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FINAL CLOSURE REPORT
RANGE CONTROL USTs
FORT DEVENS, MASSACHUSETTS

Bldg 4202
Bldg. 4203

Prepared for:

U.S. Army Corps of Engineers
New England Division
Waltham, Massachusetts
Contract Number DACW45-89-D-0506

Prepared by:

OHM Remediation Services Corp.
Hopkinton, Massachusetts


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Project Manager

AUGUST 4, 1995

CSVS 95082 OHM R

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LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|--------|---|
| BGS | Below Ground Surface |
| BNA | Base Neutral/Acid Extractable Compounds |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CY | Cubic yards |
| MADEP | Massachusetts Department of Environmental Protection |
| MCP | Massachusetts Contingency Plan |
| MEP | Master Environmental Plan |
| NED | US Army Corps of Engineers, New England Division |
| NPL | National Priorities List |
| OHM | OHM Remediation Services Corporation |
| PID | Photoionization Detector |
| SARA | Superfund Amendments and Reauthorization Act |
| TPH | Total Petroleum Hydrocarbons |
| USACE | United States Army Corps of Engineers |
| USAEC | U.S. Army Environmental Center |
| UST | Underground Storage Tank |
| VOC | Volatile Organic Compounds |

EXECUTIVE SUMMARY

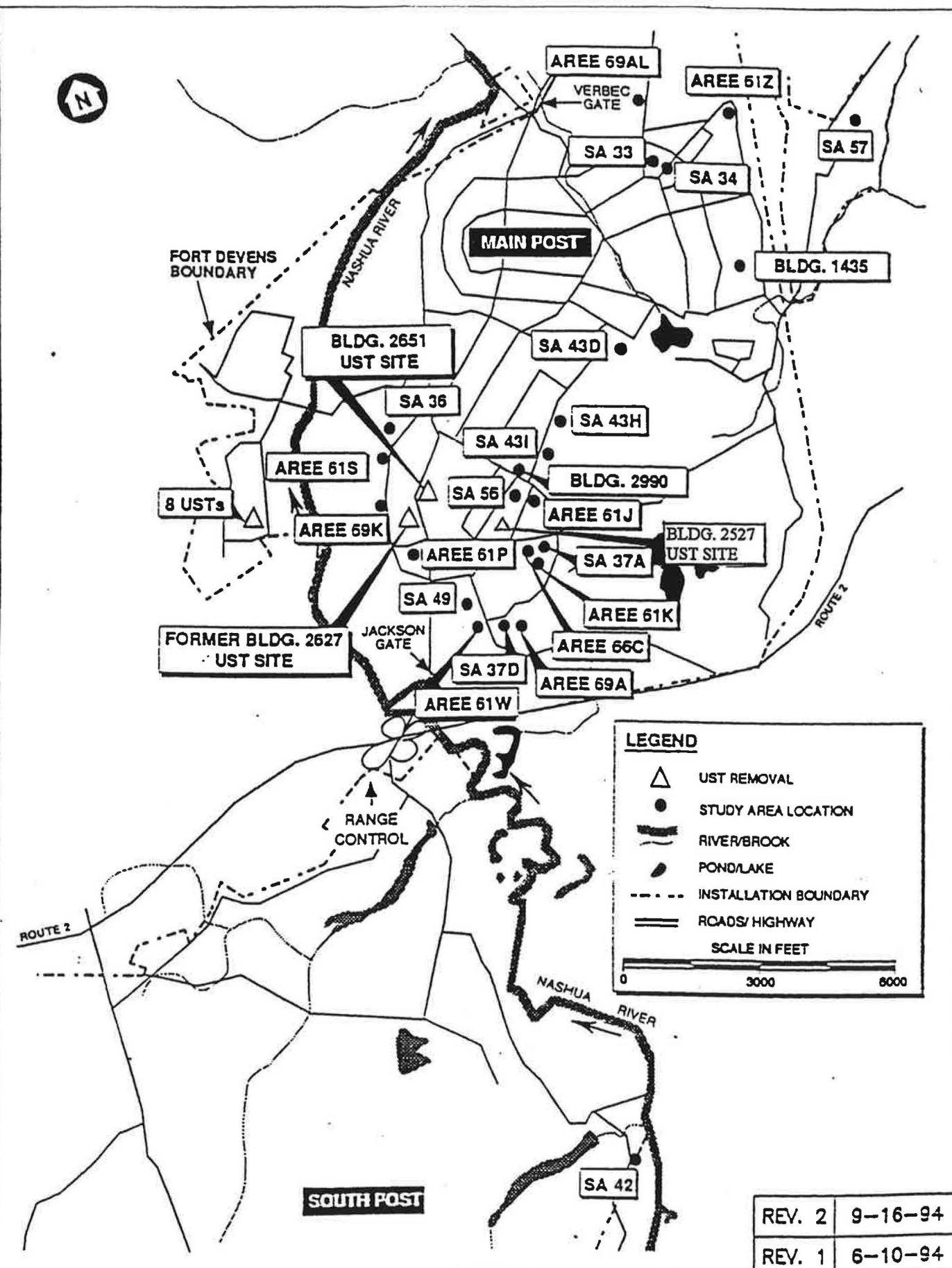
The Fort Devens Environmental Management Office (EMO) requested that the New England Division (NED) of the Army Corps of Engineers (USACE) remove the two 1,000 gallon underground storage tanks (UST) located at the Range Control on the South Post of Fort Devens. The removal of the tanks was conducted as part of normal operation and maintenance activities because the USTs were no longer in use. The NED contracted OHM Remediation Services Corporation (OHM) to remove the USTs in accordance with the Final Underground Storage Tank Removal Protocol, Fort Devens, Massachusetts (USAEC, 1993) and the Massachusetts Contingency Plan (MCP). This Final Closure Report documents the removal of the USTs.

The Range Control is located at the entrance to the South Post across from Jackson Gate. The USTs were formerly used to store No. 2 fuel oil for heating purposes and were no longer in use. OHM removed the USTs after the contents of the tanks were pumped off by Clean Harbors, Inc. Both tanks were noted to be in good condition upon removal and there was no sign of a release. Confirmation soil samples were collected and analyzed for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), and Base Neutral /Acid Extractable compounds (BNAs) to verify the absence of contaminated soil. The excavation was backfilled upon receipt of confirmation sample results. The decontaminated UST was taken to a MADEP-approved tank disposal yard. Based on the results of the confirmation sampling no further action is recommended at the site.

SECTION 1.0 INTRODUCTION

The Fort Devens Environmental Management Office (EMO) requested that the New England Division (NED) of the Army Corps of Engineers (USACE) remove the two 1,000 gallon underground storage tanks (UST) located at the Range Control on the South Post of Fort Devens. The removal of the tanks was conducted as part of normal operation and maintenance activities because the USTs were no longer in use.

The Range Control is located at the entrance to the South Post across from Jackson Gate. Refer to Figure 1-1 for the site location and Figure 1-2 for the site plan. The USACE contracted OHM to remove the two 1000-gallon USTs in accordance with the MCP and the site-specific UST removal protocol. This report contains a summary of activities associated with the removal of the two USTs.



| | |
|--------|---------|
| REV. 2 | 9-16-94 |
| REV. 1 | 6-10-94 |

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS

FORT DEVENS, MASSACHUSETTS
CONTAMINATED SOIL REMOVAL, VARIOUS SITES
COMPREHENSIVE
SITE LOCATION MAP

Figure
1-1

PLOT SCALE: NONE

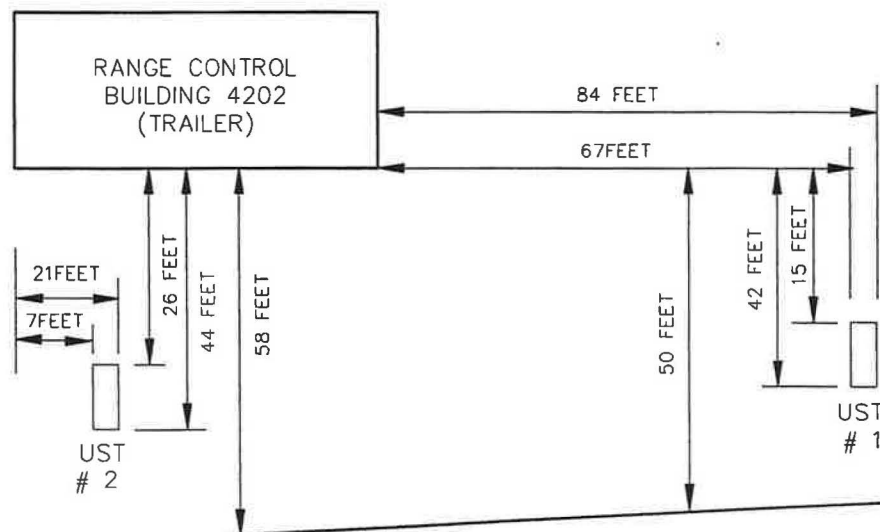
OHM CORPORATION
HOPKINTON, MA

DRAWN BY
FD 04-21-95

CHECKED BY
MGQ 08-04-95

APPROVED BY
MGQ 08-04-95

DRAWING
NUMBER 16208A03



SOUTH POST RANGE RD.

SOUTH POST
MAIN GATE

TO RTE 2
OR MAIN POST

FIGURE 1-2

RANGE CONTROL UST SITE PLAN

FT. DEVENS MASSACHUSETTS

PREPARED FOR

U.S. ARMY CORPS OF ENGINEERS
WALTHAM, MASSACHUSETTS



OHM Corporation

SECTION 2.0

UST REMOVALS

OHM was contracted by the USACE-NED to remove the two 1000-gallon, range control USTs in accordance with guidelines set forth in the Final UST Removal Protocol, Fort Devens, Massachusetts (USAEC 1993), and the Massachusetts Contingency Plan (MCP), and to restore the site by backfilling.

2.1 Site Preparation Activities

OHM conducted pre-excavation activities at the site to ensure that any contaminants encountered would be contained at the site, and to keep the Army personnel working in the area and the general population away from the open excavation. An exclusion zone was established using orange fencing, and staging cells were constructed next to each tank excavation for temporary storage of excavated soils. Sand berms were constructed at the perimeter of each staging cell and the cells were double lined with 8 mil polyethylene sheeting.

OHM contracted Clean Harbors, Inc. to remove the contents of each UST, which consisted of No. 2 fuel oil, prior to removing the tanks. The decontaminated tanks were taken by John C. Tombarello and Sons of Lawrence, Massachusetts, which is a MADEP-approved tank disposal yard. Transportation and disposal documentation for the oil and tanks is provided as Appendix C.

2.2 Excavation and Soil Screening Activities

The two range control USTs were removed on December 12 and 13, 1994. A portable photoionization detector (PID) instrument was used to measure volatile organic compounds (VOCs) in the headspace of soil samples collected during excavation activities, in accordance with MCP protocol. Headspace measurements indicated no volatile contaminants in the soil, and were well below the 50 ppm limit, which would have triggered a response action under the MCP. The tank was noted to be in good condition upon removal and showed no signs of leaking. Once the tanks were removed, they were transported to a staging pad where the tank interiors were cleaned using a pressure washer. Decontamination water was collected and transported to OHM's on-site water treatment facility. Additional soil was removed from the upper part of the tank excavation to allow safe access for personnel to collect samples.

Soil samples were collected in accordance with the Fort Devens UST Removal Protocol, and screened on-site for TPH by infrared spectroscopy (IR). Refer to Figure 2-1 for soil sample locations. Two background samples were collected from a depth of 2 feet below ground surface (bgs) prior to removing the tanks. Only one set of background samples were collected due to the close proximity of the tanks to one another (refer to Figure 2-1). Upon removal of the USTs, two soil samples were collected from the bottom and each sidewall of each excavation for a total of ten samples from each UST site. TPH screening results are presented in Table 2-1, and sample collection and screening documentation is provided as Appendix A.

Table 2-1
Soil Sample Screening Results
TPH by IR
Final Closure Report
Range Control USTs

| Sample ID | Sample Location | Sample Date | Sample Depth (ft) | TPH Result (mg/kg) |
|-----------|------------------|-------------|-------------------|--------------------|
| RCBG1 | site background | 12-Dec-94 | 2.0 | 2 J |
| RCBG2 | site background | 12-Dec-94 | 2.0 | 2 J |
| RCUST1B1 | UST 1 - bottom | 13-Dec-94 | 10.0 | ND |
| RCUST1B2 | UST 1 - bottom | 13-Dec-94 | 10.0 | 1 J |
| RCUST1W1 | UST 1 - sidewall | 13-Dec-94 | 8.5 | 1 J |
| RCUST1W2 | UST 1 - sidewall | 13-Dec-94 | 8.3 | 2 J |
| RCUST1W3 | UST 1 - sidewall | 13-Dec-94 | 8.0 | 5 J |
| RCUST1W4 | UST 1 - sidewall | 13-Dec-94 | 8.0 | 2 J |
| RCUST1W5 | UST 1 - sidewall | 13-Dec-94 | 8.0 | 7 J |
| RCUST1W6 | UST 1 - sidewall | 13-Dec-94 | 8.0 | 4 J |
| RCUST1W7 | UST 1 - sidewall | 13-Dec-94 | 7.5 | 13 J |
| RCUST1W8 | UST 1 - sidewall | 13-Dec-94 | 7.5 | 8 J |
| RCUST2B1 | UST 2 - bottom | 13-Dec-94 | 6.3 | 22 J |
| RCUST2B2 | UST 2 - bottom | 13-Dec-94 | 6.0 | 31 J |
| RCUST2W1 | UST 2 - sidewall | 13-Dec-94 | 5.0 | 6 J |
| RCUST2W2 | UST 2 - sidewall | 13-Dec-94 | 5.0 | 8 J |
| RCUST2W3 | UST 2 - sidewall | 13-Dec-94 | 5.0 | 12 J |
| RCUST2W4 | UST 2 - sidewall | 13-Dec-94 | 5.0 | 4 J |
| RCUST2W5 | UST 2 - sidewall | 13-Dec-94 | 5.0 | 7 J |
| RCUST2W6 | UST 2 - sidewall | 13-Dec-94 | 5.0 | 11 J |
| RCUST2W7 | UST 2 - sidewall | 13-Dec-94 | 5.0 | 6 J |
| RCUST2W8 | UST 2 - sidewall | 13-Dec-94 | 5.0 | 4 J |

Table 2-1 (continued)
Soil Sample Screening Results
TPH by IR
Final Closure Report
Range Control USTs

| Sample ID | Sample Location | Sample Date | Sample Depth (ft) | TPH Result (mg/kg) |
|-----------|-------------------------------|-------------|-------------------|--------------------|
| RCUST1B2A | UST 1 - bottom confirmation | 14-Dec-94 | 10.0 | 1 J |
| RCUST1W7A | UST 1 - sidewall confirmation | 14-Dec-94 | 7.5 | 2 J |
| RCUST2B2A | UST 2 - bottom confirmation | 14-Dec-94 | 6.0 | 1 J |
| RCUST2W3A | UST 2 - sidewall confirmation | 14-Dec-94 | 5.0 | 4 J |
| EXRCUST1 | UST 1 - stockpile composite | 14-Dec-94 | N/A | 36 J |
| EXRCUST2 | UST 2 - stockpile composite | 14-Dec-94 | N/A | 13 J |

NOTES: mg/kg = milligrams per kilogram
J = indicates an estimated concentration below the practical quantitation limit
ND = indicated non-detect

The results of the IR screening, conducted on soil samples collected from the tank excavations, indicated no sign of contamination. Samples were relinquished to the on-site laboratory immediately following collection, and screening results were generally provided to the site supervisor within two hours. Confirmation sampling was initiated after screening results were reviewed.

2.3 Confirmation Sample Results

Two discrete confirmation samples were collected from each UST excavation in accordance with the base's UST removal protocol. One sample was collected from the bottom and one from the sidewall of each excavation, at locations where screening results indicated the highest concentrations of TPH (refer to Figure 2-1). All confirmatory soil samples were analyzed for TPH, priority pollutant VOCs, and BNAs by ASC laboratory, located in Findlay, Ohio. The ASC analytical report is provided as Appendix B. TPH analysis was performed by EPA method 418.1, VOCs by EPA method 8240, and BNAs analysis by EPA method 8270. The confirmation soil samples were screened on site for TPH prior to being sent to ASC to ensure that the samples were below the action level of 500 mg/kg.

PLOT SCALE: NONE

OHM CORPORATION
HOPKINTON, MA

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FD 04-21-95

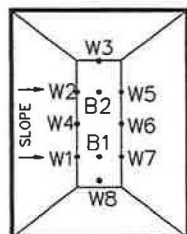
CHECKED BY
M6Q 08-04-95

APPROVED BY
M6Q 03-04-95

DRAWING
NUMBER 16208A04

RANGE CONTROL BUILDING 4202 (TRAILER)

UST # 2



UST # 1

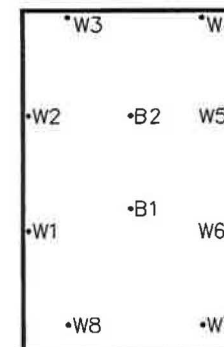


FIGURE 2-1
RANGE CONTROL
SAMPLE LOCATION MAP
FT. DEVENS MASSACHUSETTS

PREPARED FOR

U.S. ARMY CORPS OF ENGINEERS
WALTHAM, MASSACHUSETTS



OHM Corporation

TPH was only detected in the sidewall sample collected from the UST 1 tank grave (RCUST1W7A), at a concentration of 45.5 mg/kg, which is well below the 500 mg/kg site action level. No volatile or BNA compounds were detected in any of the samples.

2.4 Quality Assurance\Quality Control

Appropriate quality assurance\quality control (QA\QC) measures were taken to ensure the collection of representative soil samples and the generation of accurate and reproducible analytical data.

2.4.1 Sample Collection Quality Control

Soil samples were collected using either a stainless steel trowel or disposable polyethylene scoops. The sampling equipment was decontaminated using the following procedure:

- 1) Non-phosphate soap & water rinse;
- 2) tap water rinse;
- 3) distilled water rinse;
- 4) 10% nitric acid rinse;
- 5) distilled water rinse;
- 6) methanol rinse; and
- 7) distilled water rinse.

Sample integrity was also maintained by changing gloves between each sample location. All samples collected on site were entered on a chain of custody and documented on a sample collection log and a permanent logbook. Samples sent off site were properly preserved, packaged, and overnight shipped to the proper laboratory.

2.4.2 Laboratory Quality Control

Quality control measures were taken in the on-site laboratory to ensure the accuracy and precision of the analytical data. TPH concentrations were determined by infrared spectrometer using a modification of EPA Method 418.1. A calibration curve was developed for the IR instrument, prior to the start up of sampling activities, to establish detection limits and document linearity of the detector. A single calibration point was run in triplicate to demonstrate measurement precision. Continuing calibrations were also performed on a daily basis thereafter to provide a check on instrument response. A comparison of TPH results from on-site and off-site confirmation sample analyses indicates a good correlation.

The off-site laboratory took the proper quality control measures as specified in the methods used. Samples were properly preserved upon receipt by the laboratory, and sample extraction and analysis were performed within the holding times specified in the methods. Blank and spike samples associated with the samples collected from the two USTs were within acceptable QC limits.

2.5 Backfilling and Site Restoration

The excavation was backfilled with the soil removed during the tank removals, and with additional fill material provided by Lagasse Trucking, Inc. (Lagasse). A composite sample was collected from the off-site source of fill and analyzed on site for TPH, pesticides and PCB, prior to using as backfill. None of these constituents were detected in the composite sample. The excavation was backfilled in 12-inch lifts, and compacted between lifts.

2.6 Waste Characterization & Disposal

No samples were collected for waste characterization because contaminated soil was not discovered during the removals. Transportation and disposal documentation for the fuel and tank carcasses is provided in Appendix C.

Appendix A
On-site Soil Sample Screening Data

Soil Sample Collection Log
Fort Devens - Project #16208

Date: 12.12.94

Site Name: ^{Control} Range Tanks (UST's)

Pg. 1 of 2

Weather: Cold, Sunny, loved it

Samplers: MRB

| Sample ID Number | Time | Comp/Grab | Sample Depth (ft) | Coordinates Ref. Pt. | Coordinates Ref. Pt. | Sample Description | # of Bottles |
|------------------|------|-----------|-------------------|----------------------|----------------------|--------------------|--------------|
| RCB61 | 1447 | G | 6" | | | Coarse Golden Sand | 1X 40ml JAR |
| RCB62 | 1450 | G | 6" | | | Coarse Golden Sand | " |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Ref. Pt. ____: Note above samples were collected 6" into

Ref. Pt. ____: a face of exposed soil ~ 2' below ground surface

Map Attached: Yes No

Sample Type: Screening Confirmation Disposal/Characterization

Laboratory Destination: Onsite Lab ASC - coc # _____ USACE- coc # _____

Duplicate Taken: Yes No Rinsate Taken: Yes No

On-site Laboratory Chain of Custody/Request for Analysis

Requested Testing: TPH BTEX Chlordane 12.12.94 PCBs Other _____

Relinquished by(dd/tt): MRB 1505 Received by(dd/tt): MRB 1505

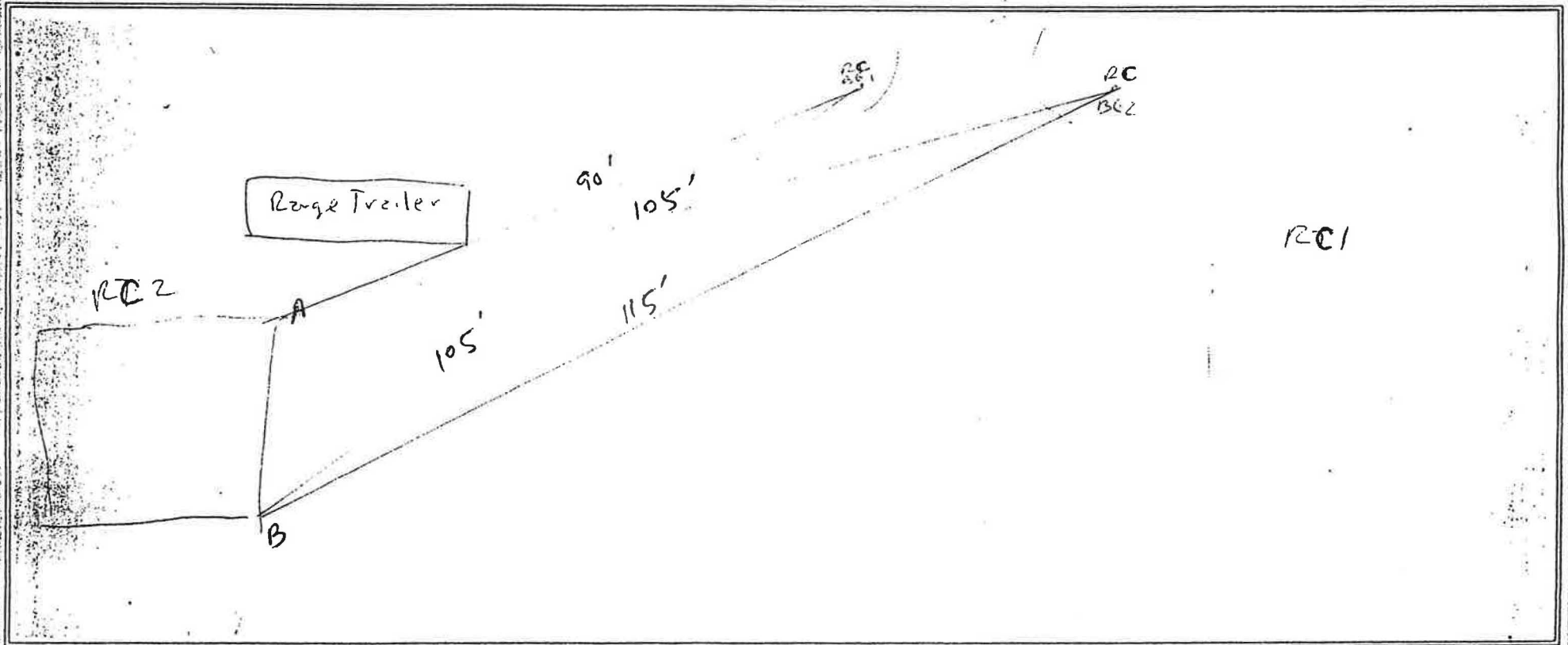
Relinquished by(dd/tt): _____ Received by(dd/tt): _____

Sample Location Map
Fort Devens - Project #16208

Date: 12.12.94

Site Name: Range Tanks (USTs)
Control

Pg. 2 of 2



Comments/Observations:

Prepared by: MRB

Pg. 1 of 1

Analyst:: MRB

AHC - Aromatic Hydrocarbons
TPH - Total Petroleum Hydrocarbons

Soil Sample Collection Log
Fort Devens - Project #16208

Pg. 1 of 3

Date: 12.13.94

Site Name: Range Control
 UST 1

Weather: Overcast, breezy, cold

Samplers: MGR

| Sample ID Number | Time | Comp/Grab | Sample Depth (ft) | Coordinates | | Sample Description | # of Bottles |
|------------------|------|-----------|-------------------|-------------|----------|-----------------------|---------------|
| | | | | Ref. Pt. | Ref. Pt. | | |
| RCU571 B1 | 1045 | G | 10' | See | | Golden sand | 1x 40ml 11 |
| B2 | 1046 | | 10' | | MAP | Golden sand | |
| W1 | 1048 | | 8'5" | | | Golden Sand | |
| W2 | 1050 | | 5'4" | | | Moist Lt Brown Sand | |
| W3 | 1052 | | 8' | | | med brown sand, moist | |
| W4 | 1053 | | 8' | | | Lt grey sand | |
| W5 | 1055 | | 5' | | | Light yellow sand | |
| W6 | 1057 | J | 5' | | | Light yellow tan sand | |

Ref. Pt. A: R+ Rear Corner of Range Control Trailer

Ref. Pt. B: R+ Front Corner of Range Control Trailer

Map Attached: Yes No A & B to left rear corner of excavation

Sample Type: Screening Confirmation Disposal/Characterization

Laboratory Destination: Onsite Lab ASC - coc # _____ USACE - coc # _____

Duplicate Taken: Yes No Rinsate Taken: Yes No

On-site Laboratory Chain of Custody/Request for Analysis

Requested Testing: TPH BTEX Chlordane PCBs Other _____

Relinquished by(dd/tt): WJL 12/13/94 1132 Received by(dd/tt): WJL 12/13/94 1132

Relinquished by(dd/tt): _____ Received by(dd/tt): _____

Soil Sample Collection Log
Fort Devens - Project #16208

Pg. 2 of 3

Date: 12.13.94

Site Name: Range Control

Weather: Overcast, breezy
cold

Samplers: UST 1
MGQ

| Sample ID Number | Time | Comp/Grab | Sample Depth (ft) | Coordinates | | Sample Description | # of Bottles |
|------------------|--------------|--------------|---------------------------|-------------|------------|---|--------------|
| | | | | Ref. Pt. | Ref. Pt. | | |
| <u>RCUST107</u> | <u>1:58</u> | <u>7 1/2</u> | <u>MAN</u> <u>4' G</u> | | | <u>Lt/well brown</u> <u>sandy soil</u> | |
| <u>110</u> | <u>11:00</u> | <u>7 1/2</u> | <u>4' G</u> | <u>502</u> | <u>MAP</u> | <u>Lt brown sand</u> | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Ref. Pt.____: _____

Ref. Pt.____: _____

Map Attached: Yes No

Sample Type: Screening Confirmation Disposal/Characterization

Laboratory Destination: Onsite Lab ASC - coc # _____ USACE- coc # _____

Duplicate Taken: Yes No Rinsate Taken: Yes No

On-site Laboratory Chain of Custody/Request for Analysis

Requested Testing: TPH BTEX Chlordane PCBs Other _____

Relinquished by(dd/tt): [Signature] 12.13.94 1132 Received by (dd/tt): [Signature] 12.13.94 1132

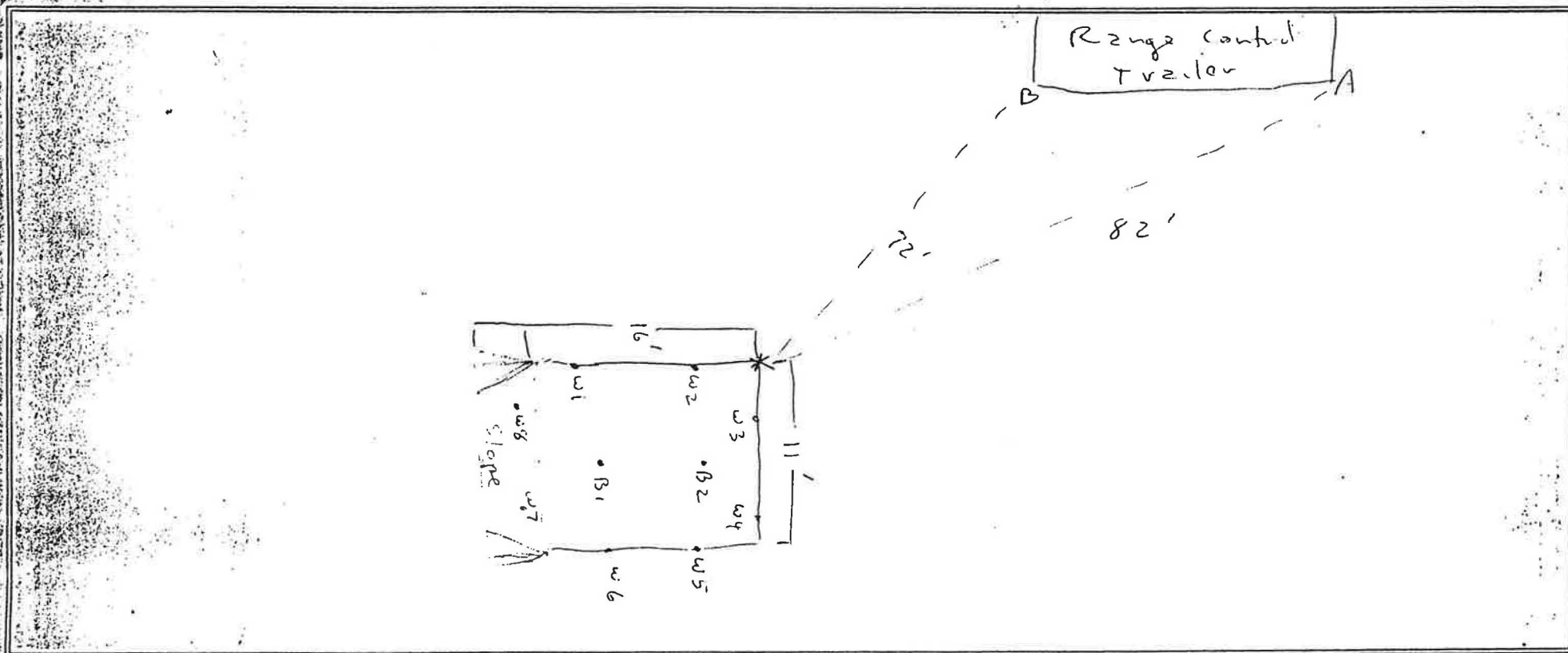
Relinquished by(dd/tt): _____ Received by (dd/tt): _____

Sample Location Map
Fort Devens - Project #16208

Pg. 3 of 3

Date: 12.13.94

Site Name: Range Control
UST 1



Comments/Observations:

Not drawn to scale

Excavation dimensions 11 x 16

Prepared by: MRB

Soil Sample Collection Log
Fort Devens - Project #16208

Date: 12.13.94

Site Name: Range Control
 UST2

Pg. 1 of 3

Weather: cloudy,
 cold

Samplers: MEQ

| Sample ID Number | Time | Comp/Grab | Sample Depth (ft) | Coordinates | | Sample Description | # of Bottles |
|------------------|------|-----------|-------------------|-------------|----------|------------------------|---------------------|
| | | | | Ref. Pt. | Ref. Pt. | | |
| RC UST2 B1 | 1415 | G | 6'7" | See | | 1 lb brown sand | 1 x 400 ml / 100 ml |
| B2 | 1417 | | 6'5" | | MAP | sand, tan, some coarse | |
| BW1 | 1419 | | 5' | | | moist, 1 lb brown sand | |
| W2 | 1420 | | 5' | | | 1 lb brown sand | |
| W3 | 1423 | | 5' | | | 1 lb brown sand | |
| W4 | 1425 | | 5' | | | 1 lb brown sand | |
| W5 | 1427 | | 5' | | | 1 lb brown sand | |
| W6 | 1428 | ✓ | 5' | | | 1 lb brown sand | ✓ |

Ref. Pt. B: Front right corner of Range Control Trailer

Ref. Pt. C: Front left corner of Range Control Trailer

Map Attached: Yes No B & C to Rt Rear corner of excavation

Sample Type: Screening Confirmation Disposal/Characterization

Laboratory Destination: Onsite Lab ASC - coc # _____ USACE - coc # _____

Duplicate Taken: Yes No Rinsate Taken: Yes No

On-site Laboratory Chain of Custody/Request for Analysis

Requested Testing: TPH BTEX Chlordane PCBs Other _____

Relinquished by(dd/tt): Michael A. [Signature] 12/13/94 1450 Received by(dd/tt): John B. [Signature] 12/13/94 1450

Relinquished by(dd/tt): _____ Received by(dd/tt): _____

Pg 2 of 3

Site Name: R2-90 Control
WST 2

Samplers: MGC

Ref. Pt. B: see map

Map Attached: ☒ Yes ☐ No

Laboratory Destination: (Onsite Lab) ASC - coc # _____ USACE- coc # _____

Duplicate Taken: Yes ☐ No ☒ Rinsate Taken: Yes ☐ No ☒

Requested Testing: TPH BTEX Chlordane PCBs Other _____

Relinquished by (dd/tt): 1/1/14 148 Received by (dd/tt): 5/13/14 1450

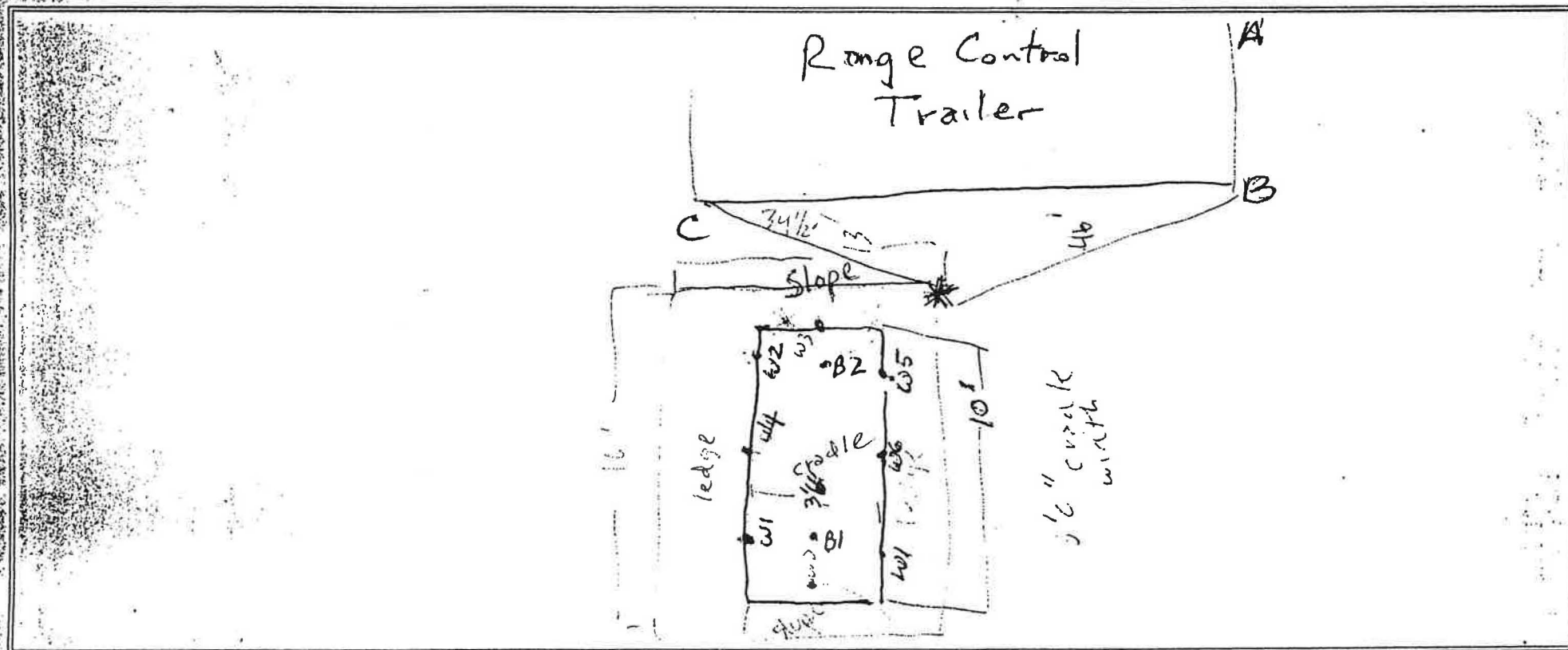
Relinquished by(dd/tt):_____ Received by (dd/tt):_____

Sample Location Map
Fort Devens - Project #16208

Pg. 3 of 3

Date: 12.13.94

Site Name: Range Control
UST 2



Comments/Observations:

Not drawn to scale

Excavation dimensions
outer 16' x 13'
inner cradle 3.5' x 10'

Prepared by: MKB

Location No.:

Range
Control
UST 1 & 2

Date: . / 2 . 13 . 94 GC Analyst:

Page 1 of 1

TPH Analyst: *MRB*

Sample ID

[illegible]

2,4,5,6-tcmx
decachlorobiphenyl

[illegible]

Sample ID

RC UST1

RCUST2

[illegible]

TPH Worksheet
On-site Laboratory
Fort Devens - Project #16208

Pg. 1 of 1

Date: 12.13.94

Site(s): Range Control
UST 1

Analyst: MVRB

| Sample ID | Instrument Response | | Calibration Adjusted | | Sample Weight (g) | Extract Vol. (ml) | Dilution | Results | |
|------------------|---------------------|-----------|----------------------|-----------|-------------------|-------------------|----------|-----------|-----------|
| | AHC (ppm) | TPH (ppm) | AHC (ppm) | TPH (ppm) | | | | AHC (ppm) | TPH (ppm) |
| RC UST1 B1 | ND | (-1) ND | | | 19.4 | 20.1 | | ND | ND |
| B2 | ND | 2 | | 1 | 19.7 | 20.1 | | ND | 15 |
| W1 W2 | ND | 2 | | 1 | 19.9 | 19.7 | | ND | 15 |
| W2 | ND | 3 | | 2 | 21.3 | 19.8 | | ND | 25 |
| W3 | ND | 8 | | 5 | 19.3 | 19.2 | | ND | 55 |
| W4 | ND | 4 | | 2 | 19.9 | 21.3 | | ND | 25 |
| W5 | ND | 13 | | 7 | 19.0 | 18.9 | | ND | 75 |
| W6 | ND | 7 | | 4 | 20.4 | 19.4 | | ND | 45 |
| W7 | ND | 24 | | 14 | 20.6 | 19.9 | | ND | 135 |
| W8 | ND | 13 | | 7 | 19.6 | 20.3 | | ND | 85 |
| RC UST2 B2 | ND | 33 | | 19 | 20.2 | 23.2 | | ND | 225 |
| RC UST2 B1 | ND | 50 | | 29 | 18.9 | 20.4 | | ND | 315 |
| W1 | ND | 10 | | 6 | 19.7 | 19.5 | | ND | 65 |
| W2 | ND | 15 | | 9 | 20.5 | 19.0 | | ND | 85 |
| W3 | ND | 23 | | 13 | 20.6 | 19.1 | | ND | 125 |
| W4 | ND | 6 | | 3 | 19.1 | 20.3 | | ND | 45 |
| W5 | ND | 13 | | 7 | 19.5 | 19.4 | | ND | 25 |
| W6 | ND | 21 | | 12 | 19.9 | 19.0 | | ND | 115 |
| W7 | ND | 11 | | 6 | 20.3 | 19.1 | | ND | 65 |
| W8 | ND | 7 | | 4 | 19.2 | 18.7 | | ND | 45 |

AHC - Aromatic Hydrocarbons

TPH - Total Petroleum Hydrocarbons

Soil Sample Collection Log
Fort Devens - Project #16208

Pg. 1 of 2

Date: 12.14.94

Site Name: Range Control UST1

Weather: slg ht show
flurries

Samplers: M6Q

| Sample ID Number | Time | Comp/ Grab | Sample Depth (ft) | Coordinates | | Sample Description | # of Bottles |
|------------------|------|------------|-------------------|-------------|----------|---|----------------|
| | | | | Ref. Pt. | Ref. Pt. | | |
| RCUST1B2A | 1339 | G | | A | B | lt golden sand | 2x401 2x402 |
| RCUST1W7A | 1346 | G | | | | red brown sand some brown darker spots, little rubble | ↓ |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Ref. Pt. See map from

Ref. Pt. 12.13.94 for RC UST1

Map Attached: Yes No

Sample Type: Screening Confirmation Disposal/Characterization

Laboratory Destination: Onsite Lab ASC - coc # 107753 USACE - coc # _____

Duplicate Taken: Yes No Rinsate Taken: Yes No

On-site Laboratory Chain of Custody/Request for Analysis

Requested Testing: TPH BTEX Chlordane PCBs Other PPL UoA & BNA

Relinquished by(dd/tt): M. J. [Signature] 12-14-94 1425 Received by(dd/tt): S. A. [Signature] 12-14-94 1425

Relinquished by(dd/tt): _____ Received by(dd/tt): _____

Original

Sample Location Map
Fort Devens - Project #16208

Date:

12.13.94

Site Name:

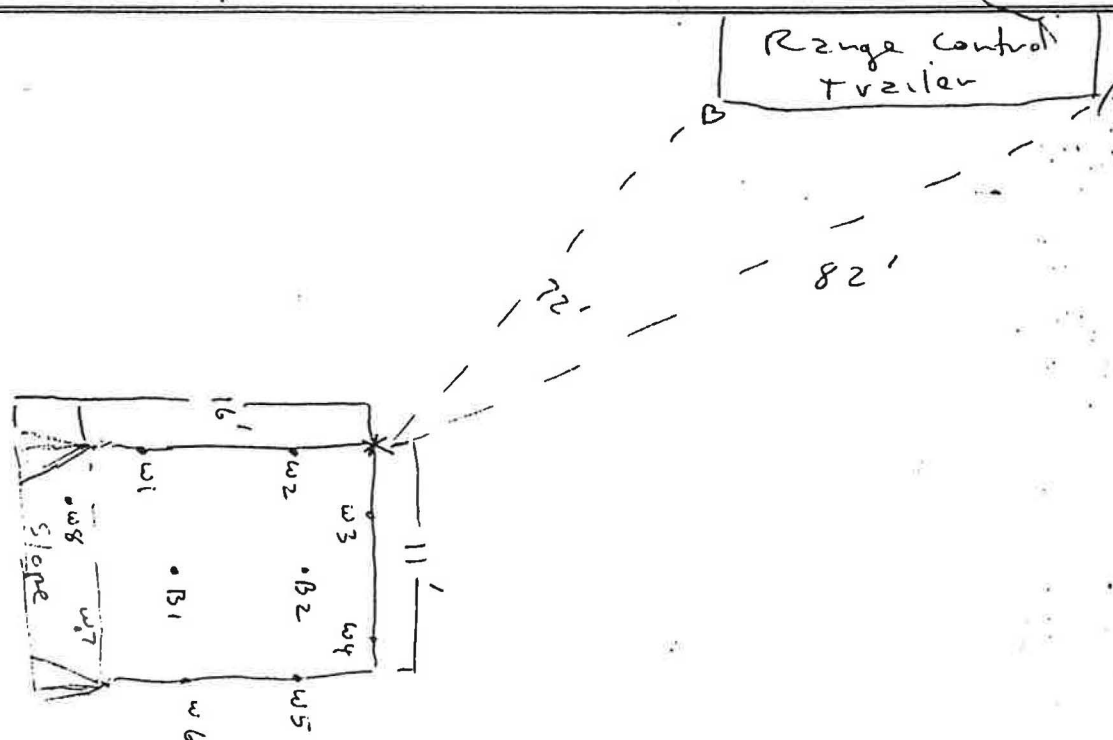
Range Control

attached to 12.14.94 report

UST 1

Pg. 3 of 3

page 3 of 3 for
12.14.94 report



Comments/Observations:

Not drawn to scale

Excavation dimensions 11 x 16

Prepared by: MRB

**Soil Sample Collection Log
Fort Devens - Project #16208**

Date: 12.17.94

Site Name: Range Conto PUSTZ

Pg. 1 of 2

Weather: slight snow flurries cold
Samplers: NAG

| Sample ID Number | Time | Comp/Grab | Sample Depth (ft) | Coordinates | | Sample Description | # of Bottles |
|------------------|------|-----------|-------------------|-------------|----------|-----------------------------|-----------------|
| | | | | Ref. Pt. | Ref. Pt. | | |
| RC4ST202A | 1322 | G | | B | C | Lt. brown sand, few pebbles | 2X400L 2X402 |
| W3A | 1326 | G | | | | Lt. med brown sand, moist | ↓ |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Ref. Pt. ____: SEE map from

Ref. Pt. ____: 12.13.94 for RG UST 2

Map Attached: Yes No

Sample Type: Screening Confirmation Disposal/Characterization

Laboratory Destination: Onsite Lab ASC - coc # 107253 USACE - coc # ____

Duplicate Taken: Yes No Rinsate Taken: Yes No

On-site Laboratory Chain of Custody/Request for Analysis

Requested Testing: TPH BTEX Chlordane PCBs Other PPL-V O.A. BWA

Relinquished by(dd/tt): M N [Signature] 12.17.94 1425 Received by(dd/tt): S N Blean 12.17.94 1425

Relinquished by(dd/tt): _____ Received by(dd/tt): _____

original

Sample Location Map
Fort Devens - Project #16208

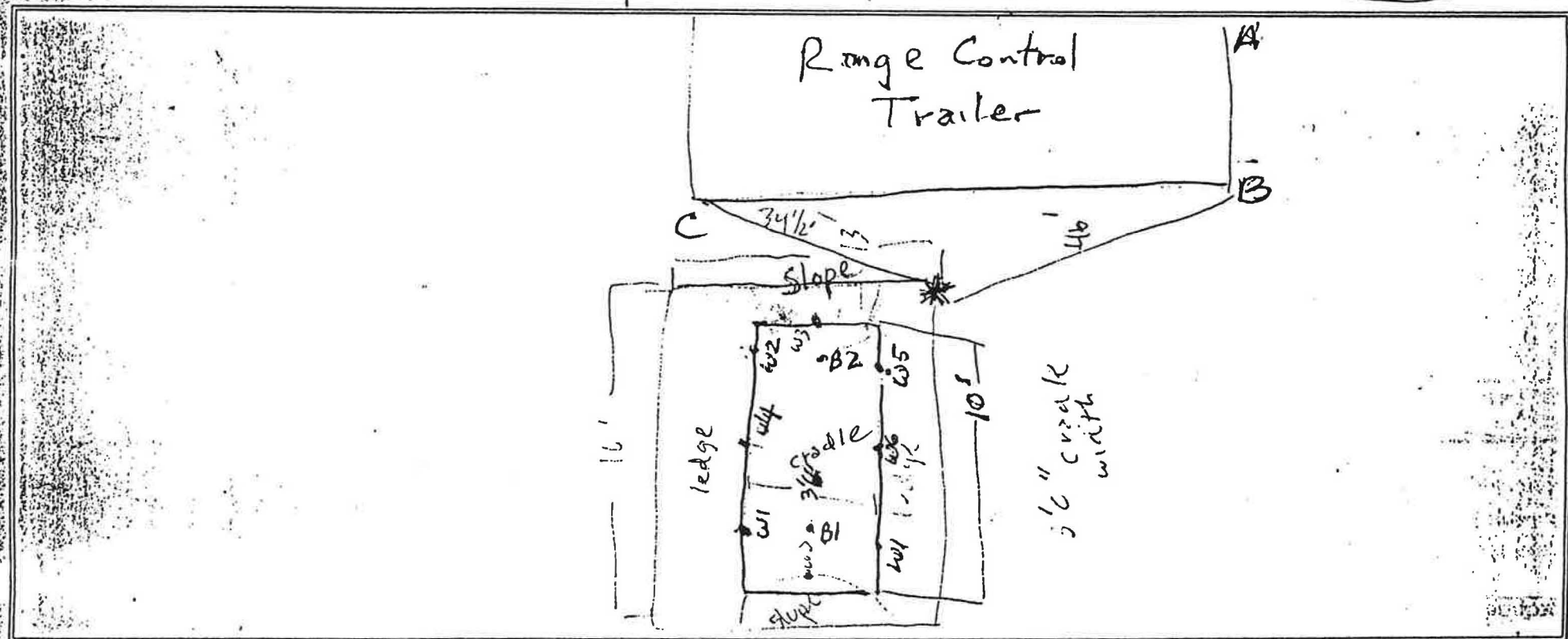
Date: 12.13.94

Site Name: Range Control
UST 2

Pg. 3 of 3

attached to 12.14.94 report

2 of 3 to
12.14.94 report



Comments/Observations:

Not drawn to scale

Excavation dimensions
outer 16' x 13'
inner cradle 3.5' x 10'

Prepared by: MKB

**Soil Sample Collection Log
Fort Devens - Project #16208**

Pg. 1 of 2

Date: 12-14-94

Site Name:

Range Control
USTI Excavation Pile

Weather:

Cloudy
cool, some flurries

Samplers:

M6Q

| Sample ID Number | Time | Comp/ Grab | Sample Depth (ft) | Coordinates Ref. Pt. | Coordinates Ref. Pt. | Sample Description | # of Bottles |
|------------------|------|------------|-------------------|----------------------|----------------------|--|--------------|
| EXRCUST1 | 1400 | C | | NA | NA | 5 ft core of Ex-cavation pile for RCUST1 | 1X1L |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Ref. Pt. ____:

See map attached

Ref. Pt. ____:

Map Attached:

Yes

No

Sample Type:

Screening

Confirmation

Disposal/Characterization

Laboratory Destination:

Onsite Lab

ASC - coc # _____

USACE- coc # _____

Duplicate Taken:

Yes

No

Rinsate Taken:

Yes

No

On-site Laboratory Chain of Custody/Request for Analysis

Requested Testing:

TPH

BTEX

Chlordane

PCBs

Other _____

Relinquished by(dd/tt):

MY Zink
12-14-94
1425

Received by (dd/tt):

SK Blum
12-14-94
1425

Relinquished by(dd/tt):

Received by (dd/tt):

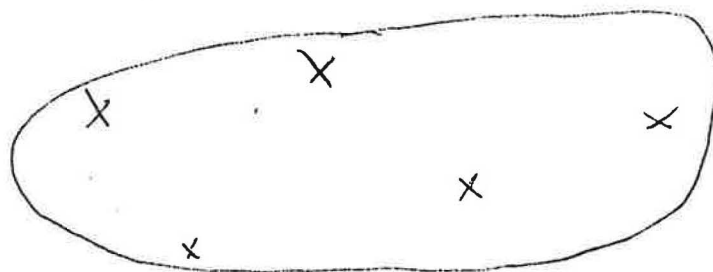
Sample Location Map
Fort Devens - Project #16208

Pg. 2 of 2

Date: 12.14.94

Site Name: Excavation Pike
RC 4ST1 - Sample EX RC 4ST1

RC Trailer
B A



Comments/Observations:

not to scale

Prepared by: JHRB

Soil Sample Collection Log
Fort Devens - Project #16208

Pg. 1 of 2

Date: 12-14-94

Site Name: Range Control
UST2 Excavation pile

Weather: cloudy
cold, snow flurries

Samplers: MGQ

| Sample ID Number | Time | Comp/ Grab | Sample Depth (ft) | Coordinates | | Sample Description | # of Bottles |
|------------------|------|------------|-------------------|-------------|----------|--|--------------|
| | | | | Ref. Pt. | Ref. Pt. | | |
| EX RC10T2 | 1412 | C | | NA | NA | 5pt composite in Excavation pile in RC UST 2 | 1X1L |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Ref. Pt. ____: See map

Ref. Pt. ____: _____

Map Attached: ☒ Yes ☐ No

Sample Type: Screening ☐ Confirmation ☒ Disposal/Characterization

Laboratory Destination: ☒ Onsite Lab ☐ ASC - coc # _____ USACE - coc # _____

Duplicate Taken: Yes ☐ No ☒ Rinsate Taken: Yes ☐ No ☒

On-site Laboratory Chain of Custody/Request for Analysis

Requested Testing: ☒ TPH ☐ BTEX ☐ Chlordane ☐ PCBs ☐ Other _____

Relinquished by (dd/tt): 12-14-94 1425 Received by (dd/tt): 12-14-94 1425

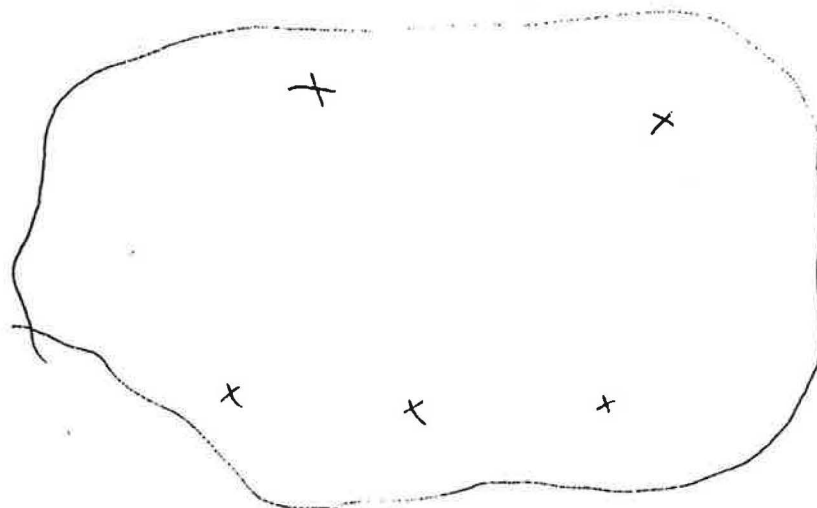
Relinquished by (dd/tt): _____ Received by (dd/tt): _____

Sample Location Map
Fort Devens - Project #16208

Date: 12-14-94

Site Name: Range Control UST2
Sample EX RC UST2

Pg. 3 of 2



Comments/Observations:

not to scale

Prepared by: MRB

Range Control
UST1, UST2
Excavation
piles for UST1 & 2

Site: Ft. Devens, MA

Location No.:

Date: 12.14.74 GC Analyst:

TPH Analyst: *MRB* Page 1 of 1

Method 8080

[illegible]

Percent Recovery

[illegible]

Method 418.1

[illegible]

TPH Worksheet
On-site Laboratory
Fort Devens - Project #16208
Range Control

Pg. 1 of 1

Date:

12.14.94

Site(s):

Site(s): UST 1, UST 2 and

Analyst:

MRB

UST 1 Excavation & UST 2
Pile Excavation Pile

[illegible]

AHC - Aromatic Hydrocarbons

TPH - Total Petroleum Hydrocarbons

Appendix B
ASC Analytical Report - Confirmation Soil Sample Results



Analytical Services Corp.

ANALYTICAL REPORT

Client: OHM Remediation Services Corporation
Eastern Region (Hopkinton, MA)

Attn: William Snow
Ron Kenyon
Mike Quinlan

Project: 16208C - USACE; Fort Devens, MA

Sample Type(s): Solid

Analysis Performed: Conventional and Organic


Date Sample Received: December 15, 1994

Date Order Received: December 15, 1994

Joblink(s): 617271

*This report is **"PROPRIETARY AND CONFIDENTIAL"** and delivered to, and intended for the exclusive use of the above named client only. Analytical Services Corporation assumes no responsibility or liability for the reliance hereon or use hereof by anyone other than the above named client.*

Reviewed and
Approved by:


Thomas E. Gran, Ph.D., Vice President

Date: January 4, 1995

PROJECT NARRATIVE

The following items relate to the samples and analytical data contained in this report.

- o All sample results are reported on a "dry weight" basis.
- o Note any and all comments at the bottom of the tables in Appendix B and/or Appendix C.
- o **ASC** will retain samples for a maximum of thirty (30) days after completion of the analysis, samples will be held for a longer period of time, if appropriate arrangements are made in advance. A nominal disposal charge of \$5.00/sample will be imposed for unreturned samples.

APPENDIX A
DATA SUMMARY REPORT

NOTE: The Tentatively Identified Volatile (GC/MS) Screen result(s), if applicable, is included in Appendix B.

DATA SUMMARY REPORT

DATE: 12/30/94

PAGE: 1

Company: OHM REMEDIATION SERVICES CORPORATION

| | | | | |
|--------------------|-----------|-----------|-----------|----------|
| Sample Point ID: | RCUST1B2A | RCUST1W7A | RCUST2B2A | RCUSTW3A |
| ASC Sample Number: | JN6278 | JN6279 | JN6280 | JN6281 |
| Sample Date: | 941214 | 941214 | 941214 | 941214 |
| Facility Code: | 016208C | 016208C | 016208C | 016208C |

| | |
|------------|-------|
| Parameters | Units |
|------------|-------|

Conventional Data (CV10)

| | | | | | |
|---------------|---|------|------|------|------|
| Solids, Total | % | 93.5 | 71.8 | 93.5 | 94.0 |
|---------------|---|------|------|------|------|

Total Petroleum Hydrocarbon Analysis, IR (IR00)

| | | | | | |
|-----------------------------|-------|-------|------|-------|-------|
| Petroleum Hydrocarbons (IR) | mg/kg | <7.04 | 45.5 | <7.12 | <6.97 |
|-----------------------------|-------|-------|------|-------|-------|

Priority Pollutant Base/Neutral/Acid Analysis, MS, (MS12)

| | | | | | |
|------------------------------|-------|-------|-------|-------|-------|
| Acenaphthene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Acenaphthylene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Anthracene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Benzidine | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Benzo(a)anthracene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Benzo(b)fluoranthene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Benzo(k)fluoranthene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Benzo(ghi)perylene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Benzo(a)pyrene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| bis(2-Chloroethyl) ether | mg/kg | <.348 | <.457 | <.351 | <.347 |
| bis(2-Chloroethoxy)methane | mg/kg | <.348 | <.457 | <.351 | <.347 |
| bis(2-Chloroisopropyl) ether | mg/kg | <.348 | <.457 | <.351 | <.347 |
| bis(2-Ethylhexyl)phthalate | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 4-Bromophenyl phenyl ether | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Butyl benzyl phthalate | mg/kg | <.348 | <.457 | <.351 | <.347 |
| p-Chloro-m-cresol | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 2-Chloronaphthalene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 2-Chlorophenol | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 4-Chlorophenyl phenyl ether | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Chrysene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Dibenzo(a,h)anthracene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Di-n-butyl phthalate | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 1,2-Dichlorobenzene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 1,3-Dichlorobenzene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 1,4-Dichlorobenzene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 3,3'-Dichlorobenzidine | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 2,4-Dichlorophenol | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Diethyl phthalate | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Dimethyl phthalate | mg/kg | <.348 | <.457 | <.351 | <.347 |

DATA SUMMARY REPORT

DATE: 12/30/94

PAGE: 2

Company: OHM REMEDIATION SERVICES CORPORATION

| | | | | |
|--------------------|-----------|-----------|-----------|----------|
| Sample Point ID: | RCUST1B2A | RCUST1W7A | RCUST2B2A | RCUSTW3A |
| ASC Sample Number: | JN6278 | JN6279 | JN6280 | JN6281 |
| Sample Date: | 941214 | 941214 | 941214 | 941214 |
| Facility Code: | 016208C | 016208C | 016208C | 016208C |

| | |
|------------|-------|
| Parameters | Units |
|------------|-------|

Priority Pollutant Base/Neutral/Acid Analysis, MS, (MS12)

| | | | | | |
|---------------------------|-------|-------|-------|-------|-------|
| 2,4-Dimethylphenol | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 4,6-Dinitro-o-cresol | mg/kg | <.871 | <1.14 | <.877 | <.868 |
| 2,4-Dinitrophenol | mg/kg | <1.74 | <2.28 | <1.75 | <1.74 |
| 2,4-Dinitrotoluene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 2,6-Dinitrotoluene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Di-n-octyl phthalate | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Fluoranthene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Fluorene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Hexachlorobenzene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Hexachlorobutadiene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Hexachlorocyclopentadiene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Hexachloroethane | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Isophorone | mg/kg | <.348 | <.457 | <.351 | <.347 |
| N-Nitrosodimethylamine | mg/kg | <.348 | <.457 | <.351 | <.347 |
| N-Nitrosodi-n-propylamine | mg/kg | <.348 | <.457 | <.351 | <.347 |
| N-Nitrosodiphenylamine | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Naphthalene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Nitrobenzene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 2-Nitrophenol | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 4-Nitrophenol | mg/kg | <1.74 | <2.28 | <1.75 | <1.74 |
| Pentachlorophenol | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Phenanthrene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Phenol | mg/kg | <.348 | <.457 | <.351 | <.347 |
| Pyrene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 1,2,4-Trichlorobenzene | mg/kg | <.348 | <.457 | <.351 | <.347 |
| 2,4,6-Trichlorophenol | mg/kg | <.348 | <.457 | <.351 | <.347 |

Priority Pollutant Volatile Analysis, MS, (MV10)

| | | | | | |
|----------------------|-------|-------|-------|-------|-------|
| Acrolein | mg/kg | <.026 | <.034 | <.027 | <.025 |
| Acrylonitrile | mg/kg | <.013 | <.017 | <.013 | <.013 |
| Benzene | mg/kg | <.005 | <.007 | <.005 | <.005 |
| Bromoform | mg/kg | <.005 | <.007 | <.005 | <.005 |
| Carbon tetrachloride | mg/kg | <.005 | <.007 | <.005 | <.005 |
| Chlorobenzene | mg/kg | <.005 | <.007 | <.005 | <.005 |

APPENDIX B

QUANTITATIVE RESULTS

CONVENTIONAL DATA (CV10)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUST1B2A

JN6278

| Compounds | Sample Results | Detection Limits | Blank Results | Batch Number |
|-----------------|----------------|------------------|---------------|--------------|
| Solids, Total % | 93.5 | .100 | - | |

CONVENTIONAL DATA (CV10)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUST1W7A

JN6279

| Compounds | Sample Results | Detection Limits | Blank Results | Batch Number |
|-----------------|----------------|------------------|---------------|--------------|
| Solids, Total % | 71.8 | .100 | - | |

CONVENTIONAL DATA (CV10)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUST2B2A

JN6280

| Compounds | Sample Results | Detection Limits | Blank Results | Batch Number |
|-----------------|----------------|------------------|---------------|--------------|
| Solids, Total % | 93.5 | .100 | - | |

CONVENTIONAL DATA (CV10)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUSTW3A

JN6281

| Compounds | Sample Results | Detection Limits | Blank Results | Batch Number |
|-----------------|----------------|------------------|---------------|--------------|
| Solids, Total % | 94.0 | .100 | - | |

TOTAL PETROLEUM HYDROCARBON ANALYSIS, IR (IR00)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUST1B2A

JN6278

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|-----------------------------|----------------------------|------------------------------|---------------------------|-----------------|
| Petroleum Hydrocarbons (IR) | ND | 7.04 | ND | Q2T41876 |

TOTAL PETROLEUM HYDROCARBON ANALYSIS, IR (IR00)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUST1W7A

JN6279

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|-----------------------------|-------------------------|---------------------------|------------------------|--------------|
| Petroleum Hydrocarbons (IR) | 45.5 | 9.13 | ND | Q2T41876 |

TOTAL PETROLEUM HYDROCARBON ANALYSIS, IR (IR00)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUST2B2A

JN6280

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|-----------------------------|-------------------------|---------------------------|------------------------|--------------|
| Petroleum Hydrocarbons (IR) | ND | 7.12 | ND | Q2T41876 |

TOTAL PETROLEUM HYDROCARBON ANALYSIS, IR (IR00)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUSTW3A

JN6281

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|-----------------------------|-------------------------|---------------------------|------------------------|--------------|
| Petroleum Hydrocarbons (IR) | ND | 6.97 | ND | Q2T41876 |

PRIORITY POLLUTANT BASE/NEUTRAL/ACID ANALYSIS, MS, (MS12)

| | | | |
|--------------------------------------|----------|--------------|----------------|
| Company Name | Facility | Sample Point | ASC Sample No. |
| OHM REMEDIATION SERVICES CORPORATION | 016208C | RCUST1B2A | JN6278 |

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|------------------------------|-------------------------|---------------------------|------------------------|--------------|
| Acenaphthene | ND | .348 | ND | Q2C41875 |
| Acenaphthylene | ND | .348 | ND | Q2C41875 |
| Anthracene | ND | .348 | ND | Q2C41875 |
| Benzidine | ND | .348 | ND | Q2C41875 |
| Benzo(a)anthracene | ND | .348 | ND | Q2C41875 |
| Benzo(b)fluoranthene | ND | .348 | ND | Q2C41875 |
| Benzo(k)fluoranthene | ND | .348 | ND | Q2C41875 |
| Benzo(ghi)perylene | ND | .348 | ND | Q2C41875 |
| Benzo(a)pyrene | ND | .348 | ND | Q2C41875 |
| bis(2-Chloroethyl) ether | ND | .348 | ND | Q2C41875 |
| bis(2-Chloroethoxy)methane | ND | .348 | ND | Q2C41875 |
| bis(2-Chloroisopropyl) ether | ND | .348 | ND | Q2C41875 |
| bis(2-Ethylhexyl)phthalate | ND | .348 | ND | Q2C41875 |
| 4-Bromophenyl phenyl ether | ND | .348 | ND | Q2C41875 |
| Butyl benzyl phthalate | ND | .348 | ND | Q2C41875 |
| p-Chloro-m-cresol | ND | .348 | ND | Q2C41875 |
| 2-Chloronaphthalene | ND | .348 | ND | Q2C41875 |
| 2-Chlorophenol | ND | .348 | ND | Q2C41875 |
| 4-Chlorophenyl phenyl ether | ND | .348 | ND | Q2C41875 |
| Chrysene | ND | .348 | ND | Q2C41875 |
| Dibenzo(a,h)anthracene | ND | .348 | ND | Q2C41875 |
| Di-n-butyl phthalate | ND | .348 | ND | Q2C41875 |
| 1,2-Dichlorobenzene | ND | .348 | ND | Q2C41875 |
| 1,3-Dichlorobenzene | ND | .348 | ND | Q2C41875 |
| 1,4-Dichlorobenzene | ND | .348 | ND | Q2C41875 |
| 3,3'-Dichlorobenzidine | ND | .348 | ND | Q2C41875 |
| 2,4-Dichlorophenol | ND | .348 | ND | Q2C41875 |
| Diethyl phthalate | ND | .348 | ND | Q2C41875 |
| Dimethyl phthalate | ND | .348 | ND | Q2C41875 |
| 2,4-Dimethylphenol | ND | .348 | ND | Q2C41875 |
| 4,6-Dinitro-o-cresol | ND | .871 | ND | Q2C41875 |
| 2,4-Dinitrophenol | ND | 1.74 | ND | Q2C41875 |
| 2,4-Dinitrotoluene | ND | .348 | ND | Q2C41875 |
| 2,6-Dinitrotoluene | ND | .348 | ND | Q2C41875 |
| Di-n-octyl phthalate | ND | .348 | ND | Q2C41875 |
| Fluoranthene | ND | .348 | ND | Q2C41875 |
| Fluorene | ND | .348 | ND | Q2C41875 |
| Hexachlorobenzene | ND | .348 | ND | Q2C41875 |
| Hexachlorobutadiene | ND | .348 | ND | Q2C41875 |
| Hexachlorocyclopentadiene | ND | .348 | ND | Q2C41875 |
| Hexachloroethane | ND | .348 | ND | Q2C41875 |
| Indeno(1,2,3-cd)pyrene | ND | .348 | ND | Q2C41875 |
| Isophorone | ND | .348 | ND | Q2C41875 |
| N-Nitrosodimethylamine | ND | .348 | ND | Q2C41875 |
| N-Nitrosodi-n-propylamine | ND | .348 | ND | Q2C41875 |
| N-Nitrosodiphenylamine | ND | .348 | ND | Q2C41875 |
| Naphthalene | ND | .348 | ND | Q2C41875 |
| Nitrobenzene | ND | .348 | ND | Q2C41875 |
| 2-Nitrophenol | ND | .348 | ND | Q2C41875 |
| 4-Nitrophenol | ND | 1.74 | ND | Q2C41875 |

PRIORITY POLLUTANT BASE/NEUTRAL/ACID ANALYSIS, MS, (MS12)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUST1B2A

JN6278

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|------------------------|----------------------------|------------------------------|---------------------------|-----------------|
| Pentachlorophenol | ND | .348 | ND | Q2C41875 |
| Phenanthrene | ND | .348 | ND | Q2C41875 |
| Phenol | ND | .348 | ND | Q2C41875 |
| Pyrene | ND | .348 | ND | Q2C41875 |
| 1,2,4-Trichlorobenzene | ND | .348 | ND | Q2C41875 |
| 2,4,6-Trichlorophenol | ND | .348 | ND | Q2C41875 |

PRIORITY POLLUTANT BASE/NEUTRAL/ACID ANALYSIS, MS, (MS12)

| | | | |
|--------------------------------------|----------|--------------|----------------|
| Company Name | Facility | Sample Point | ASC Sample No. |
| OHM REMEDIATION SERVICES CORPORATION | 016208C | RCUST1W7A | JN6279 |

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|------------------------------|-------------------------|---------------------------|------------------------|--------------|
| Acenaphthene | ND | .457 | ND | Q2C41875 |
| Acenaphthylene | ND | .457 | ND | Q2C41875 |
| Anthracene | ND | .457 | ND | Q2C41875 |
| Benzidine | ND | .457 | ND | Q2C41875 |
| Benzo(a)anthracene | ND | .457 | ND | Q2C41875 |
| Benzo(b)fluoranthene | ND | .457 | ND | Q2C41875 |
| Benzo(k)fluoranthene | ND | .457 | ND | Q2C41875 |
| Benzo(ghi)perylene | ND | .457 | ND | Q2C41875 |
| Benzo(a)pyrene | ND | .457 | ND | Q2C41875 |
| bis(2-Chloroethyl) ether | ND | .457 | ND | Q2C41875 |
| bis(2-Chloroethoxy)methane | ND | .457 | ND | Q2C41875 |
| bis(2-Chloroisopropyl) ether | ND | .457 | ND | Q2C41875 |
| bis(2-Ethylhexyl)phthalate | ND | .457 | ND | Q2C41875 |
| 4-Bromophenyl phenyl ether | ND | .457 | ND | Q2C41875 |
| Butyl benzyl phthalate | ND | .457 | ND | Q2C41875 |
| p-Chloro-m-cresol | ND | .457 | ND | Q2C41875 |
| 2-Chloronaphthalene | ND | .457 | ND | Q2C41875 |
| 2-Chlorophenol | ND | .457 | ND | Q2C41875 |
| 4-Chlorophenyl phenyl ether | ND | .457 | ND | Q2C41875 |
| Chrysene | ND | .457 | ND | Q2C41875 |
| Dibenzo(a,h)anthracene | ND | .457 | ND | Q2C41875 |
| Di-n-butyl phthalate | ND | .457 | ND | Q2C41875 |
| 1,2-Dichlorobenzene | ND | .457 | ND | Q2C41875 |
| 1,3-Dichlorobenzene | ND | .457 | ND | Q2C41875 |
| 1,4-Dichlorobenzene | ND | .457 | ND | Q2C41875 |
| 3,3'-Dichlorobenzidine | ND | .457 | ND | Q2C41875 |
| 2,4-Dichlorophenol | ND | .457 | ND | Q2C41875 |
| Diethyl phthalate | ND | .457 | ND | Q2C41875 |
| Dimethyl phthalate | ND | .457 | ND | Q2C41875 |
| 2,4-Dimethylphenol | ND | .457 | ND | Q2C41875 |
| 4,6-Dinitro-o-cresol | ND | 1.14 | ND | Q2C41875 |
| 2,4-Dinitrophenol | ND | 2.28 | ND | Q2C41875 |
| 2,4-Dinitrotoluene | ND | .457 | ND | Q2C41875 |
| 2,6-Dinitrotoluene | ND | .457 | ND | Q2C41875 |
| Di-n-octyl phthalate | ND | .457 | ND | Q2C41875 |
| Fluoranthene | ND | .457 | ND | Q2C41875 |
| Fluorene | ND | .457 | ND | Q2C41875 |
| Hexachlorobenzene | ND | .457 | ND | Q2C41875 |
| Hexachlorobutadiene | ND | .457 | ND | Q2C41875 |
| Hexachlorocyclopentadiene | ND | .457 | ND | Q2C41875 |
| Hexachloroethane | ND | .457 | ND | Q2C41875 |
| Indeno(1,2,3-cd)pyrene | ND | .457 | ND | Q2C41875 |
| Isophorone | ND | .457 | ND | Q2C41875 |
| N-Nitrosodimethylamine | ND | .457 | ND | Q2C41875 |
| N-Nitrosodi-n-propylamine | ND | .457 | ND | Q2C41875 |
| N-Nitrosodiphenylamine | ND | .457 | ND | Q2C41875 |
| Naphthalene | ND | .457 | ND | Q2C41875 |
| Nitrobenzene | ND | .457 | ND | Q2C41875 |
| 2-Nitrophenol | ND | .457 | ND | Q2C41875 |
| 4-Nitrophenol | ND | 2.28 | ND | Q2C41875 |

PRIORITY POLLUTANT BASE/NEUTRAL/ACID ANALYSIS, MS, (MS12)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUST1W7A

JN6279

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|------------------------|----------------------------|------------------------------|---------------------------|-----------------|
| Pentachlorophenol | ND | .457 | ND | Q2C41875 |
| Phenanthrene | ND | .457 | ND | Q2C41875 |
| Phenol | ND | .457 | ND | Q2C41875 |
| Pyrene | ND | .457 | ND | Q2C41875 |
| 1,2,4-Trichlorobenzene | ND | .457 | ND | Q2C41875 |
| 2,4,6-Trichlorophenol | ND | .457 | ND | Q2C41875 |

PRIORITY POLLUTANT BASE/NEUTRAL/ACID ANALYSIS, MS, (MS12)

| | | | |
|--------------------------------------|----------|--------------|----------------|
| Company Name | Facility | Sample Point | ASC Sample No. |
| OHM REMEDIATION SERVICES CORPORATION | 016208C | RCUST2B2A | JN6280 |

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|------------------------------|-------------------------|---------------------------|------------------------|--------------|
| Acenaphthene | ND | .351 | ND | Q2C41875 |
| Acenaphthylene | ND | .351 | ND | Q2C41875 |
| Anthracene | ND | .351 | ND | Q2C41875 |
| Benzidine | ND | .351 | ND | Q2C41875 |
| Benzo(a)anthracene | ND | .351 | ND | Q2C41875 |
| Benzo(b)fluoranthene | ND | .351 | ND | Q2C41875 |
| Benzo(k)fluoranthene | ND | .351 | ND | Q2C41875 |
| Benzo(ghi)perylene | ND | .351 | ND | Q2C41875 |
| Benzo(a)pyrene | ND | .351 | ND | Q2C41875 |
| bis(2-Chloroethyl) ether | ND | .351 | ND | Q2C41875 |
| bis(2-Chloroethoxy)methane | ND | .351 | ND | Q2C41875 |
| bis(2-Chloroisopropyl) ether | ND | .351 | ND | Q2C41875 |
| bis(2-Ethylhexyl)phthalate | ND | .351 | ND | Q2C41875 |
| 4-Bromophenyl phenyl ether | ND | .351 | ND | Q2C41875 |
| Butyl benzyl phthalate | ND | .351 | ND | Q2C41875 |
| p-Chloro-m-cresol | ND | .351 | ND | Q2C41875 |
| 2-Chloronaphthalene | ND | .351 | ND | Q2C41875 |
| 2-Chlorophenol | ND | .351 | ND | Q2C41875 |
| 4-Chlorophenyl phenyl ether | ND | .351 | ND | Q2C41875 |
| Chrysene | ND | .351 | ND | Q2C41875 |
| Dibenzo(a,h)anthracene | ND | .351 | ND | Q2C41875 |
| Di-n-butyl phthalate | ND | .351 | ND | Q2C41875 |
| 1,2-Dichlorobenzene | ND | .351 | ND | Q2C41875 |
| 1,3-Dichlorobenzene | ND | .351 | ND | Q2C41875 |
| 1,4-Dichlorobenzene | ND | .351 | ND | Q2C41875 |
| 3,3'-Dichlorobenzidine | ND | .351 | ND | Q2C41875 |
| 2,4-Dichlorophenol | ND | .351 | ND | Q2C41875 |
| Diethyl phthalate | ND | .351 | ND | Q2C41875 |
| Dimethyl phthalate | ND | .351 | ND | Q2C41875 |
| 2,4-Dimethylphenol | ND | .351 | ND | Q2C41875 |
| 4,6-Dinitro-o-cresol | ND | .877 | ND | Q2C41875 |
| 2,4-Dinitrophenol | ND | 1.75 | ND | Q2C41875 |
| 2,4-Dinitrotoluene | ND | .351 | ND | Q2C41875 |
| 2,6-Dinitrotoluene | ND | .351 | ND | Q2C41875 |
| Di-n-octyl phthalate | ND | .351 | ND | Q2C41875 |
| Fluoranthene | ND | .351 | ND | Q2C41875 |
| Fluorene | ND | .351 | ND | Q2C41875 |
| Hexachlorobenzene | ND | .351 | ND | Q2C41875 |
| Hexachlorobutadiene | ND | .351 | ND | Q2C41875 |
| Hexachlorocyclopentadiene | ND | .351 | ND | Q2C41875 |
| Hexachloroethane | ND | .351 | ND | Q2C41875 |
| Indeno(1,2,3-cd)pyrene | ND | .351 | ND | Q2C41875 |
| Isophorone | ND | .351 | ND | Q2C41875 |
| N-Nitrosodimethylamine | ND | .351 | ND | Q2C41875 |
| N-Nitrosodi-n-propylamine | ND | .351 | ND | Q2C41875 |
| N-Nitrosodiphenylamine | ND | .351 | ND | Q2C41875 |
| Naphthalene | ND | .351 | ND | Q2C41875 |
| Nitrobenzene | ND | .351 | ND | Q2C41875 |
| 2-Nitrophenol | ND | .351 | ND | Q2C41875 |
| 4-Nitrophenol | ND | 1.75 | ND | Q2C41875 |

PRIORITY POLLUTANT BASE/NEUTRAL/ACID ANALYSIS, MS, (MS12)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUST2B2A

JN6280

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|------------------------|----------------------------|------------------------------|---------------------------|-----------------|
| Pentachlorophenol | ND | .351 | ND | Q2C41875 |
| Phenanthrene | ND | .351 | ND | Q2C41875 |
| Phenol | ND | .351 | ND | Q2C41875 |
| Pyrene | ND | .351 | ND | Q2C41875 |
| 1,2,4-Trichlorobenzene | ND | .351 | ND | Q2C41875 |
| 2,4,6-Trichlorophenol | ND | .351 | ND | Q2C41875 |

PRIORITY POLLUTANT BASE/NEUTRAL/ACID ANALYSIS, MS, (MS12)

| | | | |
|--------------------------------------|----------|--------------|----------------|
| Company Name | Facility | Sample Point | ASC Sample No. |
| OHM REMEDIATION SERVICES CORPORATION | 016208C | RCUSTW3A | JN6281 |

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|-----------------------------|-------------------------|---------------------------|------------------------|--------------|
| Acenaphthene | ND | .347 | ND | Q2C41875 |
| Acenaphthylene | ND | .347 | ND | Q2C41875 |
| Anthracene | ND | .347 | ND | Q2C41875 |
| Benzidine | ND | .347 | ND | Q2C41875 |
| Benzo(a)anthracene | ND | .347 | ND | Q2C41875 |
| Benzo(b)fluoranthene | ND | .347 | ND | Q2C41875 |
| Benzo(k)fluoranthene | ND | .347 | ND | Q2C41875 |
| Benzo(ghi)perylene | ND | .347 | ND | Q2C41875 |
| Benzo(a)pyrene | ND | .347 | ND | Q2C41875 |
| bis(2-Chloroethyl) ether | ND | .347 | ND | Q2C41875 - |
| bis(2-Chloroethoxy)methane | ND | .347 | ND | Q2C41875 |
| bis(2-Chloroisopropyl)ether | ND | .347 | ND | Q2C41875 |
| bis(2-Ethylhexyl)phthalate | ND | .347 | ND | Q2C41875 |
| 4-Bromophenyl phenyl ether | ND | .347 | ND | Q2C41875 |
| Butyl benzyl phthalate | ND | .347 | ND | Q2C41875 |
| p-Chloro-m-cresol | ND | .347 | ND | Q2C41875 |
| 2-Chloronaphthalene | ND | .347 | ND | Q2C41875 |
| 2-Chlorophenol | ND | .347 | ND | Q2C41875 |
| 4-Chlorophenyl phenyl ether | ND | .347 | ND | Q2C41875 |
| Chrysene | ND | .347 | ND | Q2C41875 |
| Dibenzo(a,h)anthracene | ND | .347 | ND | Q2C41875 |
| Di-n-butyl phthalate | ND | .347 | ND | Q2C41875 |
| 1,2-Dichlorobenzene | ND | .347 | ND | Q2C41875 |
| 1,3-Dichlorobenzene | ND | .347 | ND | Q2C41875 |
| 1,4-Dichlorobenzene | ND | .347 | ND | Q2C41875 |
| 3,3'-Dichlorobenzidine | ND | .347 | ND | Q2C41875 |
| 2,4-Dichlorophenol | ND | .347 | ND | Q2C41875 |
| Diethyl phthalate | ND | .347 | ND | Q2C41875 |
| Dimethyl phthalate | ND | .347 | ND | Q2C41875 |
| 2,4-Dimethylphenol | ND | .347 | ND | Q2C41875 |
| 4,6-Dinitro-o-cresol | ND | .868 | ND | Q2C41875 |
| 2,4-Dinitrophenol | ND | 1.74 | ND | Q2C41875 |
| 2,4-Dinitrotoluene | ND | .347 | ND | Q2C41875 |
| 2,6-Dinitrotoluene | ND | .347 | ND | Q2C41875 |
| Di-n-octyl phthalate | ND | .347 | ND | Q2C41875 |
| Fluoranthene | ND | .347 | ND | Q2C41875 |
| Fluorene | ND | .347 | ND | Q2C41875 |
| Hexachlorobenzene | ND | .347 | ND | Q2C41875 |
| Hexachlorobutadiene | ND | .347 | ND | Q2C41875 |
| Hexachlorocyclopentadiene | ND | .347 | ND | Q2C41875 |
| Hexachloroethane | ND | .347 | ND | Q2C41875 |
| Indeno(1,2,3-cd)pyrene | ND | .347 | ND | Q2C41875 |
| Isophorone | ND | .347 | ND | Q2C41875 |
| N-Nitrosodimethylamine | ND | .347 | ND | Q2C41875 |
| N-Nitrosodi-n-propylamine | ND | .347 | ND | Q2C41875 |
| N-Nitrosodiphenylamine | ND | .347 | ND | Q2C41875 |
| Naphthalene | ND | .347 | ND | Q2C41875 |
| Nitrobenzene | ND | .347 | ND | Q2C41875 |
| 2-Nitrophenol | ND | .347 | ND | Q2C41875 |
| 4-Nitrophenol | ND | 1.74 | ND | Q2C41875 |

PRIORITY POLLUTANT BASE/NEUTRAL/ACID ANALYSIS, MS, (MS12)

Company Name

Facility

Sample Point

ASC Sample No.

OHM REMEDIATION SERVICES CORPORATION

016208C

RCUSTW3A

JN6281

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|------------------------|----------------------------|------------------------------|---------------------------|-----------------|
| Pentachlorophenol | ND | .347 | ND | Q2C41875 |
| Phenanthrene | ND | .347 | ND | Q2C41875 |
| Phenol | ND | .347 | ND | Q2C41875 |
| Pyrene | ND | .347 | ND | Q2C41875 |
| 1,2,4-Trichlorobenzene | ND | .347 | ND | Q2C41875 |
| 2,4,6-Trichlorophenol | ND | .347 | ND | Q2C41875 |

PRIORITY POLLUTANT VOLATILE ANALYSIS, MS, (MV10)

| | | | |
|--------------------------------------|----------|--------------|----------------|
| Company Name | Facility | Sample Point | ASC Sample No. |
| OHM REMEDIATION SERVICES CORPORATION | 016208C | RCUST1B2A | JN6278 |

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|-----------------------------|----------------------------|------------------------------|---------------------------|-----------------|
| Acrolein | ND | .026 | ND | Q2V4121 |
| Acrylonitrile | ND | .013 | ND | Q2V4121 |
| Benzene | ND | .005 | ND | Q2V4121 |
| Bromoform | ND | .005 | ND | Q2V4121 |
| Carbon tetrachloride | ND | .005 | ND | Q2V4121 |
| Chlorobenzene | ND | .005 | ND | Q2V4121 |
| Chlorodibromomethane | ND | .005 | ND | Q2V4121 |
| Chloroethane | ND | .005 | ND | Q2V4121 |
| Chloroform | ND | .005 | ND | Q2V4121 |
| 2-Chloroethylvinyl ether | ND | .005 | ND | Q2V4121 |
| Dichlorobromomethane | ND | .005 | ND | Q2V4121 |
| 1,1-Dichloroethane | ND | .005 | ND | Q2V4121 |
| 1,2-Dichloroethane | ND | .005 | ND | Q2V4121 |
| 1,1-Dichloroethylene | ND | .005 | ND | Q2V4121 |
| 1,2-Dichloropropane | ND | .005 | ND | Q2V4121 |
| cis-1,3-Dichloropropylene | ND | .005 | ND | Q2V4121 |
| trans-1,3-Dichloropropylene | ND | .005 | ND | Q2V4121 |
| Ethylbenzene | ND | .005 | ND | Q2V4121 |
| Methyl bromide | ND | .005 | ND | Q2V4121 |
| Methyl chloride | ND | .005 | ND | Q2V4121 |
| Methylene chloride | ND | .005 | ND | Q2V4121 |
| 1,1,2,2-Tetrachloroethane | ND | .005 | ND | Q2V4121 |
| Tetrachloroethylene | ND | .005 | ND | Q2V4121 |
| Toluene | ND | .005 | ND | Q2V4121 |
| 1,1,1-Trichloroethane | ND | .005 | ND | Q2V4121 |
| 1,1,2-Trichloroethane | ND | .005 | ND | Q2V4121 |
| Trichloroethylene | ND | .005 | ND | Q2V4121 |
| 1,2-Trans-dichloroethylene | ND | .005 | ND | Q2V4121 |
| Vinyl chloride | ND | .005 | ND | Q2V4121 |

PRIORITY POLLUTANT VOLATILE ANALYSIS, MS, (MV10)

| | | | |
|--------------------------------------|----------|--------------|----------------|
| Company Name | Facility | Sample Point | ASC Sample No. |
| OHM REMEDIATION SERVICES CORPORATION | 016208C | RCUST1W7A | JN6279 |

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|-----------------------------|----------------------------|------------------------------|---------------------------|-----------------|
| Acrolein | ND | .034 | ND | Q2V4121 |
| Acrylonitrile | ND | .017 | ND | Q2V4121 |
| Benzene | ND | .007 | ND | Q2V4121 |
| Bromoform | ND | .007 | ND | Q2V4121 |
| Carbon tetrachloride | ND | .007 | ND | Q2V4121 |
| Chlorobenzene | ND | .007 | ND | Q2V4121 |
| Chlorodibromomethane | ND | .007 | ND | Q2V4121 |
| Chloroethane | ND | .007 | ND | Q2V4121 |
| Chloroform | ND | .007 | ND | Q2V4121 |
| 2-Chloroethylvinyl ether | ND | .007 | ND | Q2V4121 |
| Dichlorobromomethane | ND | .007 | ND | Q2V4121 |
| 1,1-Dichloroethane | ND | .007 | ND | Q2V4121 |
| 1,2-Dichloroethane | ND | .007 | ND | Q2V4121 |
| 1,1-Dichloroethylene | ND | .007 | ND | Q2V4121 |
| 1,2-Dichloropropane | ND | .007 | ND | Q2V4121 |
| cis-1,3-Dichloropropylene | ND | .007 | ND | Q2V4121 |
| trans-1,3-Dichloropropylene | ND | .007 | ND | Q2V4121 |
| Ethylbenzene | ND | .007 | ND | Q2V4121 |
| Methyl bromide | ND | .007 | ND | Q2V4121 |
| Methyl chloride | ND | .007 | ND | Q2V4121 |
| Methylene chloride | ND | .007 | ND | Q2V4121 |
| 1,1,2,2-Tetrachloroethane | ND | .007 | ND | Q2V4121 |
| Tetrachloroethylene | ND | .007 | ND | Q2V4121 |
| Toluene | ND | .007 | ND | Q2V4121 |
| 1,1,1-Trichloroethane | ND | .007 | ND | Q2V4121 |
| 1,1,2-Trichloroethane | ND | .007 | ND | Q2V4121 |
| Trichloroethylene | ND | .007 | ND | Q2V4121 |
| 1,2-Trans-dichloroethylene | ND | .007 | ND | Q2V4121 |
| Vinyl chloride | ND | .007 | ND | Q2V4121 |

PRIORITY POLLUTANT VOLATILE ANALYSIS, MS, (MV10)

| | | | |
|--------------------------------------|----------|--------------|----------------|
| Company Name | Facility | Sample Point | ASC Sample No. |
| OHM REMEDIATION SERVICES CORPORATION | 016208C | RCUST2B2A | JN6280 |

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|-----------------------------|-------------------------|---------------------------|------------------------|--------------|
| Acrolein | ND | .027 | ND | Q2V4121 |
| Acrylonitrile | ND | .013 | ND | Q2V4121 |
| Benzene | ND | .005 | ND | Q2V4121 |
| Bromoform | ND | .005 | ND | Q2V4121 |
| Carbon tetrachloride | ND | .005 | ND | Q2V4121 |
| Chlorobenzene | ND | .005 | ND | Q2V4121 |
| Chlorodibromomethane | ND | .005 | ND | Q2V4121 |
| Chloroethane | ND | .005 | ND | Q2V4121 |
| Chloroform | ND | .005 | ND | Q2V4121 |
| 2-Chloroethylvinyl ether | ND | .005 | ND | Q2V4121 |
| Dichlorobromomethane | ND | .005 | ND | Q2V4121 |
| 1,1-Dichloroethane | ND | .005 | ND | Q2V4121 |
| 1,2-Dichloroethane | ND | .005 | ND | Q2V4121 |
| 1,1-Dichloroethylene | ND | .005 | ND | Q2V4121 |
| 1,2-Dichloropropane | ND | .005 | ND | Q2V4121 |
| cis-1,3-Dichloropropylene | ND | .005 | ND | Q2V4121 |
| trans-1,3-Dichloropropylene | ND | .005 | ND | Q2V4121 |
| Ethylbenzene | ND | .005 | ND | Q2V4121 |
| Methyl bromide | ND | .005 | ND | Q2V4121 |
| Methyl chloride | ND | .005 | ND | Q2V4121 |
| Methylene chloride | ND | .005 | ND | Q2V4121 |
| 1,1,2,2-Tetrachloroethane | ND | .005 | ND | Q2V4121 |
| Tetrachloroethylene | ND | .005 | ND | Q2V4121 |
| Toluene | ND | .005 | ND | Q2V4121 |
| 1,1,1-Trichloroethane | ND | .005 | ND | Q2V4121 |
| 1,1,2-Trichloroethane | ND | .005 | ND | Q2V4121 |
| Trichloroethylene | ND | .005 | ND | Q2V4121 |
| 1,2-Trans-dichloroethylene | ND | .005 | ND | Q2V4121 |
| Vinyl chloride | ND | .005 | ND | Q2V4121 |

PRIORITY POLLUTANT VOLATILE ANALYSIS, MS, (MV10)

| | | | |
|--------------------------------------|----------|--------------|----------------|
| Company Name | Facility | Sample Point | ASC Sample No. |
| OHM REMEDIATION SERVICES CORPORATION | 016208C | RCUSTW3A | JN6281 |

| Compounds | Sample Results mg/kg | Detection Limits mg/kg | Blank Results mg/kg | Batch Number |
|-----------------------------|-------------------------|---------------------------|------------------------|--------------|
| Acrolein | ND | .025 | ND | Q2V4121 |
| Acrylonitrile | ND | .013 | ND | Q2V4121 |
| Benzene | ND | .005 | ND | Q2V4121 |
| Bromoform | ND | .005 | ND | Q2V4121 |
| Carbon tetrachloride | ND | .005 | ND | Q2V4121 |
| Chlorobenzene | ND | .005 | ND | Q2V4121 |
| Chlorodibromomethane | ND | .005 | ND | Q2V4121 |
| Chloroethane | ND | .005 | ND | Q2V4121 |
| Chloroform | ND | .005 | ND | Q2V4121 |
| 2-Chloroethylvinyl ether | ND | .005 | ND | Q2V4121 |
| Dichlorobromomethane | ND | .005 | ND | Q2V4121 |
| 1,1-Dichloroethane | ND | .005 | ND | Q2V4121 |
| 1,2-Dichloroethane | ND | .005 | ND | Q2V4121 |
| 1,1-Dichloroethylene | ND | .005 | ND | Q2V4121 |
| 1,2-Dichloropropane | ND | .005 | ND | Q2V4121 |
| cis-1,3-Dichloropropylene | ND | .005 | ND | Q2V4121 |
| trans-1,3-Dichloropropylene | ND | .005 | ND | Q2V4121 |
| Ethylbenzene | ND | .005 | ND | Q2V4121 |
| Methyl bromide | ND | .005 | ND | Q2V4121 |
| Methyl chloride | ND | .005 | ND | Q2V4121 |
| Methylene chloride | ND | .005 | ND | Q2V4121 |
| 1,1,2,2-Tetrachloroethane | ND | .005 | ND | Q2V4121 |
| Tetrachloroethylene | ND | .005 | ND | Q2V4121 |
| Toluene | ND | .005 | ND | Q2V4121 |
| 1,1,1-Trichloroethane | ND | .005 | ND | Q2V4121 |
| 1,1,2-Trichloroethane | ND | .005 | ND | Q2V4121 |
| Trichloroethylene | ND | .005 | ND | Q2V4121 |
| 1,2-Trans-dichloroethylene | ND | .005 | ND | Q2V4121 |
| Vinyl chloride | ND | .005 | ND | Q2V4121 |

APPENDIX C
QUALITY ASSURANCE DATA

SUMMARY OF ANALYTICAL METHODOLOGY

ASC Joblink # 617271

| REFERENCE | TITLE |
|-----------|--|
| <hr/> | |
| 160.3 | CAWW Residue, Total, Gravimetric, Dried at 103-105 C |
| 418.1 | MCAWW Petroleum Hydrocarbons, Total Recoverable |
| 8240 | SW-846 GC/MS for Volatile Organics |
| 8270 | SW-846 GC/MS for Semivolatile Organics: Capillary Column Technique |

METHODOLOGY REFERENCES

- ASTM** *American Society for Testing and Materials*, 1985 edition.
- CAWW** *Methods for Chemical Analysis of Water and Wastes*, April 1979 and Updated #1 March 1983.
- CLP** *USEPA Contract Laboratory Program*, Document #OLMO1.0, updates December 1990 #OLMO1.1 and February 1991 #OLMO1.1.1.
- EPA-500** *USEPA Methods for the Determination of Organic Compounds in Drinking Water*, EPA-600/4-88/039 December 1988.
- EPA-600** *USEPA Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater*, EPA-600/4-82-057 July 1982.
- NIOSH** *National Institute for Occupational Safety and Health*, 3rd edition, 1984.
- SMEWW** *Standard Methods for the Examination of Water and Wastewater*, 17th edition, 1989.
- STOA** *Spot Tests In Organic Analysis*, 7th edition, 1966.
- SW-846** *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods*, 3rd edition, September 1986 and Update #1 July 1992.
- (1) This method was modified to incorporate the use of Boron Trifluoride (BF₃) as the derivatizing reagent according to Method 6640 in *SMEWW*, 17th edition, 1989.
- Title 22** *Waste Extraction Test*, Title 22, Section 66261.126 Appendix 2 of the California Administrative Code, May 1991.

ASC Certifications

| State | Agency | Certification # |
|----------------|-------------|-----------------|
| Alabama | ADEM | 40830 |
| California | CADOH | 1178 |
| Colorado | CODOH | OH113 |
| Delaware | DEHSS | OH113 |
| Kansas | KSDHE | E-202 & E-1173 |
| Louisiana | LADOHH | 92-10 |
| Maryland | MDDHMH | 210 |
| Massachusetts | MADEP | M-OH113 |
| New Jersey | NJDEPE | 74603 |
| New York | NYDOH | 10712 |
| North Carolina | NCDEM | 392 |
| Ohio | OHEPA | OH113 |
| Oklahoma | OKDEQ | 9216 |
| Pennsylvania | PADER | 68-450 |
| South Carolina | SCDEHNR | 92002 |
| Tennessee | TNDOH/TNDEC | 2978 |
| Virginia | VADGS | 00011 |
| Washington | WADOE | C154 |
| Wisconsin | WIDNR | 999037160 |

Validated by:

- o US Army Corps of Engineers Chemical Analysis in Various Matrices

Approvals:

- o Chemical Waste Management Waste Characterization Analysis
- o EnviroSAFE Waste Characterization Analysis
- o USDA Permit for Importing Soils
- o Florida DEP Quality Assurance Plan #930034G
- o Naval Facilities Engineering Service Center Chemical Analysis in Various Matrices

REPORT KEY

| | |
|-------------------|---|
| mg/kg | = milligram per kilogram (ppm) |
| Mg/m ³ | = milligram per cubic meter |
| ug/kg | = microgram per kilogram (ppb) |
| mg/L | = milligram per liter (ppm) |
| ug/L | = microgram per liter (ppb) |
| mg/W | = milligram per wipe |
| ug/W | = microgram per wipe |
| mg/SMP | = milligram per sample |
| ug/SMP | = microgram per sample (Tedlar Bag) |
| ug/smp | = microgram per sample |
| um/cm | = microMho per centimeter |
| pCi/l | = picocurie per liter |
| gm/cc | = grams per cubic centimeter |
| ppm | = parts per million |
| ppb | = parts per billion |
| ND | = Not detected at or above stated detection limit |
| < | = less than |
| > | = greater than |
| % | = percent |
| BTU/lb | = British Thermal Units per pound |
| Deg. C | = Degrees Celsius |
| n/a | = not applicable |
| Unk | = unknown |
| std | = result is relative to standard pH units |
| CV | = Conventional |
| IR | = Infrared Spectrophotometric |
| GC | = Gas Chromatograph Instrument |
| GC/MS | = Gas Chromatography/Mass Spectrometer Instrument |
| GRO | = Gasoline Range Organics |
| DRO | = Diesel Range Organics |
| PCB | = Polychlorinated Biphenyls (PCBs) |
| EP TOX | = Extraction Procedure Toxicity |
| TCLP | = Toxicity Characteristic Leaching Procedure |
| RCRA | = Resource Conservation and Recovery Act |
| SOW | = Statement of Work |

QUALITY ASSURANCE DATA

TOTAL PETROLEUM HYDROCARBON ANALYSIS, IR (IR00)

| Compounds | Blank Results mg/kg | Blank Spike Recov | Unspiked Sample Results mg/kg | Matrix Spike Recov | Relative Percent Diff | Batch Number |
|-----------------------------|------------------------|----------------------|-------------------------------------|-----------------------|-----------------------------|-----------------|
| Petroleum Hydrocarbons (IR) | ND | 83 | ND | 78 | 1 | Q2T41876 |

QUALITY ASSURANCE DATA

PRIORITY POLLUTANT BASE/NEUTRAL/ACID ANALYSIS, MS, (MS12)

| Compounds | Blank Results mg/kg | Blank Spike Recov | Unspiked Sample Results mg/kg | Matrix Spike Recov | Relative Percent Diff | Batch Number |
|---------------------------|---------------------------|-------------------------|--|--------------------------|-----------------------------|-----------------|
| Acenaphthene | ND | 67 | ND | 64 | 2 | Q2C41875 |
| p-Chloro-m-cresol | ND | 67 | ND | 63 | 7 | Q2C41875 |
| 2-Chlorophenol | ND | 62 | ND | 59 | 0 | Q2C41875 |
| 1,4-Dichlorobenzene | ND | 67 | ND | 60 | 1 | Q2C41875 |
| 2,4-Dinitrotoluene | ND | 72 | ND | 65 | 3 | Q2C41875 |
| N-Nitrosodi-n-propylamine | ND | 69 | ND | 62 | 3 | Q2C41875 |
| 4-Nitrophenol | ND | 69 | ND | 77 | 5 | Q2C41875 |
| Pentachlorophenol | ND | 73 | ND | 77 | 8 | Q2C41875 |
| Phenol | ND | 63 | ND | 70 | 4 | Q2C41875 |
| Pyrene | ND | 70 | ND | 69 | 5 | Q2C41875 |
| 1,2,4-Trichlorobenzene | ND | 67 | ND | 62 | 1 | Q2C41875 |

PRIORITY POLLUTANT VOLATILE ANALYSIS, MS, (MV10)

**QUALITY ASSURANCE DATA
SURROGATE SUMMARY REPORT**

| SURROGATE ID | A159 | B732 | A121 | A884 | A158 | B142 | # OUT |
|---|----------|----------|----------|----------|----------|----------|-------|
| QC BATCH: Q2C41875 Solid (Semi-Volatile organics by MS) | | | | | | | |
| SAMPLE ID | | | | | | | |
| BLANK | 57 | 67 | 65 | 65 | 77 | 76 | 0 |
| BLANK SPIKE | 73 | 73 | 87 | 76 | 82 | 81 | 0 |
| RCUST1B2A | 60 | 74 | 75 | 70 | 82 | 83 | 0 |
| RCUST1W7A | 65 | 80 | 76 | 71 | 84 | 79 | 0 |
| RCUST1W7A MD | 59 | 62 | 72 | 63 | 70 | 77 | 0 |
| RCUST1W7A MS | 67 | 69 | 81 | 69 | 75 | 82 | 0 |
| RCUST2B2A | 56 | 72 | 65 | 66 | 76 | 71 | 0 |
| RCUSTW3A | 56 | 71 | 67 | 67 | 78 | 80 | 0 |
| QC LIMITS | (25-121) | (24-113) | (19-122) | (23-120) | (30-115) | (18-137) | |

| SURROGATE ID | A047 | B185 | B668 | # OUT |
|---|----------|----------|----------|-------|
| QC BATCH: Q2V4121 Solid (Volatile organics by MS) | | | | |
| SAMPLE ID | | | | |
| BLANK | 102 | 98 | 102 | 0 |
| BLANK SPIKE | 105 | 98 | 97 | 0 |
| RCUST1B2A | 98 | 94 | 96 | 0 |
| RCUST1B2A MD | 97 | 88 | 91 | 0 |
| RCUST1B2A MS | 95 | 100 | 103 | 0 |
| RCUST1W7A | 100 | 98 | 93 | 0 |
| RCUST2B2A | 101 | 90 | 97 | 0 |
| RCUSTW3A | 101 | 89 | 97 | 0 |
| QC LIMITS | (70-121) | (81-117) | (74-121) | |

SURROGATE ID

A047 = 1,2-Dichloroethane-D4
 B185 = Toluene-D8
 B668 = Bromofluorobenzene
 A159 = 2-Fluorophenol
 B732 = Phenol-D6
 A121 = 2,4,6-Tribromophenol
 A884 = Nitrobenzene-D5
 A158 = 2-Fluorobiphenyl
 B142 = Terphenyl-D14

* Values outside of method quality control limits
 D Sample was diluted, however, some surrogates may be reported if results were observed.

It is ASC's laboratory policy to allow one surrogate per sample fraction (acid, base-neutral or pesticide) to exceed the stated QC limits. This policy is based upon the USEPA SOW for the Contract Laboratory Program (CLP).

APPENDIX D
CHAIN-OF-CUSTODY RECORD(S)



OHM Corporation

CHAIN-OF-CUSTODY RECORD

Form 001C
Field Technical Services
Rev. 08/89

No. 107753

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

| PROJECT NAME | | PROJECT LOCATION | | NUMBER OF CONTAINERS | | ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) | | REMARKS | |
|---------------------|-----------------|----------------------|-------------------------|----------------------|------|--|--|---------|--|
| PROJ. NO | PROJECT CONTACT | PROJECT TELEPHONE NO | CLIENT'S REPRESENTATIVE | | | | | | |
| FT Devers | | Ayer Ma | | | | | | | |
| 16208 | | Mike Quinlan | | (508) 772-2019 | | | | | |
| Tim Coleman - USACE | | Bill Snow | | | | | | | |
| ITEM NO. | SAMPLE NUMBER | DATE | TIME | COMP | GRAB | SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE) | | | |
| 1 | RCUST1B2A | 12.11 94 | 1339 | | ✓ | Range Control UST1 Sample pt B2, Lt golden sand | | 4 | |
| 2 | RCUST1G7A | " | 1346 | | ✓ | Range Control UST1 sample pt W2, med brown sand | | 4 | |
| 3 | RCUST2B2A | " | 1322 | | ✓ | Range Control UST2 sample pt B2, Lt Brown sand | | 4 | |
| 4 | RCUST43A | " | 1326 | | ✓ | Range Control UST2 sample pt W3, med Lt/med sand br | | 4 | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

| TRANSFER NUMBER | ITEM NUMBER | TRANSFERS RELINQUISHED BY | TRANSFERS ACCEPTED BY | DATE | TIME | REMARKS |
|-----------------|-------------|----------------------------------|-------------------------------|-------------|------|--------------------------------------|
| 1 | 1-4 | Michael X Zurek | Fed Ex Airbill #2489345800 | 12/14 94 | 1600 | Temp block included Preserved 4°C |
| 2 | 1-4 | Michael X Zurek Fed X | M. Radabaugh | 12/15 94 | 1024 | |
| 3 | | | | | | |
| 4 | | | | | | |

2.4°C

SAMPLER'S SIGNATURE: *Michael X Zurek*

LAB COPY

Appendix C
Transportation and Disposal Documentation

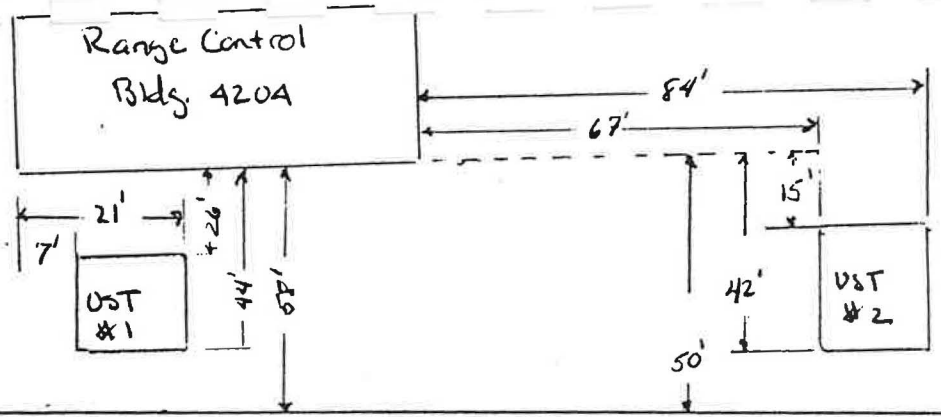


DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING
DIVISION OF SOLID AND HAZARDOUS WASTE
One Winter Street
Boston, Massachusetts 02108

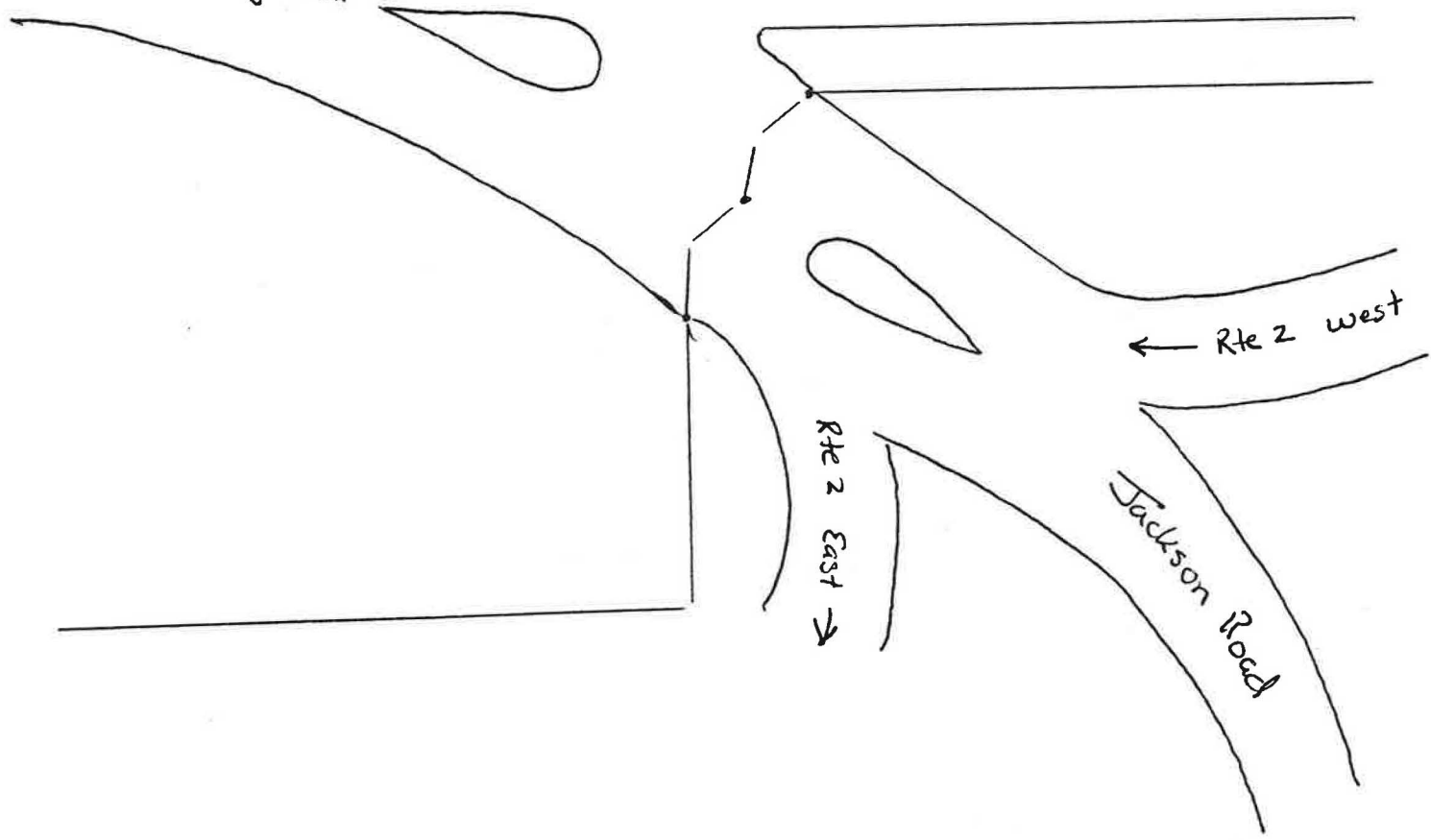
South Coast
UST's

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

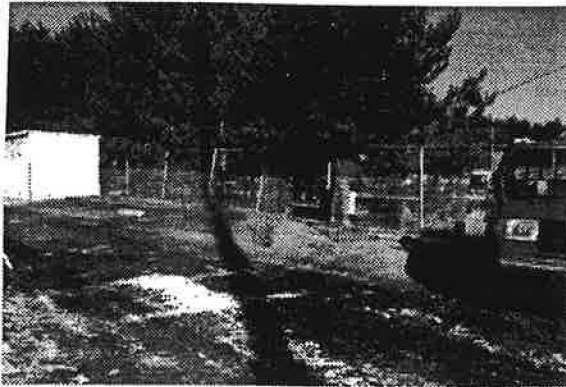
| UNIFORM HAZARDOUS WASTE MANIFEST | | 1. Generator US EPA ID No. | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law. | |
|---|--|---|---|---|--|
| 3. Generator's Name and Mailing Address U.S. Army Headquarters Fort Devens AFZD-EM, Box 19 (Gail Miller) Fort Devens; MA 01433-5190 | | 4. Generator's Phone (508) 796-2195 | 5. Transporter 1 Company Name Clean Harbors Env. Services, Inc. | 6. US EPA ID Number MA D 039322250 | A. State Manifest Document Number MA C224363 |
| 7. Transporter 2 Company Name | | 8. US EPA ID Number | B. State Gen. ID SAME | | |
| 9. Designated Facility Name and Site Address Murphy's Waste Oil Services, Inc. 252 R Salem Street Woburn, MA 01801 | | 10. US EPA ID Number MA D 066588005 | C. State Trans. ID MA13260 | | |
| 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) | | 12. Containers No. | 13. Total Quantity | 14. Unit Wt./Vol | 15. Waste No. |
| a. Waste Fuel Oil, Combustible Liquid, NA1993, PG III | | 001 | TT | 750 G | MA98 |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.) | | K. Handling Codes for Wastes Listed Above | | | |
| a. Used Fuel Oil T.L. | | a. | | | |
| b. | | b. | | | |
| 15. Special Handling Instructions and Additional Information Approval # U49410 | | Dextil Test Kit < 300 ppm Front Comp. | | | |
| 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. | | In Case of Emergency Call 1-800-Oil-Tank | | | |
| If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford. | | | | | |
| Printed/Typed Name DENNIS P ENGLAND | | Signature <i>Dennis P England</i> | | Date 12/12/94 | |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | Printed/Typed Name Joe Smith | | Signature <i>Joe Smith</i> | |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | Printed/Typed Name | | Signature | |
| 19. Discrepancy Indication Space | | | | | |
| 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. | | Date 12/12/94 | | | |
| Printed/Typed Name | | Signature | | Month Day Year | |



South Post Range Rd.



Appendix D
Site Photographs



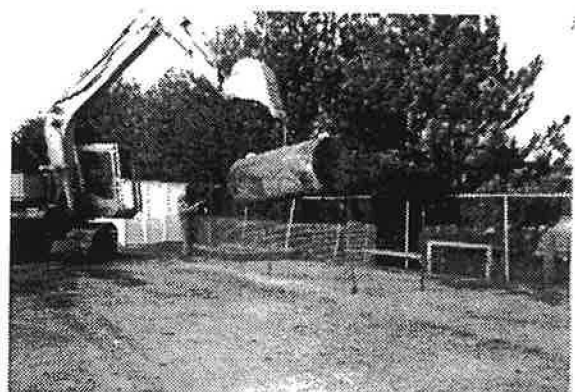
Site Preparation



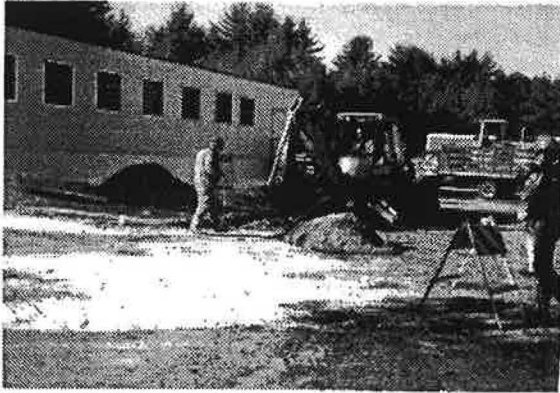
Monitoring of UST #1



Removal of UST #1



Staging of UST #1 for decontamination



Search for UST #2



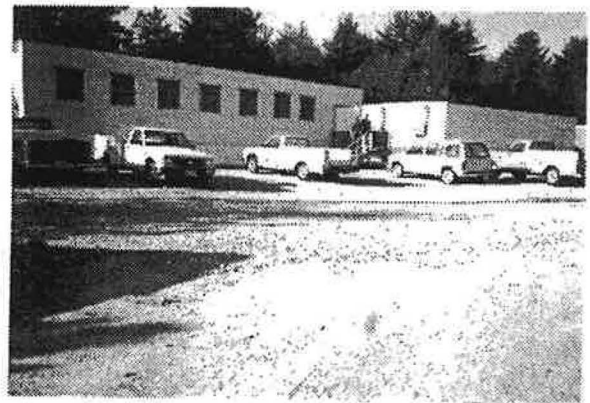
Uncovering UST #2



Side view of UST #2



Removal of UST #2



Subsequent to restoration of
Range Control Site