90088			1.00	0.722						
UNK641 (UG/G)	90107										
UNK654 (UG/G)	90113			0.565	0.342						

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 84936300

PROJECT NAME SECTION 36 RMA

FIELD GROUP: 36172

PROJECT MANAGER: BILL FRASER

PARAMETERS: ALL SAMPLES: ALL

FIELD GROUP LEADER: GEISLER/BERGOLL

PARAMETERS	STORET #	3100A	3100B	3101A	3101B	3102A	3102B	3103A	3103B	3104A	3104B
		505930	505931	505936	505937	505942	505943	505946	505949	505954	505955
DATE	METHOD #	06/20/85	06/20/85	6/24/85	6/24/85	06/20/85	06/20/85	06/20/85	06/20/85	06/20/85	06/21/85
TIME		1017	1030	736	751	913	931	823	937	739	722
UNK547 (UG/G)	9J094										
	0										
UNK637 (UG/G)	9J089										
	0										
UNK527 (UG/G)	9J017										
	0										
UNK614 (UG/G)	9J070										
	0										
UNK538 (UG/G)	9J123										
	0										
UNK610 (UG/G)	9J124										
	0										

* C.547

* 3.08

ENVIRONMENTAL SCIENCE & ENGINEERING
 PROJECT NUMBER 84936300
 FIELD GROUP: 3617Z
 PARAMETERS: ALL
 SAMPLES: ALL
 STATUS: PRELIMINARY
 PROJECT NAME SECTION 36 RMA
 PROJECT MANAGER: BILL FRASER
 FIELD GROUP LEADER: GEISZLER/RENGDOLL

01/11/86

PARAMETERS	STORET #	BLK 505980	BLK 505981	BLK 505982	BLK 505990	BLK 505991	BLK 505992
DATE	METHOD #	6/24/85	6/25/85	7/10/85	06/24/85	06/25/85	07/10/85
TIME		0	0	0	0	0	0
TRANS-1,2-DICHLOROE	98687						
ENE (UG/G-D	0						
ETHYLBENZENE	98688						
(UG/G-DRY)	0						
METHYLENE CHLORIDE	98689						
(UG/G-DRY)	0						
TETRACHLOROETHENE	98690						
(UG/G-DRY)	0						
TOLUENE	98691						
(UG/G-DRY)	0						
1,1,1-TRICHLOROETHAN	98692						
E (UG/G-D	0						
1,1,2-TRICHLOROETHAN	98693						
E (UG/G-D	0						
TRICHLOROETHENE	98694						
(UG/G-DRY)	0						
M-XYLENE	98695						
(UG/G-DRY)	0						
MIBK	98696						
(UG/G-DRY)	0						
DMS	98697						
(UG/G-DRY)	0						
BENZENE	98699						
(UG/G-DRY)	0						
O-AND/OR P-XYLENE	98700						
(UG/G-DRY)	0						
PCPMSO2	98703						
UG/G-DRY	0						
COORDINATE-N/SCIP	98392						
COORDINATE-E/MCSTP	98393						
UNK634 (UG/G)	90086						
UNK542 (UG/G)	90024						
UNK608 (UG/G)	90065						
UNK633 (UG/G)	90085						
	0						

<0.400

<0.300

ENVIRONMENTAL SCIENCE & ENGINEERING 01/11/86 STATUS: PRELIMINARY

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISZLER/DENGELOLL

PROJECT NUMBER 84936300
FIELD GROUP: 3617Z
PARAMETERS: ALL SAMPLES: ALL

PARAMETERS	STORET #	BLK 505980	BLK 505981	BLK 505982	BLK 505990	BLK 505991	SAMPLE NUMBERS
DATE	METHOD #	6/24/85	6/25/85	7/10/85	06/24/85	06/25/85	07/10/85
TIME		0	0	0	0	0	0
UNK635 (UG/G)	90087						
	0						
UNK593 (UG/G)	90052						
	0						
UNK609 (UG/G)	90066						
	0						
UNK632 (UG/G)	90084						
	0						
UNK543 (UG/G)	90025						
	0						
UNK579 (UG/G)	90043				0.612		
	0						
UNK544 (UG/G)	90026						
	0						
UNK604 (UG/G)	90061						
	0						
UNK546 (UG/G)	90028						
	0						
UNK548 (UG/G)	90029						
	0						
UNK629 (UG/G)	90082						
	0						
UNK522 (UG/G)	90014						
	0						
UNK517 (UG/G)	90012						
	0						
UNK513 (UG/G)	90116	▲ 0.485					
	0						
UNK523 (UG/G)	90092	▲ 0.818					
	0						
UNK532 (UG/G)	90020	▲ 0.557					
	0						
UNK655 (UG/G)	90119	▲ 0.370					
	0						
UNK636 (UG/G)	90068						
	0						
UNK641 (UG/G)	90107						
	0						
UNK654 (UG/G)	90113						
	0						

ENVIRONMENTAL SCIENCE & ENGINEERING

01/11/86

STATUS: PRELIMINARY

PROJECT NUMBER 34936300

FIELD GROUP: 3617Z

PARAMETERS: ALL SAMPLES: ALL

PROJECT NAME SECTION 36 RMA
PROJECT MANAGER: BILL FRASER
FIELD GROUP LEADER: GEISLER/BERGDUHL

PARAMETERS	STORET #	BLK 505980	BLK 505981	BLK 505982	BLK 505990	BLK 505991	BLK 505992

DATE	TIME	METHOD #	6/24/85	6/25/85	7/10/85	06/24/85	06/25/85	07/10/85
			0	0	0	0	0	0

UNK547 (UG/G)	90094	0
UNK637 (UG/G)	90089	0
UNK527 (UG/G)	90017	0
UNK614 (UG/G)	90070	0
UNK538 (UG/G)	90123	0
UNK610 (UG/G)	90124	0