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**DEPARTMENT OF THE AIR FORCE**
HEADQUARTERS 49TH FIGHTER WING (ACC)
HOLLOMAN AIR FORCE BASE, NEW MEXICO

16 NOV 1995

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT
Groundwater Protection & Remediation Bureau
Attn: Julie Jacobs
1190 St Francis Dr
Santa Fe NM 87502

FROM: 49 CES/CEV
550 Tabosa Avenue
Holloman AFB NM 88330-8458

SUBJECT: Preliminary Assessment and Site Investigation Reports

1. Attached please find the Preliminary Assessment Report for waste sites Area of Concern (AOC)-BBMS & AOC-RR and the Site Investigation Report for Installation Restoration Program (IRP) sites SS-06 & SD-15 and waste sites AOC-BBMS & AOC-RR. These documents are provided for your review. No Further Action (NFA) is recommended for all of the sites investigated.

2. If you have any questions, please contact Warren Neff at (505) 475-5395.

ROBERT R. HENKEL, Lt Col, USAF
Base Civil Engineer

Attachments:
Preliminary Assessment at Waste Sites AOC-BBMS and AOC-RR, Oct 1995
Site Investigation Report for Waste Sites SS-06, SD-15, AOC-RR and AOC-BBMS, Oct 1995

cc: w/Atch

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*Headquarters, Air Combat Command*
*Langley Air Force Base,*
*Virginia*

# *DRAFT FINAL*
# *SITE INVESTIGATION REPORT*
# *WASTE SITES SS-06, SD-15, AOC-RR, AND AOC-BBMS*

*OCTOBER 1995*

*49 CES/CEV*
*Holloman Air Force Base,*
*New Mexico*

# DRAFT FINAL
# SITE INVESTIGATION REPORT
# WASTE SITES SS-06, SD-15, AOC-RR, AND AOC-BBMS
# HOLLOMAN AIR FORCE BASE, NEW MEXICO

Prepared for:

49 CES/CEVR
Holloman Air Force Base, NM

and

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U.S. Army Corps of Engineers
Omaha District
Omaha, Nebraska

October 1995

# TABLE OF CONTENTS

LIST OF FIGURES . . . . . iv

LIST OF TABLES . . . . . vi

LIST OF APPENDICES . . . . . viii

LIST OF ACRONYMS . . . . . x

1.0 INTRODUCTION . . . . . 1-2
- 1.1 Purpose and Scope . . . . . 1-2
- 1.2 Document Organization . . . . . 1-4

2.0 SITE INVESTIGATION AT SITE SS-06 . . . . . 2-2
- 2.1 Investigation Objective & Methods . . . . . 2-2
  - *2.1.1 Phase I Soil Vapor Survey* . . . . . 2-3
  - *2.1.2 Phase I Soil Sampling and Analysis* . . . . . 2-3
  - *2.1.3 Phase I Groundwater Sampling* . . . . . 2-4
- 2.2 Soil Vapor Survey Results . . . . . 2-5
- 2.3 Soil Sampling Results . . . . . 2-5
- 2.4 Geotechnical Analysis . . . . . 2-6
- 2.5 Groundwater Sampling Results . . . . . 2-6
- 2.6 Summary of Phase I Results . . . . . 2-7
- 2.7 Recommendation . . . . . 2-8

3.0 SITE INVESTIGATION AT AOC-RR . . . . . 3-2
- 3.1 Objective of the Site Investigation and Scope of Work . . . . . 3-2
  - *3.1.1 Phase I Soil Vapor Survey* . . . . . 3-2
  - *3.1.2 Soil Sampling and Analysis* . . . . . 3-3
  - *3.1.3 Phase I Groundwater Sampling and Analysis* . . . . . 3-3
  - *3.1.4 Phase II Groundwater Sampling and Analysis* . . . . . 3-4
- 3.2 Soil Vapor Survey Results . . . . . 3-4

## TABLE OF CONTENTS (continued)

3.3 Soil Sampling Results . . . . . 3-5
3.4 Geotechnical Soil Analysis . . . . . 3-5
3.5 Phase I and II Groundwater Sampling Results . . . . . 3-5
3.6 Summary of Phase I/Phase II Results . . . . . 3-6
3.7 Recommendation . . . . . 3-8

4.0 SITE INVESTIGATION AT AOC-BBMS . . . . . 4-2
4.1 Objective and Scope of Work . . . . . 4-2
*4.1.1 Soil Vapor Survey* . . . . . 4-2
*4.1.2 Soil Sampling and Analysis* . . . . . 4-3
*4.1.3 Phase I Groundwater Sampling and Analysis* . . . . . 4-3
*4.1.4 Phase II Groundwater Sampling* . . . . . 4-4
4.2 Soil Vapor Analytical Results . . . . . 4-4
4.3 Soil Sampling Results . . . . . 4-4
4.4 Geotechnical Soil Analysis . . . . . 4-5
4.5 Phase I and II Groundwater Sampling Results . . . . . 4-5
4.6 Summary of Results . . . . . 4-6
4.7 Recommendation . . . . . 4-7

5.0 SITE INVESTIGATION AT SD-15, THE REFRIGERATION/HEAT SHOP WASHRACK . . . . . 5-2

5.1 Objective and Scope of Work . . . . . 5-2
*5.1.1 Soil Sampling and Analysis* . . . . . 5-2
*5.1.2 Phase I Groundwater Sampling* . . . . . 5-3
5.2 Soil Sampling Results . . . . . 5-3
5.3 Geotechnical Soil Analysis . . . . . 5-3
5.4 Groundwater Sampling Results . . . . . 5-4
5.5 Summary of Phase I Results . . . . . 5-4
5.6 Recommendation . . . . . 5-5

## TABLE OF CONTENTS (continued)

6.0 QUALITY CONTROL SUMMARY REPORT . . . . . 6-2
6.1 Introduction . . . . . 6-2
6.2 Approach and Mechanisms . . . . . 6-2
*6.2.1 Field Sampling Plan* . . . . . 6-2
*6.2.2 Laboratory QA/QC* . . . . . 6-3
6.3 QA/QC Summary for AOC-RR, AOC-BBMS, SS-06 and SD-15 . . . . 6-3
*6.3.1 Daily Reports* . . . . . 6-3
*6.3.2 Soil Vapor Survey* . . . . . 6-3
*6.3.3 VOCs In Soil Samples* . . . . . 6-4
*6.3.4 TPH in Soil Samples* . . . . . 6-5
*6.3.5 Metals in Soil* . . . . . 6-5
*6.3.6 Metals in Groundwater* . . . . . 6-7
*6.3.7 VOCs in Groundwater* . . . . . 6-9
*6.3.8 Analysis of pH in Soil* . . . . . 6-11
*6.3.9 Analysis of pH in Groundwater* . . . . . 6-11
6.4 Deviations . . . . . 6-11
*6.4.1 Phase II Groundwater Sampling* . . . . . 6-11
*6.4.2 pH Analysis of Phase II Groundwater Samples* . . . . . 6-11
6.5 Lessons Learned . . . . . 6-12

7.0 REFERENCES . . . . . 7-2

# LIST OF FIGURES

1-1 Site Location Map

2-1 Site Map, Site SS-06, JP-4 Fuel Line Spill

2-2 Soil Vapor Survey Results, Site SS-06, JP-4 Fuel Line Spill

2-3 Soil Analytical Results, Site SS-06, JP-4 Fuel Line Spill

2-4 Groundwater Analytical Results, Site SS-06, JP-4 Fuel Line Spill

3-1 Site Map, Site AOC-RR, Railroad Building 80

3-2 Soil Vapor Survey Results, Site AOC-RR, Railroad Building 80

3-3 Soil Analytical Results, Site AOC-RR, Railroad Building 80

3-4 Groundwater Analytical Results, Site AOC-RR, Railroad Building 80

4-1 Site Map, Site AOC-BBMS, Bare Base Mobility Squadron/Generator Run-up Area

4-2 Soil Vapor Survey Results, Site AOC-BBMS, Bare Base Mobility Squadron/Generator Run-up Area

4-3 Soil Sample Results, Site AOC-BBMS, Bare Base Mobility Squadron/Generator Run-up Area

## LIST OF FIGURES (continued)

4-4 Groundwater Analytical Results, Site AOC-BBMS, Bare Base Mobility Squadron/Generator Run-up Area

5-1 Site Map, Site SD-15, The Refrigeration/Heat Shop Wash Rack

5-2 Soil Sample Results, Site SD-15, The Refrigeration/Heat Shop Wash Rack

5-3 Groundwater Analytical Results, Site SD-15, The Refrigeration/Heat Shop Wash Rack

## LIST OF TABLES

2-1 Soil Vapor Survey Results at SS-06, POL Fuel Line Spill, Holloman AFB, NM, March 1995 . . . . . 2-10

2-2 Summary of Geotechnical Soil Analytical Results at SS-06, POL Fuel Line Spill, Holloman AFB, NM, March 1995 . . . . . 2-13

2-3 Summary of Soil Analytical Results at SS-06, POL Fuel Line Spill, Holloman AFB, NM, March 1995 . . . . . 2-14

2-4 Summary of Groundwater Analytical Results at SS-06, POL Fuel Line Spill, Holloman AFB, NM, March 1995 . . . . . 2-17

3-1 Soil Vapor Survey Results at AOC-RR, Railroad Building 80, Holloman AFB, NM, March 1995 . . . . . 3-9

3-2 Geotechnical Soil Analytical Results at AOC-RR, Railroad Building 80, Holloman AFB, NM, March 1995 . . . . . 3-11

3-3 Summary of Soil Analytical Results at AOC-RR, Railroad Building 80, Holloman AFB, NM, March - April 1995 . . . . . 3-12

3-4 Summary of Groundwater Analytical Results at AOC-RR, Railroad Building 80, Holloman AFB, NM, April 1995 . . . . . 3-15

4-1 Soil Vapor Survey Results at AOC-BBMS, Bare Base Mobility Squadron - Generator Run-up Area, Holloman AFB, NM, March 1995 . . . . . 4-8

4-2 Geotechnical Soil Analytical Results at AOC-BBMS, Bare Base Mobility Squadron - Generator Run-up Area, Holloman AFB, NM, March 1995 . . . . 4-10

## LIST OF TABLES (continued)

4-3 Summary of Soil Analytical Results at AOC-BBMS, Bare Base Mobility Squadron - Generator Run-up Area, Holloman AFB, NM, March 1995 . . . . . 4-11

4-4 Summary of Groundwater Analytical Results at AOC-BBMS, Bare Base Mobility Squadron - Generator Run-up Area, Holloman AFB, NM, March - April 1995 4-14

5-1 Summary of Soil Analytical Results at SD-15, Refrigeration/Heat Shop Wash Rack, Building 56, Holloman AFB, NM, March 1995 . . . . . 5-6

5-2 Geotechnical Soil Analytical Results at SD-15, Refrigeration/Heat Shop Wash Rack, Building 56, Holloman AFB, NM, March 1995 . . . . . 5-9

5-3 Summary of Groundwater Analytical Results at SD-15, Refrigeration/Heat Shop Wash Rack, Building 56, Holloman AFB, NM, March - April 1995 . . . . . 5-10

6-1 Comparison of Duplicate Soil Vapor Survey Results, Holloman AFB, NM, March 1995 . . . . . 6-13

6-2 Comparison of Duplicate Soil Sample Analyses for Select Metals Species in Soil, Holloman AFB, NM, March - April 1995 . . . . . 6-15

6-3 Summary of QA and QC Groundwater Results, SS-06, SD-15, AOC-RR and AOC-BBMS, Holloman AFB, NM, March - April 1995 . . . . . 6-16

6-4 Comparison of Duplicate Analyses for VOCs in Groundwater Samples, Holloman AFB, NM, March - April 1995 . . . . . 6-21

# LIST OF APPENDICES

A. Soil Vapor Survey Analytical Reports

A-1 Site SS-06
A-2 Site AOC-RR
A-3 Site AOC-BBMS

B. Soil Boring Logs

B-1 Site SS-06
B-2 Site AOC-RR
B-3 Site AOC-BBMS
B-4 Site SD-15

C. Soil Laboratory Analytical Reports

C-1 Site SS-06
C-2 Site AOC-RR
C-3 Site AOC-BBMS
C-4 Site SD-15

D. Geotechnical Soil Analytical Results

D-1 Site SS-06
D-2 Site AOC-RR
D-3 Site AOC-BBMS
D-4 Site SD-15

## LIST OF APPENDICES (continued)

E. Groundwater Laboratory Analytical Reports

E-1 Site SS-06
E-2 Site AOC-RR
E-3 Site AOC-BBMS
E-4 Site SD-15

F. Surveyors Coordinates for Sample Locations

F-1 Site SS-06
F-2 Site AOC-RR
F-3 Site AOC-BBMS
F-4 Site SD-15

G. Daily Quality Control Reports

H. USACE-MRD QA Sample Laboratory Results

# LIST OF ACRONYMS

| | |
|---|---|
| AFB | Air Force Base |
| AOC | Area of Concern |
| ASTM | American Society for Testing and Materials |
| BBMS | Bare Base Mobility Squadron |
| BTEX | Benzene, Toluene, Ethylbenzene, and Xylenes |
| CDAP | Chemical Data Acquisition Plan |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| DOT | Department of Transportation |
| DPT | Direct Push Technology |
| DQCSR | Daily Quality Control Summary Report |
| DTW | Depth to Water |
| EPA | U.S. Environmental Protection Agency |
| FDSR | Field Data Screening Report |
| FID | Flame Ionization Detector |
| ft | Feet |
| FSP | Field Sampling Plan |
| HSA | Hollow-stem Auger |
| IDW | Investigation-Derived Waste |
| IRP | Installation Restoration Program |
| mg/kg | Milligrams per Kilogram |
| mg/l | Milligrams per Liter |
| mm | Millimeter |
| MRD | Missouri River Division |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| NA | Not Analyzed |
| ND | Not Detected |
| NMED | New Mexico Environment Department |
| PA | Preliminary Assessment |
| PID | Photoionization Detector |

## LIST OF ACRONYMS (continued)

| | |
|---|---|
| POL | Petroleum, Oils, and Lubricants |
| ppb | Parts per Billion |
| ppm | Parts per Million |
| PVC | Poly Vinyl Chloride |
| QA/QC | Quality Assurance/Quality Control |
| QAPP | Quality Assurance Project Plan |
| QCSR | Quality Control Summary Report |
| RCRA | Resource Conservation and Recovery Act of 1976 |
| RFI | RCRA Facility Investigation |
| RI | Remedial Investigation |
| RPD | Relative Percent Difference |
| RR | Railroad |
| SI | Site Investigation |
| SSHP | Site Safety and Health Plan |
| SOP | Standard Operating Procedure |
| SWMU | Solid Waste Management Unit |
| TAL | Target Analyte List |
| TB | Trip Blank |
| TDS | Total Dissolved Solids |
| TERC | Total Environmental Restoration Contract |
| TPH | Total Petroleum Hydrocarbon |
| ug/kg | Micrograms per Kilogram |
| ug/l | Micrograms per Liter |
| USACE | U.S. Army Corps of Engineers |
| USAF | United States Air Force |
| USCS | Unified Soils Classification System |
| UST | Underground Storage Tank |
| VOA | Volatile Organic Analysis |
| VOC | Volatile Organic Compound |
| WQCC | Water Quality Control Commission |

# INTRODUCTION

# 1.0 INTRODUCTION

The United States Air Force (USAF) identified four past hazardous waste activity sites at Holloman Air Force Base (AFB) in New Mexico. In accordance with the Installation Restoration Program (IRP), the USAF initiated Preliminary Assessments (PAs) and Site Investigations (SIs) under the IRP as directed in the National Contingency Plan and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Groundwater Technology Government Services Inc. (Groundwater Technology) was contracted by Ebasco Services, Inc. (EBASCO) to conduct PAs at two sites: AOC-RR and AOC-BBMS, and SIs at four IRP sites: Site SS-06, the POL Fuel Line Spill; Site SD-15, the Refrigeration/Heat Shop Wash Rack; Area of Concern (AOC)-RR Railroad Building 80; and AOC-BBMS, the Bare Base Mobility Squadron (BBMS) Generator Run-up Area at Holloman AFB, New Mexico. The location of the sites on the Base are illustrated in Figure 1-1. The work was directed by the US Army Corps of Engineers (USACE) under the Total Environmental Restoration Contract (TERC) Number DACW-45-94-D0003.

The PA site visit for AOC-RR and AOC-BBMS was conducted in November and December 1994. The results of the PA are contained in the "Preliminary Assessments at Waste Sites AOC-RR and AOC-BBMS at Holloman AFB, New Mexico" (EBASCO/ Groundwater Technology, October 1995). The PA results were used to develop the Chemical Data Acquisition Plan (CDAP) (Field Sampling Plan [FSP] and Quality Assurance Project Plan [QAPP]) and Site Safety and Health Plan (SSHP) (EBASCO/Groundwater Technology, February 1995) for the SIs at AOC-RR and AOC-BBMS. SI field activities were conducted in March and April 1995. This document presents the SI analytical results and the Quality Control Summary Report (QCSR).

## 1.1 Purpose and Scope

A phased approach was used for the SI. The purpose of Phase I was to determine the presence/absence of contamination by comparing investigation results to criteria established in the FSP. The purpose of Phase II was to attempt to define the extent of

contamination identified during Phase I. Phase II activities were not warranted at every site.

Results of the investigation were compared to screening criteria as follows:

- Inorganic soil and groundwater results were compared to Basewide background concentrations if those levels have been established (Radian, 1993). If background was exceeded, results were then compared to U.S. Environmental Protection Agency (EPA) Region III risk-based levels for industrial soil or tap water values (R.L. Smith, November 8, 1994). If no risk-based level was available, results were compared to values 3-times the background concentrations (per 40 Code of Federal Regulations (CFR) Part 300, Appendix A, Table 2-3) to determine whether a release to the environment had occurred.

- No Basewide background value has been established for aluminum, iron, manganese, calcium, sodium, or potassium in groundwater. Aluminum and manganese concentrations were therefore compared directly to established EPA Region III risk-based levels. No risk-based screening levels exist for calcium, iron, sodium, or potassium, and therefore these constituents, which are not indicative of potential site-related releases, were not considered further.

- Total petroleum hydrocarbon (TPH) concentrations in soil were compared to the Basewide criteria of 1,000 milligrams per kilogram (mg/kg) established by the New Mexico Environment Department (NMED).

- Other organic results for soil and groundwater samples were compared to EPA Region III risk-based levels for industrial soil values and tap water values, respectively.

Based on these data comparisons, recommendations for no further action are presented for each site.

## 1.2 Document Organization

Sections 2.0 through 5.0 present the results of the SI conducted at each site. Each section corresponds to the sites as follows:

| | |
|---|---|
| Section 2.0 | Site SS-06 POL - Fuel Line Spill |
| Section 3.0 | AOC-RR - Area of Concern Railroad Building |
| Section 4.0 | AOC-BBMS - Area of Concern Bare Base Mobility Squadron Generator Run-up Area |
| Section 5.0 | Site SD-15 - Refrigeration/Heat Shop Washrack |

The scope of work performed at each site is briefly presented. Volume I of the CDAP (the FSP) and Volume II of the CDAP (the QAPP) are referenced for detailed explanations. Specific variations in sampling due to field conditions or equipment limitations are explained in detail. Section 6.0 contains the QCSR and references are provided in Section 7.0. Supporting documentation including laboratory analytical results and lithologic boring logs are provided in the Appendices.

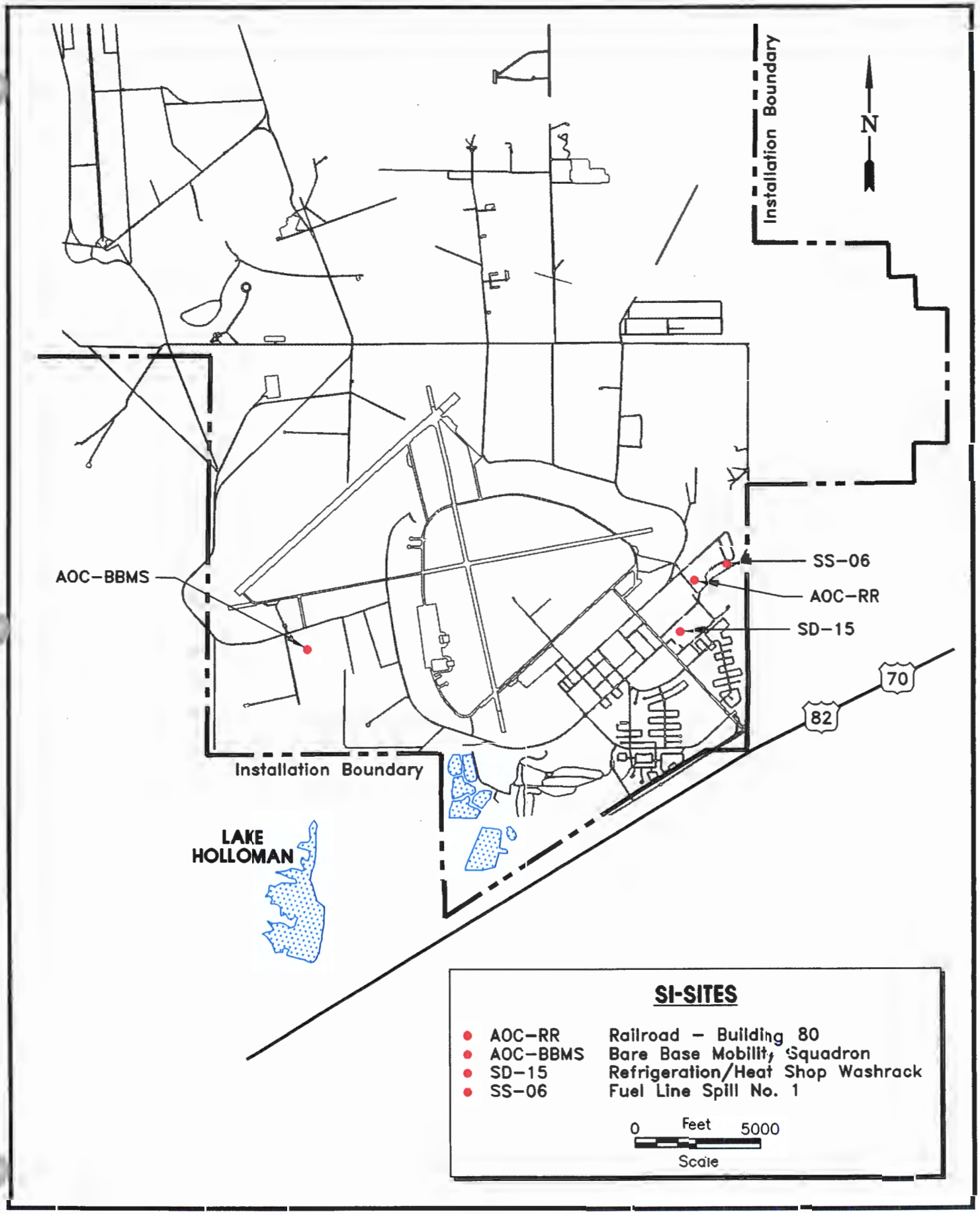


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**Figure 1-1. Site Location Map**
**Alamogordo, New Mexico**

# SITE SS-06

## POL Fuel Line Spill

# 2.0 SITE INVESTIGATION AT SITE SS-06

Site SS-06 is located along the eastern boundary of the Base, in the main Base area near Building 1254. The site is situated approximately 200 feet south of the petroleum, oils and lubricants (POL) storage area. In 1979, a Base road grader ruptured the JP-4 fuel line leading to the POL storage areas. Approximately 8,000 gallons of JP-4 spilled onto the ground before the release could be stopped. Clean-up was performed and the bulk of the fuel was reportedly recovered. A PA was conducted for the site in 1983 (CH2M Hill, 1983). The site was not considered to present a significant concern or adverse effect on human health or the environment and further investigation of the site was not conducted at that time.

## 2.1 Investigation Objective & Methods

The objective of the Site Investigation (SI) at SS-06 was to determine the presence or absence of impact to soil and groundwater related to the 1979 JP-4 release from the pipeline. This effort was accomplished during Phase I of the SI. Phase I activities included collecting and analyzing soil vapor, soil, and groundwater samples. Soil vapor samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and TPH as JP-4. Soil samples were analyzed for volatile organic compounds (VOCs), TPH, and target analyte list (TAL) metals. Groundwater samples were analyzed for VOCs and TAL metals.

Phase I activities were conducted in accordance with the FSP with one exception. Groundwater could not be collected using the direct push technology (DPT) groundwater sampling procedure due to the presence of an extremely hard caliche layer at the groundwater interface. Therefore, after consultation with USACE and the Base's technical staff, temporary 1-inch diameter, flush-threaded polyvinyl chloride (PVC) monitoring well points were installed with a hollow-stem auger (HSA) drilling rig. The SOPs in the FSP permitted collection of the groundwater samples through temporary PVC casing and therefore, the collection of groundwater samples using temporary well casings was not considered a significant deviation from the FSP.

### *2.1.1 Phase I Soil Vapor Survey*

A soil vapor survey was performed at the spill site in an effort to focus subsequent investigation efforts. Thirty-six (36) soil vapor points were installed in a gridded pattern on March 19 and 20, 1995. The originally proposed grid pattern was approximately square with sample points on a 50-foot grid spacing around the spill area identified in the PA. During utility clearances, the pipeline operator described the location of the spill as being further south than previously identified. The configuration was changed to a more rectangular pattern that straddled the pipeline and covered both suspected areas. The soil vapor sampling was performed in accordance with the CDAP. Soil vapor samples were analyzed at an on-site mobile laboratory for BTEX constituents and TPH as JP-4 by U.S. Environmental Protection Agency (EPA) Methods 8020 and Modified 8015, respectively.

### *2.1.2 Phase I Soil Sampling and Analysis*

Six soil boring locations were selected for sampling. Since the soil vapor survey failed to identify potential targets, borings were placed in a pattern which straddled the pipeline. Soil samples were collected continuously in 2-foot sample sections to the total depth of each boring (12 feet). A soil boring log was completed during drilling to describe the lithology and record volatile organic headspace readings collected with a photoionization detector (PID). The soil borings were advanced until sampler refusal or until a wet sample was collected. Drill logs are presented in Appendix B-1.

Two samples, one from the groundwater interface and the other from the highest headspace VOC reading were selected for chemical analysis. The soil samples were analyzed for TPH, VOCs, and TAL metals by EPA Methods Modified 8015, 8240 and 6010/7000 Series, respectively. One sample was selected from each boring for geotechnical analysis. Soil samples were selected based on lithology and analyzed for grain size, moisture content, and Atterberg Limits.

### *2.1.3 Phase I Groundwater Sampling*

Six groundwater samples were to be collected during the SI. Phase I groundwater sample locations were selected by the field team and the USACE technical representative. Sampling locations included 1 upgradient point and 5 locations straddling the pipeline. Groundwater sampling was unsuccessful with DPT sampling points because the drive points could not penetrate the caliche layer present at the groundwater interface. After consultation with USACE and Base technical staff, 6 temporary 1-inch diameter flush-threaded PVC monitoring well points were installed with a HSA drilling rig on April 19, 1995. The 1-inch flush threaded PVC wells with 2-foot 0.010-inch slotted screen were installed to a depth of 14 feet below grade. Groundwater samples were collected on April 20 and 21, 1995, from wells GP-01, GP-02, and GP-03. Wells GP-04, GP-05, and GP-06 did not contain water and were not sampled. The temporary wells were subsequently removed from the ground and the holes were backfilled with bentonite pellets in accordance with FSP SOPs.

Groundwater samples were analyzed for VOCs by EPA Method 8240, dissolved TAL metals by Method 6010/7000 and field parameters pH, temperature and specific conductivity. Metals samples were field-filtered with a 0.45-micron filter prior to preservation. Filtration of metals was performed due to the low groundwater yield and high turbidity resulting from the installation of DPT sampling points which do not have filter packs. Metals results are compared to Basewide background study results and EPA Region III risk-based levels for tap water. Basewide background study samples were derived from unfiltered samples from permanent monitoring wells which produce low turbidity samples. Although not directly comparable to filtered sample results, filtered DPT samples were considered to be more comparable to monitor well samples or tap water than the unfiltered media.

## 2.2 Soil Vapor Survey Results

Soil vapor samples from 36 locations were collected on March 19 and 20, 1995. Each sample was analyzed for TPH and BTEX constituents. Analytical results are summarized in Table 2-1 and Figure 2-2, respectively. TPH was detected in only one sample (SG-36) at 22 micrograms per liter (ug/l). All other samples had no TPH detected above 20 ug/l (detection limit). Benzene and toluene concentrations ranged from not detected (ND) (<0.05 ug/l) to 0.14 ug/l and 1.20 ug/l, respectively at soil vapor station SG-1. Ethylbenzene ranged from ND to 0.80 ug/l, xylenes ranged from 0.10 ug/l (SG-31) to 0.95 ug/l (SG-36). Total BTEX concentrations ranged from 0.24 ug/l (SG-31) to 2.05 ug/l (SG-1). However, total BTEX concentrations in field blank samples collected by drawing ambient air through the decontaminated DPT sampling rods ranged from 0.45 ug/l to 1.13 ug/l total BTEX. These concentrations could be the result of contaminants in the ambient air, exhaust lines from the DPT rig (although the rig engine had been shut-off during sample collection) or inadequate decontamination of the sampling rods. Ambient air is the most likely cause given the close proximity of the POL storage yard to the site. Soil vapor sample laboratory analytical reports are presented in Appendix A-1.

## 2.3 Soil Sampling Results

Soil sampling results are presented in Table 2-2 and 2-3. Additionally, the chemical results are plotted on Figure 2-3. Laboratory analytical reports are presented in Appendix C-1. No VOCs or TPH levels were detected above the reporting limits. One or more of the TAL metals aluminum, barium, calcium, chromium, iron, lead, magnesium, manganese, nickel, potassium, vanadium, and zinc were present in at least one sample above the established Basewide background levels (Radian, 1993). These levels are presented on the analytical results tables. Barium concentrations ranged from ND to 130 mg/kg (SB05 from 4 to 6 feet), all below the EPA Region III risk-based level of 72,000 mg/kg. Chromium concentrations ranged from ND to 20 mg/kg (boring SB05 from 4 to 6 feet), well below the risk-based level of 1,000,000 mg/kg. Lead ranged from 1.4 mg/kg (duplicate sample from boring SB03 from 8 to 10 feet) to 12 mg/kg (SB04 from 4 to 6 feet), all below EPA's residential risk-based action level of 400 mg/kg. Other metals

present did not exceed the EPA Region III risk-based level or three times the associated Basewide background concentration for those constituents that have no risk-based level established (e.g. calcium).

## 2.4 Geotechnical Analysis

One soil sample from each boring (6 total) was selected for geotechnical analysis. The soil samples were selected based on lithology and analyzed for grain size, moisture content, and Atterberg Limits by PTS Laboratories, Inc. in Santa Fe Springs, California. These results are summarized in Table 2-2. Using the Unified Soils Classification System (USCS), the dominant soil type was ML (inorganic silt) although clayey sands (SC) and sandy clays (CL) were also noted. The median grain size ranged from 0.0057 millimeters (mm) to 0.0819 mm. Liquid limits ranged from not measurable to 48. The plastic limit ranged from non-plastic (SB03, 8 to 10 feet) to 39 (SB02, 6 to 8 feet). Laboratory reports are presented in Appendix D-1.

## 2.5 Groundwater Sampling Results

Groundwater analytical results are summarized in Table 2-4 and Figure 2-4. Groundwater samples were analyzed for VOCs, TAL metals and pH. No VOCs except acetone (17 ug/l at GP02) were detected in the three samples and duplicate samples analyzed. The corresponding risk-based level for acetone is 3,700 ug/l. Zinc and lead were the only TAL metals detected above Basewide background study levels. Lead ranged from ND (<4.0 ug/l) in GP01, GP02D, and GP03 to 140 ug/l in GP01D. Zinc was detected at 3,400 ug/l in GP02 and GP02D. These concentrations do not exceed EPA Region III risk-based level of 11,000 ug/l. There is not a risk-based level established for lead. There is no background value for aluminum, which ranged from <10,000 ug/l to 72,000 ug/l (GP02). Aluminum exceeded the risk-based value of 37,000 ug/l in GP01D, GP02 and GP03, however, aluminum did not exceed this value in the duplicate sample for GP02 (GP02D). Groundwater analytical results are presented in Appendix E-1.

## 2.6 Summary of Phase I Results

The Phase I SI was conducted at Site SS-06 between March 19, and April 28, 1995. Thirty-six soil vapor samples, 12 soil samples, and 3 groundwater samples were submitted for laboratory analysis. Additionally, 6 soil samples were analyzed for geotechnical parameters. Geologic and hydrogeologic conditions at the site were described in the PA, and based upon the SI are summarized below:

1. The lithologic sequence at SS-06 is comprised of fine-grained materials, classified as inorganic silts and clayey sands with abundant gypsum crystals.

2. The unconsolidated material grades from a light brown sand dominated by silty or clayey sand (SM/SC) near the surface to a red silt (ML) with depth.

3. Groundwater was encountered between 9 and 13 feet below grade during drilling and DPT sampling, but some temporary sampling points did not produce water for sampling.

4. A hard caliche layer exists immediately above the water table.

5. Sufficient groundwater was not present in three temporary sampling points installed in the northern half of the site, even though saturated drill cuttings were encountered during their installation.

SI results at Site SS-06 can be summarized as follows:

1. TPH was detected at 22 mg/l, in one out of the 36 samples that were collected. Nearly ambient concentrations of BTEX constituents were detected in all soil vapor samples collected at the site. The highest total BTEX concentration in soil vapor was 2.05 ug/l. The average BTEX concentration was 1.11 ug/l with equipment blank samples ranging from 0.45 ug/l to 1.13 ug/l. Based upon these results, it was not possible to

identify specific areas for further investigation for soil sampling and analysis. The soil sampling locations were therefore distributed evenly along the fuel line in the suspected spill area.

2. No TPH or VOC concentrations were detected in 12 soil samples collected from 6 soil borings. One or more of the TAL metals aluminum, barium, calcium, chromium, iron, lead, manganese, magnesium, nickel, potassium, vanadium, and zinc were detected in at least one sample above Basewide background levels. No concentrations exceeded the corresponding established risk-based levels. No risk-based levels are established for calcium, iron, magnesium, or potassium. No concentrations detected exceeded three times the established background value.

3. No VOCs were identified in groundwater samples at the site, with the exception of acetone in the sample from GP02 at 17 ug/l, which is a common laboratory contaminant. Only TAL metals lead and zinc were present above Basewide background study levels in two samples. Although there is no background value for aluminum established for the Base, concentrations detected exceed EPA Region III risk-based levels in GP02 (72,000 ug/l), GP03 (58,000 ug/l), and GP01D (40,000 ug/l). Zinc concentrations are below the EPA Region III risk-based level for tap water. Risk-based levels are not established for lead.

## 2.7 Recommendations

No further action (NFA) is recommended for Site SS-06. No petroleum-related constituents were detected in soil or groundwater samples collected, indicating that the 1979 release did not result in impact to the subsurface. Soil at the site does not contain TPH in excess of 1,000 mg/kg and groundwater is not impacted by phase-separated hydrocarbons. Although some TAL metals were detected in some soil and groundwater samples above Basewide background levels, none of these concentrations exceed the corresponding risk-based level, with the exception of aluminum, which is not considered a site-related contaminant. In addition, the risk-screening levels are extremely conservative values which use standard default exposure scenarios. The exposure pathway via ingestion

and/or dermal exposure for VOCs or metals from groundwater at Holloman AFB is incomplete, due to the non-potable nature of the aquifer.

**TABLE 2-1**
**SOIL VAPOR SURVEY RESULTS AT SS-06[a]**
**POL FUEL LINE SPILL**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| Sample No. | Benzene (ug/l) | Toluene (ug/l) | Ethylbenzene (ug/l) | Xylenes (ug/l) | Total BTEX (ug/l) | TPH (ug/l) |
|---|---|---|---|---|---|---|
| SS-06-SG-1 | 0.14 | 1.20 | 0.15 | 0.56 | 2.05 | <20 |
| SS-06-SG-2 | 0.10 | 1.00 | 0.15 | 0.56 | 1.81 | <20 |
| SS-06-SG-3 | 0.08 | 0.89 | 0.15 | 0.59 | 1.71 | <20 |
| SS-06-SG-4 | 0.08 | 0.84 | 0.14 | 0.56 | 1.62 | <20 |
| SS-06-SG-5 | 0.10 | 0.82 | 0.15 | 0.60 | 1.67 | <20 |
| SS-06-SG-6 | 0.09 | 0.77 | 0.15 | 0.59 | 1.60 | <20 |
| SS-06-SG-7 | 0.06 | 0.69 | 0.15 | 0.58 | 1.48 | <20 |
| SS-06-SG-8 | 0.07 | 0.54 | 0.12 | 0.48 | 1.21 | <20 |
| SS-06-SG-9 | <0.05 | 0.57 | 0.14 | 0.55 | 1.26 | <20 |
| SS-06-SG-10 | <0.05 | 0.52 | 0.13 | 0.51 | 1.16 | <20 |
| SS-06-SG-10-DUP | <0.05 | 0.53 | 0.13 | 0.52 | 1.18 | <20 |
| SS-06-SG-11 | <0.05 | 0.50 | 0.11 | 0.39 | 1.00 | <20 |
| SS-06-SG-12 | 0.11 | 0.36 | 0.13 | 0.32 | 0.92 | <20 |
| SS-06-SG-13 | <0.05 | 0.38 | 0.10 | 0.37 | 0.85 | <20 |
| SS-06-SG-14 | <0.05 | 0.29 | 0.07 | 0.26 | 0.62 | <20 |

**TABLE 2-1 (continued)**
**SOIL GAS SURVEY RESULTS AT SS-06**
**POL FUEL LINE SPILL**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| Sample No. | Benzene (ug/l) | Toluene (ug/l) | Ethylbenzene (ug/l) | Xylenes (ug/l) | Total BTEX (ug/l) | TPH (ug/l) |
|---|---|---|---|---|---|---|
| SS-06-SG-15 | 0.06 | 0.27 | 0.10 | 0.29 | 0.72 | <20 |
| SS-06-SG-16 | <0.05 | 0.30 | 0.09 | 0.33 | 0.72 | <20 |
| SS-06-SG-17 | <0.05 | <0.05 | 0.06 | 0.22 | 0.28 | <20 |
| SS-06-SG-18 | <0.05 | 0.10 | <0.05 | 0.17 | 0.27 | <20 |
| SS-06-SG-19 | <0.05 | 0.09 | <0.05 | 0.16 | 0.25 | <20 |
| SS-06-SG-19DUP | <0.05 | 0.08 | <0.05 | 0.12 | 0.20 | <20 |
| EQUIP. BLANK (03/19/95) | <0.05 | 0.52 | 0.13 | 0.48 | 1.13 | <20 |
| SS-06-SG-20 | <0.05 | 0.28 | 0.08 | 0.32 | 0.68 | <20 |
| SS-06-SG-21 | 0.05 | 0.74 | 0.17 | 0.68 | 1.64 | <20 |
| SS-06-SG-22 | 0.07 | 0.97 | 0.20 | 0.79 | 2.03 | <20 |
| SS-06-SG-23 | 0.05 | 0.60 | 0.14 | 0.57 | 1.36 | <20 |
| SS-06-SG-24 | 0.09 | 0.71 | 0.17 | 0.67 | 1.64 | <20 |
| SS-06-SG-25 | 0.06 | 0.49 | 0.14 | 0.54 | 1.23 | <20 |
| SS-06-SG-26 | 0.06 | 0.62 | 0.15 | 0.60 | 1.43 | <20 |
| SS-06-SG-26DUP | <0.05 | 0.60 | 0.19 | 0.74 | 1.53 | <20 |

**TABLE 2-1 (continued)**
**SOIL GAS SURVEY RESULTS AT SS-06**
**POL FUEL LINE SPILL**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| Sample No. | Benzene (ug/l) | Toluene (ug/l) | Ethylbenzene (ug/l) | Xylenes (ug/l) | Total BTEX (ug/l) | TPH (ug/l) |
|---|---|---|---|---|---|---|
| SS-06-SG-27 | 0.06 | 0.50 | 0.15 | 0.62 | 1.33 | <20 |
| SS-06-SG-28 | 0.08 | 0.37 | 0.12 | 0.47 | 1.04 | <20 |
| SS-06-SG-29 | <0.05 | 0.30 | 0.08 | 0.30 | 0.68 | <20 |
| EQUIP BLANK (03/20/95) | <0.05 | 0.17 | 0.06 | 0.22 | 0.45 | <20 |
| SS-06-SG-30 | <0.05 | 0.23 | 0.08 | 0.32 | 0.63 | <20 |
| SS-06-SG-31 | <0.05 | 0.14 | <0.05 | 0.10 | 0.24 | <20 |
| SS-06-SG-32 | <0.05 | 0.14 | 0.06 | 0.24 | 0.44 | <20 |
| SS-06-SG-33 | <0.05 | 0.31 | 0.12 | 0.47 | 0.90 | <20 |
| SS-06-SG-34 | <0.05 | 0.23 | 0.80 | 0.33 | 1.36 | <20 |
| SS-06-SG-35 | <0.05 | 0.20 | 0.07 | 0.28 | 0.55 | <20 |
| SS-06-SG-35DUP | <0.05 | 0.19 | 0.07 | 0.27 | 0.53 | <20 |
| SS-06-SG-36 | 0.07 | 0.69 | 0.23 | 0.95 | 1.94 | 22 |
| SS-06-SG-36DUP | 0.07 | 0.69 | 0.23 | 0.95 | 1.94 | 22 |

[1]Samples analyzed for BTEX and TPH by EPA Methods Modified 5030/8020 and 8015.
ug/l = Micrograms per liter.
TPH = Total Petroleum Hydrocarbons as JP-4.
< = Indicates compound not detected at the stated reporting limit.

**TABLE 2-2**
**SUMMARY OF GEOTECHNICAL SOIL ANALYTICAL RESULTS AT SS-06**
**POL FUEL LINE SPILL**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| SAMPLE NO. | DEPTH (FT) | USCS IDENT | MOISTURE CONTENT (%wt.) | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | MEDIAN GRAIN SIZE (mm) |
|---|---|---|---|---|---|---|---|
| SS-06-SB01-6-8 | 6-8 | ML | 42.9 | 42 | 38 | 4 | 0.0659 |
| SS-06-SB02-6-8 | 6-8 | ML | 36.1 | 48 | 39 | 9 | 0.0102 |
| SS-06-SB03-8-10 | 8-10 | SM/SC | 33.5 | - | NON-PLASTIC | - | 0.0104 |
| SS-06-SB04-8-10 | 8-10 | SC | 25.2 | 36 | 20 | 16 | 0.0819 |
| SS-06-SB05-4-6 | 4-6 | CL | 19.8 | 42 | 26 | 16 | 0.0069 |
| SS-06-SB06-8-10 | 8-10 | ML | 24.7 | 38 | 31 | 7 | 0.0057 |

- = Not measured
USCS = Unified Soil Classification System
%wt = weight percent
FT = feet
mm = millimeter

**TABLE 2-3**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT SS-06**
**POL FUEL LINE SPILL**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| CONSTITUENTS | COMPARATIVE | | SS-06-SB-01-4-6 | SS-06-SB-01-6-8 | SS-06-SB-02-0-2 | SS-06-SB-02-6-8 | SS-06-SB-03-2-4 | SS-06-SB-03-8-10 | SS-06-SB-03-8-10D |
|---|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | | | |
| SAMPLE DEPTH (feet) | -- | -- | 4-6 | 6-8 | 0-2 | 6-8 | 2-4 | 8-10 | 8-10 |
| VOLATILE ORGANICS - METHOD 8240 (ug/kg) | | | | | | | | | |
| All Constituents | N/A | N/A | ND | ND | ND | ND | ND | ND | ND |
| TOTAL PETROLEUM | N/A | 1000[c] | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| TAL METALS - METHODS 6000s AND 7000s (mg/kg) | | | | | | | | | |
| Aluminum | 8,764 | 1,000,000 | 10,000 | 2,400 | 2,100 | 5,100 | 7,200 | 1,900 | 2,300 |
| Barium | 84 | 72,000 | <100 | 20 | <100 | <100 | 28 | <100 | <100 |
| Calcium | 250,000 | N/A | 160,000 | 110,000 | 260,000 | 190,000 | 99,000 | 160,000 | 160,000 |
| Chromium | 6.60 | 1,000,000 | <15 | 3.2 | <15 | <15 | 6.7 | <15 | <15 |
| Iron | 6,361 | N/A | 10,000 | 2,300 | 2,100 | 4,000 | 6,000 | 1,800 | 2,000 |
| Lead | -2.32 | 400[c] | 6.7 | 1.8 | 12 | 3.1 | 6.6 | 2.5 | 1.4 |
| Manganese | 146 | 5,100 | 310 | 33 | 76 | 59 | 110 | 22 | 38 |
| Magnesium | 14,656 | N/A | 19,000 | 2,400 | 7,000 | 14,000 | 13,000 | 3,400 | 5,100 |
| Nickel | 5.61 | 20,000 | 21 | 4.6 | 32 | <20 | 7.4 | <20 | <20 |
| Potassium | 2,501 | N/A | <2,500 | 718 | <2,500 | <2,500 | 1,900 | <2,500 | <2,500 |
| Vanadium | 15.46 | 7,200 | 28 | 5.4 | <25 | <25 | 19 | <25 | <25 |
| Zinc | 20.25 | 310,000 | 59 | 6.9 | 21 | 20 | 16 | 27 | 12 |

**TABLE 2-3 (Continued)**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT SS-06**
**POL FUEL LINE SPILL**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| CONSTITUENTS | COMPARATIVE CONCENTRATIONS | | SS-06-SB-04-4-6 | SS-06-SB-04-8-10 | SS-06-SB-05-4-6 | SS-06-SB-05-10-12 | SS-06-SB-06-4-6 | SS-06-SB-06-8-10 |
|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | | |
| SAMPLE DEPTH (feet) | -- | -- | 4-6 | 8-10 | 4-6 | 10-12 | 4-6 | 8-10 |
| VOLATILE ORGANICS - METHOD 8240 (ug/kg) | | | | | | | | |
| All Constituents | N/A | N/A | ND | ND | ND | ND | ND | ND |
| TOTAL PETROLEUM | N/A | 1000[c] | <20 | <20 | <20 | <20 | <20 | <20 |
| TAL METALS - METHODS 6000s AND 7000s (mg/kg) | | | | | | | | |
| Aluminum | 8,764 | 1,000,000 | 15,000 | 1,700 | 13,000 | 2,700 | 4,500 | 13,000 |
| Barium | 84 | 72,000 | 120 | <20 | 130 | 51 | <100 | <100 |
| Calcium | 250,000 | N/A | 120,000 | 45,000 | 140,000 | 58,000 | 180,000 | 130,000 |
| Chromium | 6.60 | 1,000,000 | 19 | <3.0 | 20 | 3.3 | <15 | <15 |
| Iron | 6,361 | N/A | 16,000 | 2,000 | 11,000 | 2,900 | 4,100 | 11,000 |
| Lead | -2.32 | 400[c] | 12 | 3.2 | 4.3 | 3.1 | 1.9 | 4.2 |
| Manganese | 146 | 5,100 | 280 | 46 | 190 | 100 | 48 | 86 |
| Magnesium | 14,656 | N/A | 16,000 | 2,600 | 32,000 | 3,600 | 7,300 | 20,000 |
| Nickel | 5.61 | 20,000 | <20 | <4.0 | 21 | 4.7 | <20 | <20 |
| Potassium | 2,501 | N/A | 3,400 | 530 | 3,600 | 720 | <2,500 | 3,100 |
| Vanadium | 15.46 | 7,200 | 33 | <5.0 | 36 | 7.3 | <25 | 25 |
| Zinc | 20.25 | 310,000 | 59 | 6.3 | 75 | 10 | 21 | 71 |

**TABLE 2-3 (Continued)**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT SS-06**
**POL FUEL LINE SPILL**
**HOLLOMAN AFB, NM**
**MARCH 1995**

[a] *Basewide Background Study Holloman AFB* (Radian, 1993).

[b] EPA Region III Risk-based levels (R.L. Smith, November 1994).

[c] NMED USTB Correspondence to Holloman AFB, dated November 2, 1992.

[d] EPA Action Level for residential exposure.

ND = No compounds detected for method specified.

ug/kg = Micrograms per kilogram

N/A = Not applicable/not established

mg/kg = Milligrams per kilogram

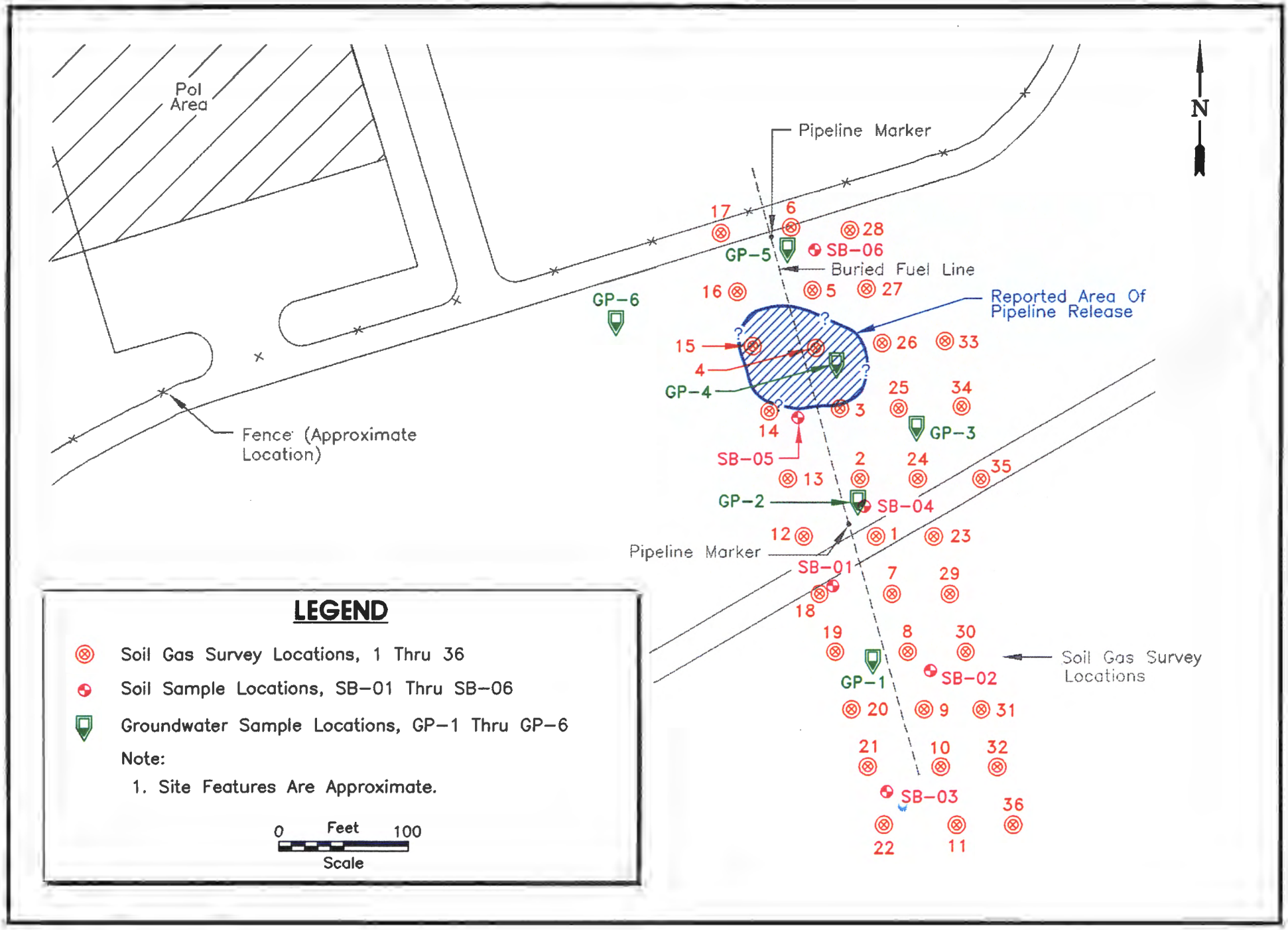
TAL = Target Analyte List

< = Indicates compound not detected at the stated reporting limit.

# TABLE 2-4
# SUMMARY OF GROUNDWATER ANALYTICAL RESULTS AT SS-06
# POL FUEL LINE SPILL
# HOLLOMAN AFB, NM
# APRIL 1995

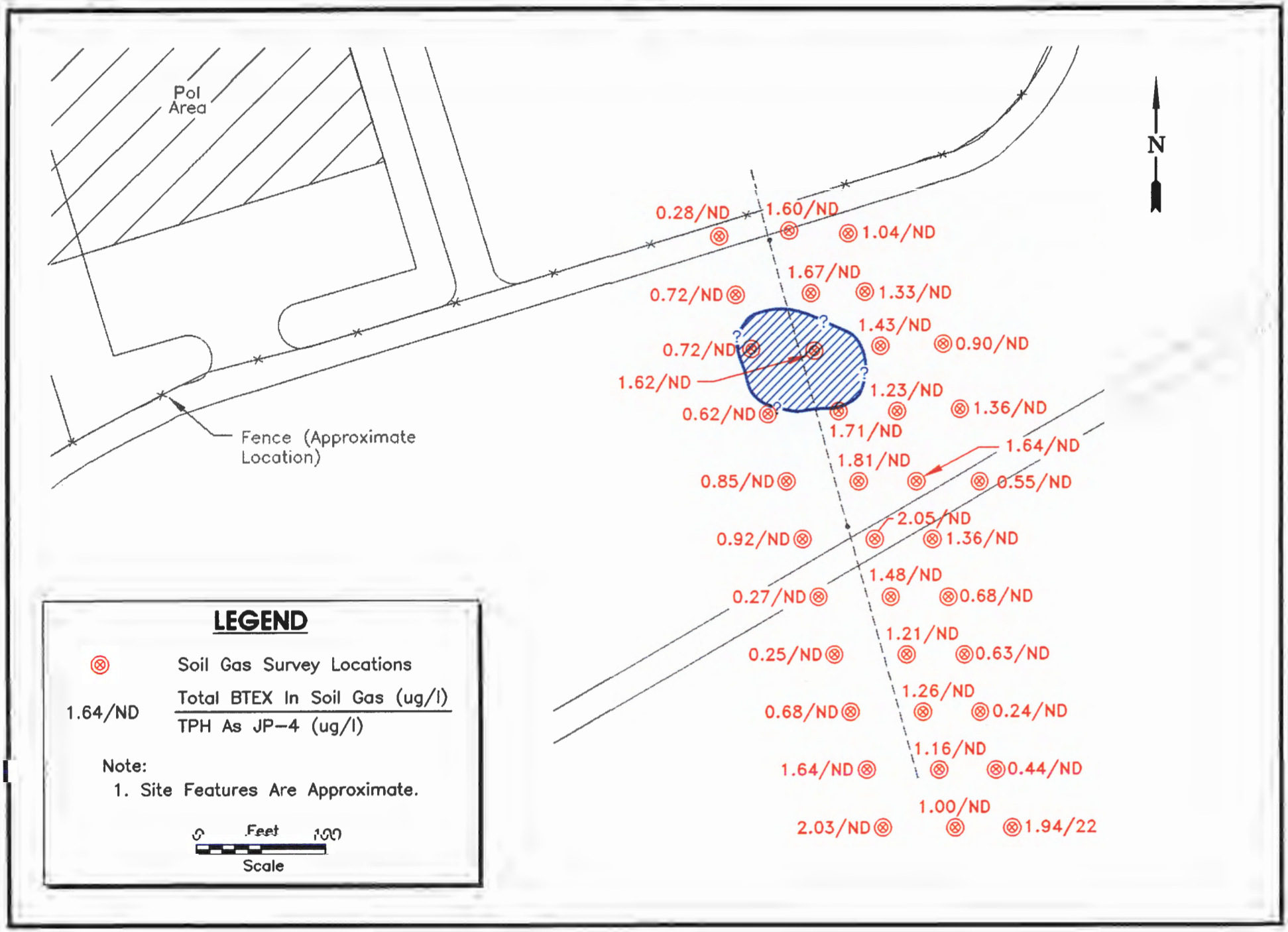
| ANALYTES | COMPARATIVE CONCENTRATIONS | | SS-06-GP-1 | SS-06-GP-2 | SS-06-GP-3 (4-28-95) | SS-06-GP-1D (4-27-95) | SS-06-GP-02D (4-27-95) | SS-06-GP-03 (4-2-95) |
|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | | |
| **VOLATILE ORGANICS - METHOD 8240 (ug/l)** | | | | | | | | |
| Acetone | N/A | 3,700 | ND | 17 | ND | ND | NA | ND |
| **TAL METALS - METHODS 6000s and 7000s (ug/l)** | | | | | | | | |
| Aluminum | N/A | 37,000 | 26,000 | 72,000 | 58,000 | 40,000 | 12,000 | <10,000 |
| Lead | 19.9 | N/A | <4.0 | 63 | 5.0 | 140 | <4.0 | <4.0 |
| Zinc | 253 | 11,000 | <2,000 | 3,400 | <2,000 | <2,000 | 3,400 | <1,000 |
| **pH - METHOD 150.1[c]** | | | | | | | | |
| pH | N/A | 6-9 | 7.21 | 7.10 | 7.30 | NA | NA | NA |

[a] *Basewide Background Study for Holloman AFB* (Radian, 1993).
[b] EPA Region III risk-based-levels (R.L. Smith, November 1994).
[c] pH by field instrumentation.
ug/l = Micrograms Per Liter
ND = No compounds detected for method specified.
N/A = Not applicable/not established
TAL = Target Analyte List
NA = Not analyzed
< = Indicates compound not detected at the stated reporting limit.



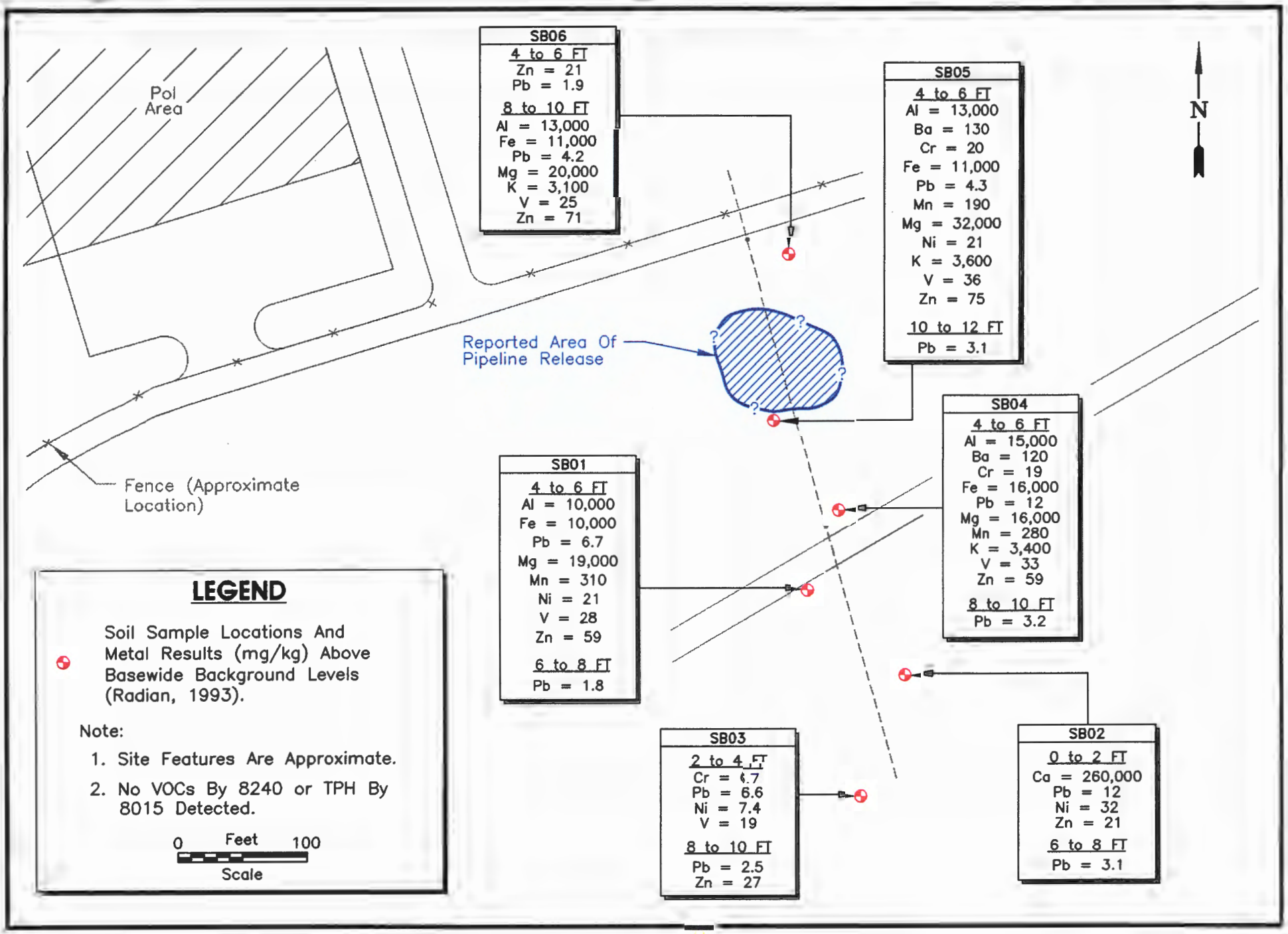

2201-ST2 (1:100)

**Figure 2-1. Site Map**
**Site SS-06, JP-4 Fuel Line Spill**



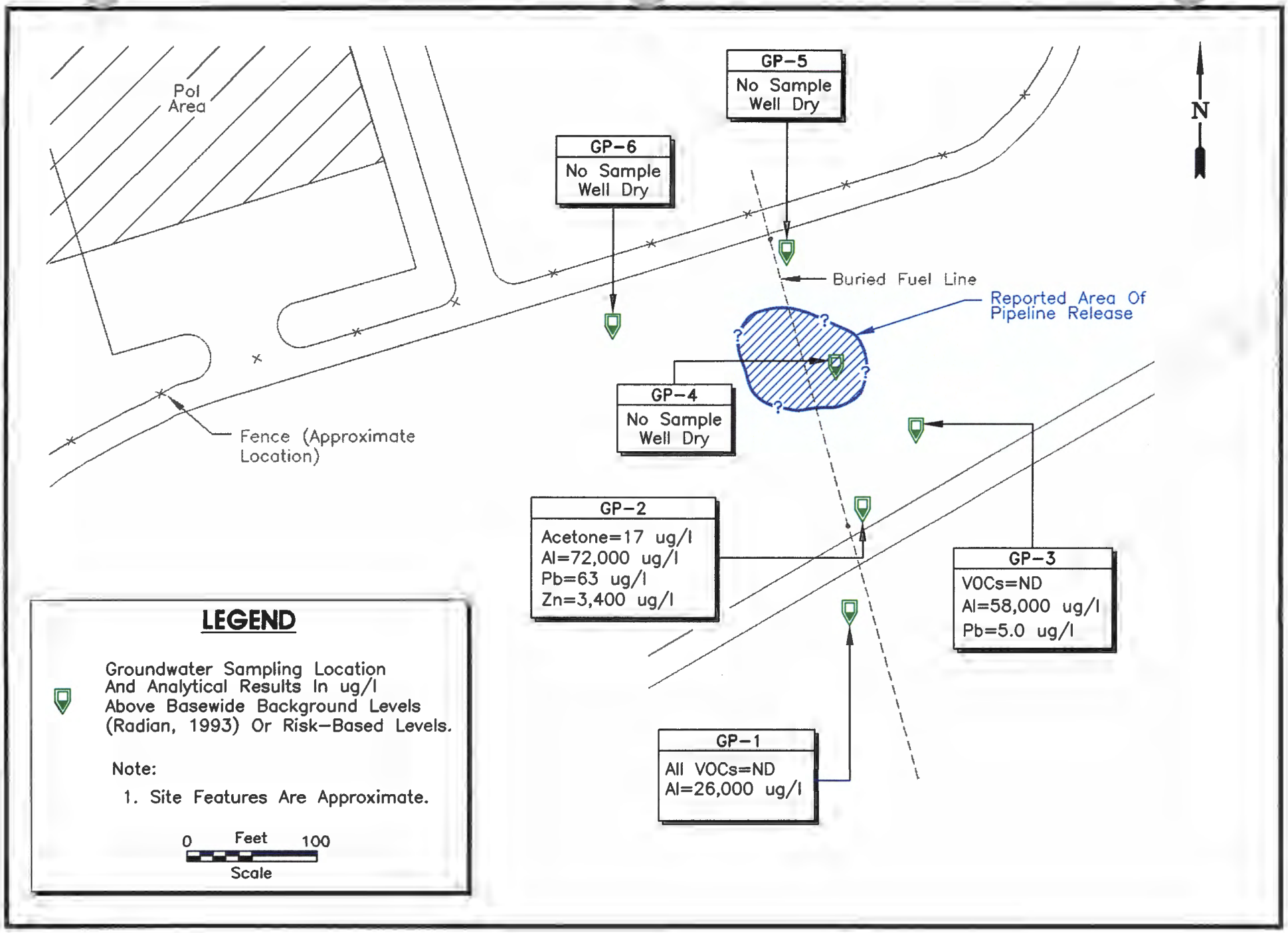

2201SVSR (1:100)

**Figure 2-2. Soil Vapor Survey Results, March 1995**
**Site SS-O6, JP-4 Fuel Line Spill**




2201SSR (1:100)

**Figure 2-3. Soil Analytical Results, March 1995**
**Site SS-06, JP-4 Fuel Line Spill**




2201GAR (1:100)

**Figure 2-4. Groundwater Analytical Results, April 1995**
**Site SS-06, JP-4 Fuel Line Spill**

# AOC-RR

## Area of Concern - Railroad Building

# 3.0 SITE INVESTIGATION AT AOC-RR

A PA was conducted at AOC-RR on December 1 and 2, 1994 (EBASCO/Groundwater Technology, October 1995). AOC-RR is located just northeast of the Main Base area. The AOC consists of Building 80, which was historically used to repair railroad locomotives, and a former tank area. Currently, Building 80 contains the Base solid waste recycling facility. Locomotive repair operations were conducted inside Building 80 and access beneath the locomotives was gained via a pit approximately 52 feet long and 4 feet deep which has subsequently been filled in and abandoned. Three underground storage tanks (USTs) of unknown volumes were also present. The last known product the tanks contained was "Golden Bear Oil" which is a petroleum-based dust suppressant used for roads. Adjacent to the site is IRP Site SD-08, the Refuse Collection Truck Washrack, where pesticides were applied for fly control. During the 1991 Remedial Investigation of Site SD-08, elevated levels of benzene and ethylbenzene were detected in monitoring well MW-08-01, located upgradient of Site SD-08, and 100 feet downgradient of the former tank area (Radian, October 1992). The two areas that comprise AOC-RR are considered potential sources for the detected benzene and ethylbenzene.

## 3.1 Objective of the Site Investigation and Scope of Work

The objective of the SI at AOC-RR was to assess the potential for soil and groundwater contamination at the site. The work was conducted in accordance with the CDAP and required implementation of Phase I and part of the Phase II investigation scope.

Phase I consisted of collecting and analyzing soil vapor, soil, and groundwater samples to determine the presence/absence of contamination. Phase II consisted of delineating groundwater impacted by VOCs identified during Phase I activities. Figure 3-1 illustrates the locations of all sampling points.

### *3.1.1 Phase I Soil Vapor Survey*

A soil vapor survey was performed at AOC-RR. Twenty-nine soil vapor points were installed in a grid pattern on March 20 and 21, 1995. The grid pattern specified in the

FSP was completed except for some points east of Building 80 which were relocated due to the presence of a ten-inch diameter water line. The grid pattern was nearly square with 50-foot spacing. The survey focused on the area which may have contained USTs and the perimeter of Building 80 where locomotive repair was conducted. Soil vapor samples were analyzed in an on-site mobile laboratory for BTEX constituents and TPH as JP-4 by EPA Methods 8020 and Modified 8015, respectively. Laboratory analytical reports are presented in Appendix A-2.

### *3.1.2 Soil Sampling and Analysis*

Six soil boring locations were selected for soil sampling activities at the site. The areas surrounding the building containing the former subsurface pit and the location of the former partially-buried tanks were targeted for soil sampling based on the PA results and the soil vapor survey. Soil samples were collected continuously in 2-foot sample sections to the total depth of each boring. A soil boring log was completed during the drilling to describe the lithology and record PID readings. The soil borings were advanced until DPT refusal or until groundwater was encountered (approximately 10 feet). The boring logs are presented in Appendix B-2.

Two samples, one from the groundwater interface and the other from the interval with the highest headspace VOC reading, were selected for chemical analysis. The soil samples were analyzed for TPH, VOCs, and TAL metals by Methods Modified 8015, 8240 and 6010/7000, respectively. One sample was selected from each boring for geotechnical analysis. Geotechnical soil samples were selected based on lithology and analyzed for grain size, moisture content, and Atterberg Limits.

### *3.1.3 Phase I Groundwater Sampling and Analysis*

Ten groundwater samples were collected during Phase I of the SI. Phase I groundwater sample locations were selected by the field team and the USACE technical representative. Sampling locations included 1 upgradient point and 5 locations surrounding the tank pit and building. Groundwater sampling was accomplished using screened drive points and tubing installed with the DPT rig. Groundwater samples were collected from wells GP01 through GP06 on March 31, 1995. Additional sampling points GP07 through GP11 were

installed and sampled on April 7, 1995. The sampling points were removed from the ground and the holes were backfilled with granular bentonite.

Groundwater samples were analyzed for volatile organic constituents by Method 8240, dissolved TAL metals by Method 6010/7000 and field parameters pH, temperature, and specific conductivity. Metals samples were field-filtered with a 0.45-micron filter prior to preservation.

### *3.1.4 Phase II Groundwater Sampling and Analysis*

In order to further define the extent of the hydrocarbons in groundwater, five additional groundwater samples (GP12 through GP16) were collected as part of the Phase II investigation. Temporary 1-inch diameter flush-threaded PVC monitoring well points installed with a HSA drilling rig. The wells were installed on April 19 and 20, 1995. The 1-inch flush-threaded PVC wells with 2-foot 0.010-inch slotted screen were installed to a depth of 14 feet below grade. Samples were collected from the wells with the groundwater sampling point tubing and peristaltic pump used in Phase I sampling activities. The samples were shipped to an offsite lab (Analytical Technologies, Inc. [ATI]) and analyzed for VOCs by EPA Method 8240.

## 3.2 Soil Vapor Survey Results

Soil vapor samples from 29 locations across the site were collected on March 20 and 21, 1995. Each sample was analyzed for TPH and BTEX constituents. The results are summarized in Table 3-1 and Figure 3-2. No TPH was detected in the samples at a method detection limit of <20 ug/l. Benzene concentrations ranged from ND (<0.05 ug/l) to 0.58 ug/l (SG-16). Toluene concentrations ranged from ND (<0.05 ug/l) to 0.51 ug/l (SG-16). Ethylbenzene ranged from ND (<0.05 ug/l) to 0.15 ug/l at SG-26, and xylenes ranged from 0.12 ug/l (SG-18) to 0.71 ug/l (SG-26). Total BTEX concentrations ranged from 0.21 ug/l (SG-29DUP) to 1.50 ug/l (SG-16). However, total BTEX concentrations in the equipment blank sample collected by drawing ambient air through the decontaminated DPT sampling rods was 0.54 ug/l. This concentration could be the result of contamination in the ambient air, exhaust fumes from the DPT rig or inadequate decontamination of the sampling rods.

## 3.3 Soil Sampling Results

Soil sampling results are presented in Table 3-3. Additionally, the results are plotted on Figure 3-3. The laboratory analytical reports are presented in Appendix C-2. No VOCs or TPH were detected in the soil samples. One or more of the TAL metals barium, calcium, chromium, copper, iron, lead, nickel, vanadium, and zinc were present in at least one sample above the Basewide background concentrations (Radian, 1993). Barium concentrations ranged from ND to 170 mg/kg at SB03 from 4 to 6 feet. Chromium concentrations ranged from ND to 6.6 mg/kg at boring SB03, 8 to 10 feet. Calcium ranged from 120,000 to 300,000 mg/kg in SB05 at 6 to 8 feet. Lead ranged from 1.3 mg/kg to 7.5 mg/kg at boring SB01, 6 to 8 feet. There are no risk-based levels established for calcium or iron, and these compounds are not considered site-related contaminants. No values for the other compounds detected above background exceeded the corresponding risk-based levels.

## 3.4 Geotechnical Soil Analysis

One soil sample from each boring (6 total) was selected for geotechnical analysis. The soil samples were selected based on lithology and analyzed for grain size, moisture content, and Atterberg Limits by PTS Laboratories, Inc. in Santa Fe Springs, California. These results are summarized in Table 3-2. According to the USCS, the dominant soil type was ML (inorganic silt) although two samples were identified as silty sand (SM) and clayey sand (SC). The median grain size ranged from 0.0053 mm (SB05, 6 to 8 feet) to 0.089 mm (SB02, 8 to 10 feet). Liquid limits ranged from not measurable to 38 (SB05, 6 to 8 feet), while the plastic limit ranged from non-plastic to 33 (SB05 and SB06 from 6 to 8 feet).

## 3.5 Phase I and II Groundwater Sampling Results

Groundwater analytical results are summarized in Table 3-4 and Figure 3-4. The table also contains background levels developed from the Basewide Background Study for Holloman, AFB (Radian, 1993) and EPA Region III risk-based levels for tap water. Phase I groundwater samples were analyzed for VOCs, TAL metals, and pH. Groundwater samples from sampling points GP01 through GP11, except GP10 (not sampled due to lack

of water in the point), were analyzed during Phase I in ATI's on-site mobile laboratory. Phase II groundwater samples, collected from temporary well points GP12 through GP-16, were analyzed for VOCs by Method 8240. The Phase II samples were analyzed offsite by ATI in Pensacola, Florida. The following compounds exceeded EPA risk-based concentrations in Phase I & II samples: benzene, 1,2-dichloroethane, 1,2-dichloropropane, and toluene. The maximum concentrations for benzene, 1,2-dichloroethane, 1,2-dichloropropane, and toluene were 3,300 ug/l, 440 ug/l, 50 ug/l, and 1,600 ug/l, respectively. Zinc was detected above the Basewide background level of 253 ug/l ranging in value from <1,000 ug/l to 9,300 ug/l at GP01. Lead was detected in sample GP07 at 46 ug/l, which is approximately twice the Basewide background level of 19.9 ug/l. There is no aluminum or manganese background value established. Aluminum was detected above the EPA risk-based level of 37,000 ug/l in GP07, GP08, and GP09, with a maximum value of 53,000 ug/l in GP08. Manganese was detected at concentrations ranging from ND<750 ug/l in GP02 to 8,700 ug/l in GP05. These values are greater than the risk-based level of 180 ug/l.

## 3.6 Summary of Phase I/Phase II Results

The Phase I and a portion of the scoped Phase II SI was conducted at and adjacent to Railroad Building 80 (AOC-RR) between March 19 and April 21, 1995. Twenty-nine soil vapor samples, 12 soil samples plus 1 duplicate sample, and 15 groundwater samples plus 2 duplicates were submitted for chemical analysis. Additionally, 6 soil samples were analyzed for geotechnical parameters. Geologic and hydrogeologic conditions at the site were described in the PA, and based upon the SI are summarized below:

1. The lithologic sequence at AOC-RR is comprised of silt (ML) and silty sand (SM) containing abundant gypsum crystals.

2. The unconsolidated material grades from a light brown silty sand near the surface to a red silt with depth.

3. Groundwater is approximately 10 feet below grade.

4. A hard caliche layer exists immediately above the water table.

Analytical results at Site AOC-RR can be summarized as follows:

1. No TPH and nearly ambient concentrations of BTEX constituents were detected in 36 soil vapor samples collected at the site. The highest total BTEX concentration in soil vapor was 1.5 ug/l. The average BTEX concentration was 0.54 ug/l. The equipment blank samples contained 0.54 ug/l total BTEX. Based upon these results it was not possible to identify specific targets for further investigation by soil sampling and analysis. Therefore, the soil and groundwater sampling locations were placed near the former tank area and perimeter of Building 80.

2. No TPH or VOCs were detected in 12 soil samples collected from 6 soil borings. One or more of the metals barium, calcium, chromium, copper, iron, lead, nickel, vanadium, and zinc were present above Basewide background levels in at least one sample. The highest lead concentration was 7.5 mg/kg, which is well below the EPA risk-based action level for lead in residential soils of 400 mg/kg. No metals exceeded the associated risk-based levels.

3. VOCs were identified in some of the groundwater samples collected at the site. Benzene, 1,2-dichloroethane, 1,2-dichloropropane, and toluene, were detected above risk-based screening levels at maximum values of 3,300 ug/l; 440 ug/l, 20 ug/l, and 1,600 ug/l, respectively, indicative of a release at the site. The highest VOC concentrations were detected adjacent to the former tank area (GP-01) and to the south and east of the former tank area (GP-11) and (GP-13). The extent of VOCs in groundwater has not been defined to the south of the study area, but the concentrations of these site-related constituents decrease with distance from the potential source areas. For example, GP-12, located to the south of Arkansas Avenue, contained only 2 ug/l ethylbenzene and 5 ug/l xylenes. The water at the site has a total dissolved solids (TDS) concentration greater than 10,000 milligrams per liter (mg/l), and is not suitable for beneficial use. No phase-separated hydrocarbons were present on the water table.

4. TAL metals were identified in groundwater at the site. Groundwater samples contained dissolved lead and zinc above the Basewide background levels in one or more samples. Zinc values do not exceed the EPA risk-based level, and no similar

value exists for lead. Aluminum and manganese were detected above risk-based levels in several samples. Neither of these constituents are considered to be site-related contaminants.

## 3.7 Recommendations

NFA is recommended for AOC-RR. Soil at the site does not contain TPH in excess of 1,000 mg/kg and groundwater is not impacted by phase-separated hydrocarbons. No VOCs were detected in soil samples, and TAL metals detected in soil do not exceed the conservative EPA risk-screening levels, which were developed using standard default exposure scenarios. The extent of VOCs in groundwater has been defined to the north, east, and west of the likely source areas, and decreasing benzene concentrations in GP-11 and GP-12 indicate that the plume most likely does not extend much further to the south. Although some TAL metals were detected above risk-based screening levels, ingestion of VOCs or metals in groundwater is not a complete exposure pathway at Holloman AFB, due to the non-potable nature of the aquifer.

**TABLE 3-1**
**SOIL VAPOR SURVEY RESULTS AT AOC-RR[a]**
**RAILROAD BUILDING 80**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| Sample No. | Benzene (ug/l) | Toluene (ug/l) | Ethylbenzene (ug/l) | Xylenes (ug/l) | Total BTEX (ug/l) | TPH (ug/l) |
|---|---|---|---|---|---|---|
| AOC-RR-SG-01 | 0.10 | 0.24 | 0.06 | 0.26 | 0.66 | <20 |
| AOC-RR-SG-02 | 0.05 | 0.26 | 0.08 | 0.34 | 0.73 | <20 |
| AOC-RR-SG-03 | <0.05 | 0.15 | 0.05 | 0.22 | 0.42 | <20 |
| AOC-RR-SG-04 | <0.05 | 0.20 | <0.05 | 0.19 | 0.39 | <20 |
| AOC-RR-SG-05 | 0.07 | 0.21 | 0.07 | 0.27 | 0.55 | <20 |
| AOC-RR-SG-06 | 0.07 | 0.24 | 0.07 | 0.28 | 0.66 | <20 |
| AOC-RR-SG-07 | 0.10 | 0.25 | 0.07 | 0.27 | 0.69 | <20 |
| AOC-RR-SG-08 | 0.07 | 0.18 | 0.06 | 0.24 | 0.55 | <20 |
| AOC-RR-SG-09 | 0.09 | 0.19 | 0.07 | 0.27 | 0.62 | <20 |
| AOC-RR-SG-10 | 0.06 | 0.23 | 0.08 | 0.33 | 0.70 | <20 |
| AOC-RR-SG-11 | <0.05 | 0.17 | 0.06 | 0.23 | 0.46 | <20 |
| AOC-RR-SG-11DUP | 0.06 | 0.19 | <0.05 | <0.05 | 0.25 | <20 |
| AOC-RR-SG-12 | <0.05 | 0.17 | 0.05 | 0.21 | 0.43 | <20 |
| AOC-RR-SG-13 | <0.05 | 0.14 | 0.06 | 0.19 | 0.39 | <20 |
| AOC-RR-SG-14 | <0.05 | 0.21 | 0.07 | 0.29 | 0.57 | <20 |
| AOC-RR-SG-15 | 0.10 | 0.31 | 0.08 | 0.32 | 0.81 | <20 |
| AOC-RR-SG-16 | 0.58 | 0.51 | 0.10 | 0.31 | 1.50 | <20 |
| AOC-RR-SG-17 | <0.05 | 0.11 | <0.05 | 0.18 | 0.29 | <20 |

**TABLE 3-1 (Continued)**
**SOIL VAPOR SURVEY RESULTS AT AOC-RR**
**RAILROAD BUILDING 80**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| Sample No. | Benzene (ug/l) | Toluene (ug/l) | Ethylbenzene (ug/l) | Xylenes (ug/l) | Total BTEX (ug/l) | TPH (ug/l) |
|---|---|---|---|---|---|---|
| AOC-RR-SG-18 | <0.05 | 0.13 | <0.05 | 0.12 | 0.25 | <20 |
| AOC-RR-SG-19 | <0.05 | 0.15 | 0.06 | 0.22 | 0.43 | <20 |
| AOC-RR-SG-20 | <0.05 | 0.20 | 0.08 | 0.33 | 0.61 | <20 |
| AOC-RR-SG-21 | <0.05 | 0.15 | <0.05 | 0.22 | 0.37 | <20 |
| AOC-RR-SG-22 | 0.05 | <0.05 | 0.14 | 0.19 | 0.38 | <20 |
| AOC-RR-SG-22DUP | <0.05 | 0.16 | <0.05 | 0.21 | 0.37 | <20 |
| AOC-RR-SG-23 | 0.07 | 0.24 | 0.08 | 0.37 | 0.76 | <20 |
| AOC-RR-SG-EQUIP. BLANK (3/21/95) | <0.05 | 0.18 | 0.06 | 0.30 | 0.54 | <20 |
| AOC-RR-SG-24 | <0.05 | 0.16 | 0.06 | 0.29 | 0.51 | <20 |
| AOC-RR-SG-25 | <0.05 | 0.17 | 0.06 | 0.28 | 0.51 | <20 |
| AOC-RR-SG-26 | 0.08 | 0.40 | 0.15 | 0.71 | 1.34 | <20 |
| AOC-RR-SG-27 | <0.05 | 0.14 | <0.05 | 0.22 | 0.36 | <20 |
| AOC-RR-SG-28 | <0.05 | 0.17 | 0.06 | 0.27 | 0.50 | <20 |
| AOC-RR-SG-29 | <0.05 | 0.14 | <0.05 | 0.20 | 0.34 | <20 |
| AOC-RR-SG-29DUP | 0.05 | 0.16 | <0.05 | <0.05 | 0.21 | <20 |

[a]Samples analyzed for BTEX and TPH by EPA Methods Modified 5030/8020 and 8015.
ug/l = Micrograms per liter.
TPH = Total Petroleum Hydrocarbons as JP-4.
< = Indicates compound not detected at the stated reporting limit.

**TABLE 3-2**
**GEOTECHNICAL SOIL ANALYTICAL RESULTS AT AOC-RR**
**RAILROAD BUILDING 80**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| SAMPLE NO. | DEPTH (FT) | USCS IDENT | MOISTURE CONTENT (%wt.) | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | MEDIAN GRAIN SIZE (mm) |
|---|---|---|---|---|---|---|---|
| AOC-RR-SB-01-6-8 | 6-8 | ML | 23.9 | 29 | 26 | 3 | 0.0128 |
| AOC-RR-SB-02-8-10 | 8-10 | SM/SC | 21.5 | - | NON-PLASTIC | - | 0.0890 |
| AOC-RR-SB-03-4-6 | 4-6 | ML | 20.8 | 32 | 25 | 7 | 0.0294 |
| AOC-RR-SB-04-2-4 | 2-4 | SM/SC | 22.5 | - | NON-PLASTIC | - | 0.0075 |
| AOC-RR-SB-05-6-8 | 6-8 | ML | 35.2 | 38 | 33 | 5 | 0.0053 |
| AOC-RR-SB-06-6-8 | 6-8 | ML | 29.6 | 35 | 33 | 2 | 0.0062 |

- = Not measured
USCS = Unified Soil Classification System
%wt = Weight percent
FT = Feet
mm = Millimeter

# TABLE 3-3
# SUMMARY OF SOIL ANALYTICAL RESULTS AT AOC-RR
# RAILROAD BUILDING 80
# HOLLOMAN AFB, NM
# MARCH - APRIL 1995

| CONSTITUENTS | COMPARATIVE CONCENTRATIONS | | AOC-RR-SB01-6-8 | AOC-RR-SB01-10-12 | AOC-RR-SB02-2-4 | AOC-RR-SB02-2-4D | AOC-RR-SB02-8-10 | AOC-RR-SB03-4-6 | AOC-RR-SB03-8-10 | AOC-RR-SB04-2-4 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | | | | |
| SAMPLE DEPTH (feet) | -- | -- | 6-8 | 10-12 | 2-4 | 2-4 | 8-10 | 4-6 | 8-10 | 2-4 |
| VOLATILE ORGANICS - METHOD 8240 (ug/kg) | | | | | | | | | | |
| All Constituents | N/A | N/A | ND | ND | ND | ND | ND | ND | ND | ND |
| TOTAL PETROLEUM HYDROCARBONS - METHOD 8015 (mg/kg) | N/A | 1000[c] | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| TAL METALS - METHODS 6000s AND 7000s (mg/kg) | | | | | | | | | | |
| Barium | 84 | 72,000 | <100 | <100 | <100 | <100 | <100 | 170 | 63 | <100 |
| Calcium | 250,000 | N/A | 160,000 | 130,000 | 170,000 | 170,000 | 140,000 | 140,000 | 130,000 | 130,000 |
| Chromium | 6.61 | 1,000,000 | <15 | <15 | <15 | <15 | <15 | <15 | 6.6 | <15 |
| Copper | 4.84 | 38,000 | <12 | <12 | <12 | <12 | <12 | <12 | 5.0 | <12 |
| Iron | 6,362 | N/A | 9,100 | 7,600 | 2,500 | 2,600 | 3,400 | 5,400 | 6,300 | 3,700 |
| Lead | -2.32 | 400[c] | 7.5 | 3.9 | 2.0 | 1.8 | 1.4 | 3.2 | 3.0 | 2.9 |
| Nickel | 5.61 | 20,000 | <20 | <20 | <20 | <20 | <20 | <20 | 8 | <20 |
| Vanadium | 15.46 | 7,200 | <25 | <25 | <25 | <25 | <25 | <25 | 17 | <25 |
| Zinc | 20.25 | 310,000 | 30 | 32 | 19 | 20 | 31 | 25 | 19 | 27 |

**TABLE 3-3 (Continued)**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT AOC-RR**
**RAILROAD BUILDING 80**
**HOLLOMAN AFB, NM**
**MARCH - APRIL 1995**

| CONSTITUENTS | COMPARATIVE CONCENTRATIONS | | AOC-RR-SB04-6-8 | AOC-RR-SB05-2-4 | AOC-RR-SB05-6-8 | AOC-RR-SB06-2-4 | AOC-RR-SB06-6-8 |
|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | |
| SAMPLE DEPTH (feet) | -- | -- | 6-8 | 2-4 | 6-8 | 2-4 | 6-8 |
| VOLATILE ORGANICS - METHOD 8240 (ug/kg) | | | | | | | |
| All Constituents | N/A | N/A | ND | ND | ND | ND | ND |
| TOTAL PETROLEUM HYDROCARBONS - METHOD 8015 (mg/kg) | N/A | 1000[c] | <20 | <20 | <20 | <20 | <20 |
| TAL METALS - METHODS 6000s AND 7000s (mg/kg) | | | | | | | |
| Barium | 84 | 72,000 | <100 | <100 | <100 | 280 | <100 |
| Calcium | 250,000 | N/A | 120,000 | 220,000 | 300,000 | 180,000 | 190,000 |
| Chromium | 6.61 | 1,000,000 | <15 | <15 | <15 | <15 | <15 |
| Copper | 4.84 | 38,000 | <12 | <12 | <12 | <12 | <12 |
| Iron | 6,362 | N/A | 4,600 | 1,200 | 6,700 | 6,700 | 3,100 |
| Lead | -2.32 | 400[c] | 2.3 | 1.3 | 3.8 | 2.6 | 6.9 |
| Nickel | 5.61 | 20,000 | <20 | <20 | <20 | <20 | <20 |
| Vanadium | 15.46 | 7,200 | <25 | <25 | <25 | <25 | <25 |
| Zinc | 20.25 | 310,000 | 24 | 64 | 41 | 26 | 60 |

**TABLE 3-3 (Continued)**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT AOC-RR**
**RAILROAD BUILDING 80**
**HOLLOMAN AFB, NM**
**MARCH - APRIL 1995**

[a]*Basewide Background Study Holloman AFB* (Radian, 1993).

[b]EPA Region III Risk-based levels (R.L. Smith, November 1994).

[c]NMED USTB Correspondence to Holloman AFB, dated November 2, 1992.

[d]EPA Action Level for residential exposure.

ND = No compounds detected for method specified.

ug/kg = Micrograms per kilogram

N/A = Not applicable/not established

NA = Not analyzed

mg/kg = Milligrams per kilogram

TAL = Target Analyte List

< = Indicates compound not detected at the stated reporting limit.

# TABLE 3-4
# SUMMARY OF GROUNDWATER ANALYTICAL RESULTS AT AOC-RR
# RAILROAD BUILDING 80
# HOLLOMAN AFB, NM
# APRIL 1995

| ANALYTES | COMPARATIVE CONCENTRATIONS | | AOC-RR-GP-01 | AOC-RR-GP-02 | AOC-RR-GP-03 | AOC-RR-GP-04 | AOC-RR-GP-05 | AOC-RR-GP-05DUP | AOC-RR-GP-06 | AOC-RR-GP-07 | AOC-RR-GP-07D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[a] | | | | | | | | | |
| **VOLATILE ORGANICS - METHOD 8240 (ug/l)** | | | | | | | | | | | |
| Benzene | N/A | 0.36 | 3,000 | <5 | <5 | <5 | 36 | 23 | 870 | 700 | 780 |
| 1,2-Dichloroethane | N/A | 0.12 | 380 | <5 | <5 | 9 | 190 | 170 | 440 | <50 | 51 |
| 1,2-Dichloropropane | N/A | 0.16 | <250 | <5 | <5 | <5 | 20 | 16 | <50 | <50 | <50 |
| Ethylbenzene | N/A | 1,300 | 260 | <5 | <5 | 24 | 30 | 18 | 1,000 | <50 | <50 |
| Toluene | N/A | 750 | 1,200 | <5 | <5 | <5 | 8 | 5 | 90 | <50 | <50 |
| Xylenes | N/A | 12,000 | 1,200 | <5 | <5 | <5 | 49 | 35 | 560 | 120 | 180 |
| **TAL METALS - METHODS 6000s and 7000s (ug/l)** | | | | | | | | | | | |
| Aluminum | N/A | 37,000 | 19,000 | <10,000 | <10,000 | 12,000 | 12,000 | NA | 22,000 | 44,000 | NA |
| Lead | 19.9 | N/A | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | NA | <4.0 | 46 | NA |
| Manganese | N/A | 180 | 4,200 | <750 | 2,000 | 2,900 | 8,700 | NA | 3,300 | <1,500 | NA |
| Zinc | 253 | 11,000 | 9,300 | <1,000 | 1,400 | 4,800 | 3,100 | NA | <1,000 | <2,000 | NA |
| **pH - METHOD 150.1** | N/A | 6-9 | 7.45 | 7.72 | 7.63 | 7.67 | 7.29 | NA | 7.25 | 7.20 | 7.17 |

**TABLE 3-4 (continued)**
**SUMMARY OF GROUNDWATER ANALYTICAL RESULTS AT AOC-RR**
**RAILROAD BUILDING 80**
**HOLLOMAN AFB, NM**
**APRIL 1995**

| ANALYTES | COMPARATIVE CONCENTRATION | | AOC-RR-GP-08 | AOCRR-GP-09 | AOCRR-GP-11 | AOC-RR-GP-12 | AOC-RR-GP-12D | AOC-RR-GP-13 | AOC-RR-GP-14 | AOC-RR-GP-15 | AOC-RR-GP-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | | | | | |
| **VOLATILE ORGANICS - METHOD 8240 (ug/l)** | | | | | | | | | | | |
| Benzene | N/A | 0.36 | <5 | 750 | 3,300 | <1 | <1 | 100 | <1 | <1 | 40 |
| 1,2-Dichloroethane | N/A | 0.12 | <5 | 85 | 280 | <2 | <2 | <20 | <2 | <2 | 290 |
| 1,2-Dichloropropane | N/A | 0.16 | <5 | <50 | <250 | <2 | <2 | <20 | <2 | <2 | <4 |
| Ethylbenzene | N/A | 1,300 | <5 | <50 | 960 | 2 | 2 | 490 | <1 | <1 | 210 |
| Toluene | N/A | 750 | <5 | <50 | <250 | <5 | <5 | 1,600 | <5 | <5 | <10 |
| Xylenes | N/A | 12,000 | <5 | 750 | <250 | 5 | 6 | 3,200 | 3 | <2 | <4 |
| **TAL METALS - METHODS 6000s and 7000s (ug/l)** | | | | | | | | | | | |
| Aluminum | N/A | 37,000 | 53,000 | 38,000 | <200 | NA | NA | NA | NA | NA | NA |
| Lead | 19.9 | N/A | <20 | <20 | <20 | NA | NA | NA | NA | NA | NA |
| Manganese | N/A | 180 | <1,500 | <1,500 | 1,900 | NA | NA | NA | NA | NA | NA |
| Zinc | 253 | 11,000 | <2000 | <2,000 | <20 | NA | NA | NA | NA | NA | NA |
| **pH - METHOD 150.1** | N/A | 6-9 | 7.35 | 7.64 | 7.39 | 6.78 | NA | 7.31 | 6.47 | 7.10 | 6.95 |

**TABLE 3-4**
**SUMMARY OF GROUNDWATER ANALYTICAL RESULTS AT AOC-RR**
**RAILROAD BUILDING 80**
**HOLLOMAN AFB, NM**
**APRIL 1995**

[a]*Basewide Background Study for Holloman AFB* (Radian, 1993).

[b]EPA Region III, Risk-Based Concentrations (R.L. Smith, November 8, 1994).

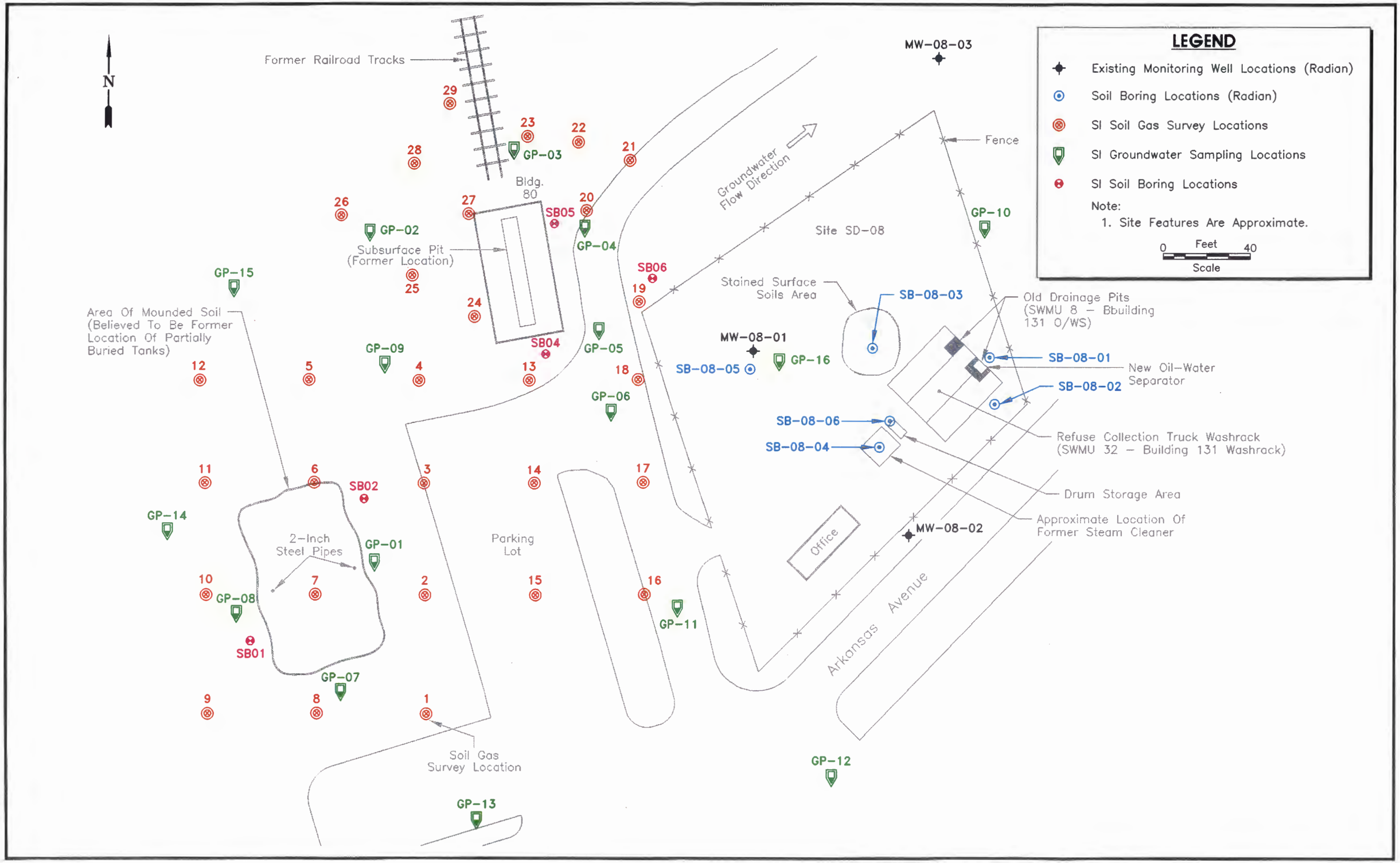
< = Indicates compound not detected at the stated reporting limit.

ug/l = Micrograms per Liter

NA = Not Analyzed

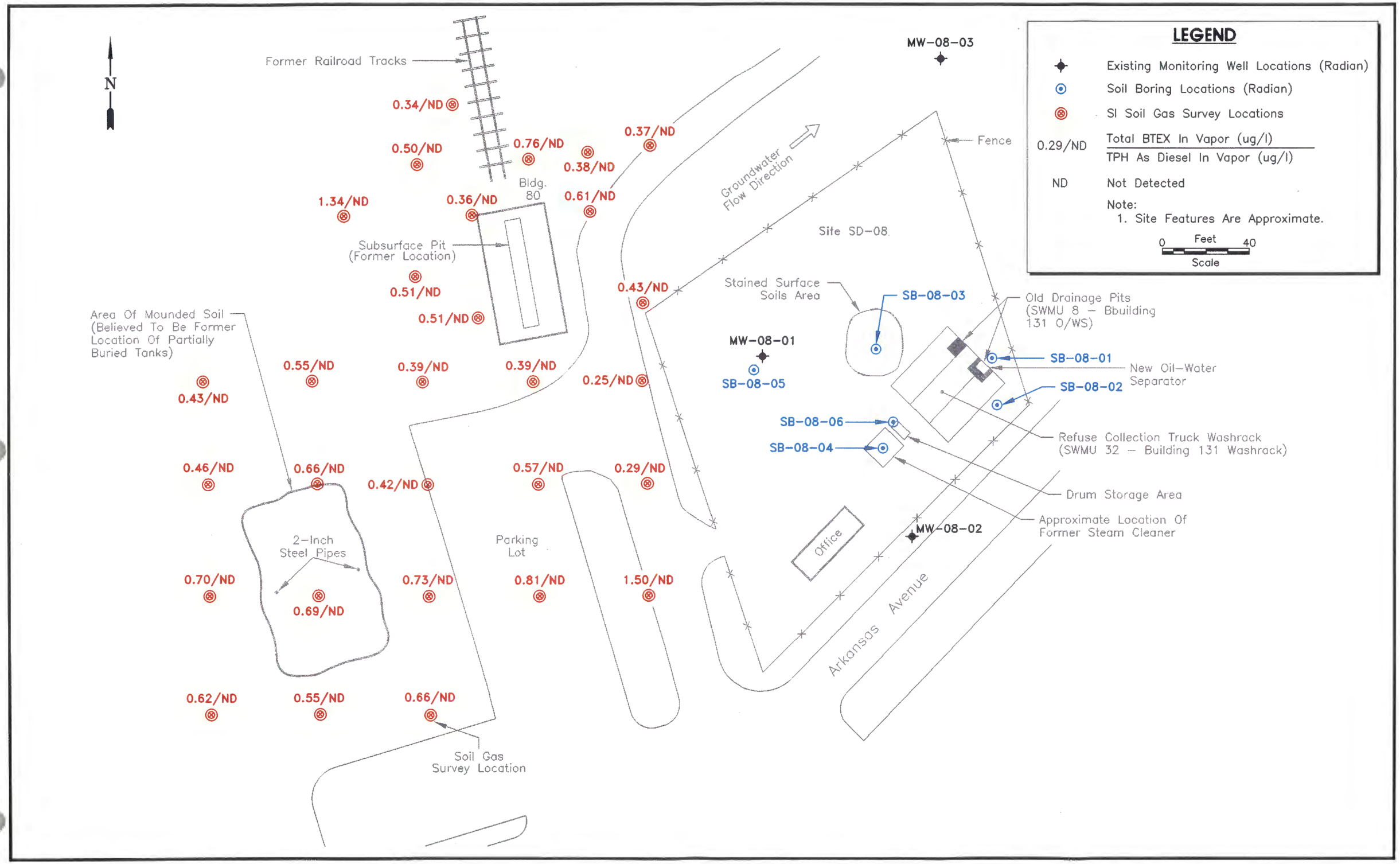
TAL = Target Analyte List

N/A = Not applicable/not established



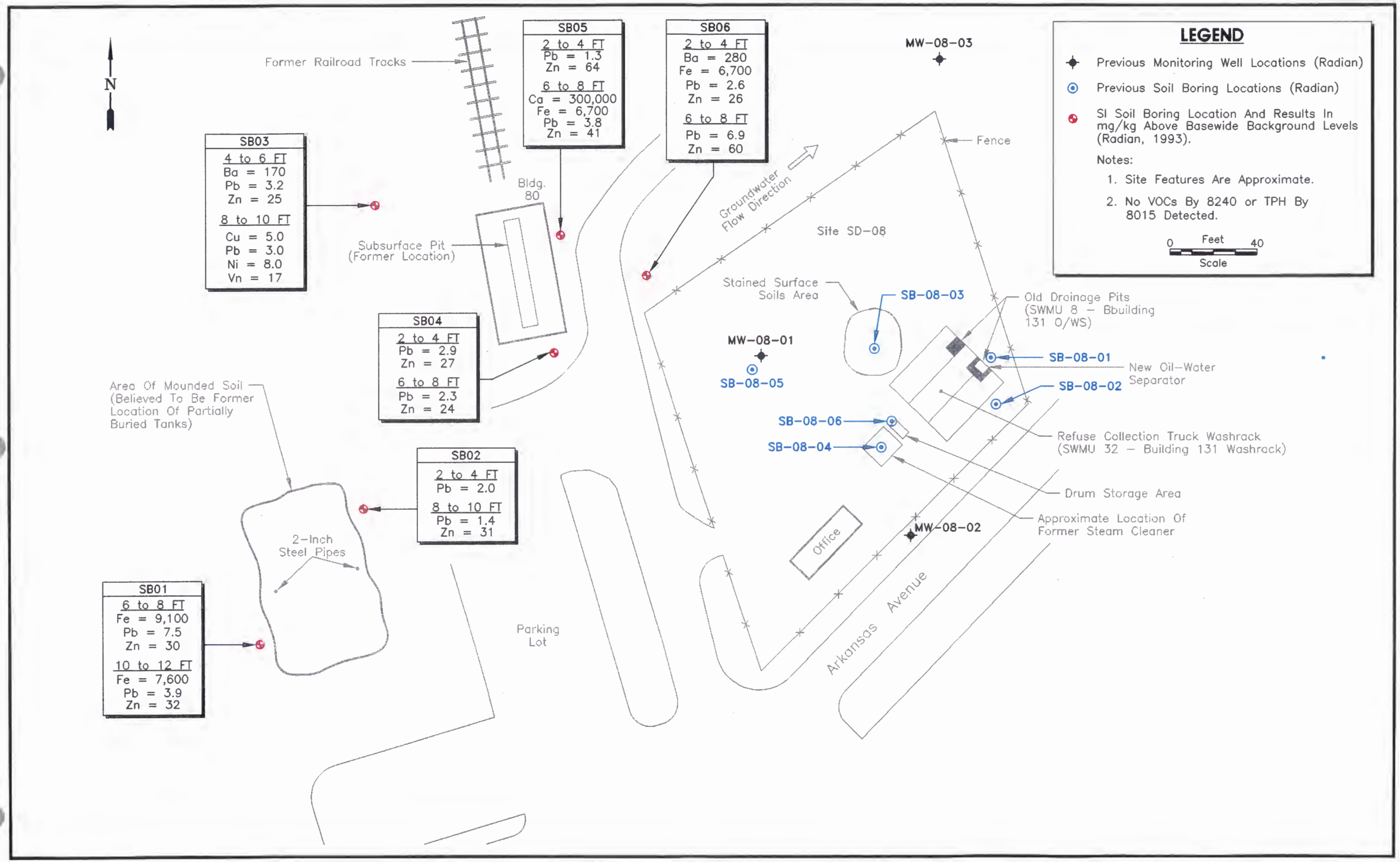

2201-ST3 (1:40)

**Figure 3-1. Site Map**
**Site AOC-RR, Railroad Building 80**



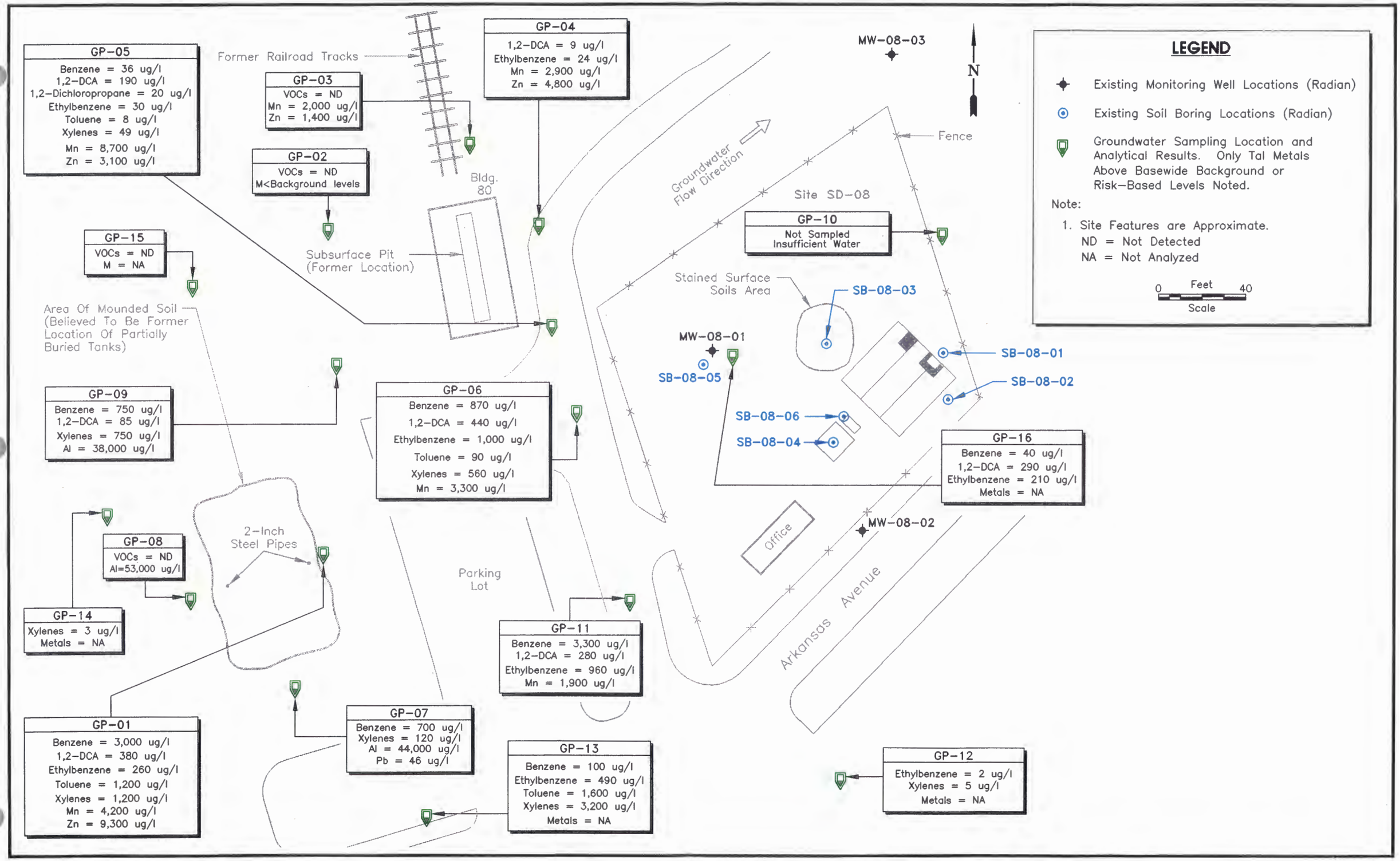

2201-SVS (1:40)

**Figure 3-2. Soil Vapor Survey Results, March 1995**
**Site AOC-RR, Railroad Building 80**




2201-SSRV (1:40)

**Figure 3-3. Soil Sample Results, March - April 1995**
**Site AOC-RR, Railroad Building 80**




2201-GA (1:40)

**Figure 3-4. Groundwater Analytical Results, April 1995**
**Site AOC-RR Railroad, Building 80**

# AOC-BBMS

## Bare Base Mobility Squadron/ Generator Run-Up Area

# 4.0 SITE INVESTIGATION AT AOC-BBMS

A PA was conducted at AOC-BBMS on December 1 and 2, 1994 (EBASCO/Groundwater Technology, October 1995). The Bare Base Mobility Squadron (currently called the Mobile Maintenance Squad) is located in the southwestern area of Holloman AFB. The Generator Run-Up area is located approximately 350 feet southwest of Building 902 and 175 feet east of Building 933. The area is used for testing high voltage generators used in field operations. Presently, the area contains a single above-ground storage tank with concrete secondary containment, an above-ground piping system to deliver fuel (JP-8) to the generator pad, a control shed, four electrical tie-in stations, a switch gear, and a load transformer. Historically, fuel was stored in a trailer-mounted fuel tank with no secondary containment and fuel delivery was accomplished with hoses stretched across the ground with no secondary containment. In 1984, a valve at the generator run-up area was inadvertently left open. The exact volume of JP-4 spilled is not known but the estimated volume recovered is estimated at 250 to 300 gallons. The facility now uses JP-8 fuel instead of JP-4. JP-8 fuel contains less volatile organic constituents (i.e., less BTEX) than JP-4.

## 4.1 Objective and Scope of Work

The objective of the SI was to determine the presence or absence of soil and groundwater contamination from the 1984 release of JP-4. The work was conducted in accordance with the FSP and required Phase I and part of the Phase II investigation SOW. Phase I consisted of collecting and analyzing soil vapor, soil, and groundwater samples. Soil vapor samples were analyzed for BTEX and TPH. Soil samples were analyzed for VOCs, TPH, and TAL metals. Groundwater samples were analyzed for VOCs, TAL metals, and pH. Phase II consisted of delineating groundwater contamination (VOCs) identified in Phase I.

### *4.1.1 Soil Vapor Survey*

A soil vapor survey was performed at AOC-BBMS. On March 22 and 23, 1995, 33 soil vapor points were installed in a grid pattern identified in the FSP. The grid pattern was square on a 50-foot spacing, and focused on the area of the spill. Soil vapor samples were

analyzed for BTEX constituents and TPH as JP-4 in an on-site mobile laboratory for EPA Methods 8020 and Modified 8015, respectively.

### *4.1.2 Soil Sampling and Analysis*

Based on soil vapor survey results, 6 soil boring locations were selected for soil sampling activities at the site. The areas targeted for soil sampling included the above-ground fuel tank area and the low area south of the fuel tank and the tie-in station area. Soil samples were collected continuously in 2-foot sample sections to the total depth of the boring (approximately 8 feet). A soil boring log was completed during the drilling to describe the lithology and record PID readings. The soil borings were advanced until DPT sampler refusal or until a wet sample was collected. Drill logs are presented in Appendix B-3.

Two samples, one from the groundwater interface and the other from the interval with the highest headspace VOC reading, were selected for chemical analysis. The soil samples were analyzed for TPH, VOCs, and TAL metals by Methods Modified 8015, 8240, and 6010/7000s, respectively. One sample from each boring was selected for geotechnical analysis. Sample selection was based upon lithology and samples were analyzed for grain size, moisture content, and Atterberg Limits.

### *4.1.3 Phase I Groundwater Sampling and Analysis*

Six groundwater samples were collected during Phase I of the SI. Phase I groundwater sample locations were selected by the field team and the USACE technical representative. Sampling locations included one upgradient point and 5 locations throughout the site. Groundwater samples were collected on March 30, 1995 from sample points GP01 through GP06. The sampling points were removed from the ground and the holes were backfilled with granular bentonite. Groundwater samples were analyzed for VOCs by Method 8240, dissolved TAL metals by Methods 6010/7000s, and field parameters pH, temperature, and specific conductivity. Metals samples were field-filtered with a 0.45-micron filter prior to preservation.

### *4.1.4 Phase II Groundwater Sampling*

Phase II groundwater sample locations were based on the results of the Phase I groundwater sample analysis to further define the extent of VOCs at the site. Five groundwater sample points (GP07 through GP11) were initially targeted for AOC-BBMS and four groundwater samples were actually collected using the DPT rig. Groundwater sample point GP09 located southwest of the 5,000 gallon JP-8 fuel tank could not be installed with the DPT rig due to sampler refusal. Additional Phase II groundwater samples were collected with temporary 1-inch diameter flush-threaded PVC monitoring well points installed with a HSA drilling rig. Two temporary monitoring wells, GP09 and GP12, were installed and sampled. The sampling points and temporary monitoring wells were removed and backfilled with bentonite after the groundwater sample was collected.

## 4.2 Soil Vapor Analytical Results

Soil vapor samples from 33 locations across the site were collected on March 22 and 23, 1995. Each sample was analyzed for TPH and BTEX constituents. The results are summarized in Table 4-1 and Figure 4-2. TPH was detected in samples AOC-BBMS-SG04, 07, 14, 15 and 18 at values ranging from 23 ug/l (SG18) to 160 ug/l (SG15). BTEX was detected at several locations at values ranging from 0.06 (SG10) to 9.10 (SG15). Soil vapor location SG15 had the maximum BTEX concentration of 9.1 ug/l along with TPH at 160 ug/l. This location is adjacent to the above-ground storage tank area. Other soil vapor samples containing TPH and BTEX were located near the tie-in stations, close to the area of the reported release.

## 4.3 Soil Sampling Results

Soil sampling results are presented in Table 4-3. Additionally, the results are plotted on Figure 4-3. The laboratory analytical reports are present in Appendix C-4. No VOCs or TPH were detected in the soil samples. Lead and/or zinc exceeded background levels in all soil borings except AOC-BBMS-SB03. The highest lead and zinc concentrations were 8.4 mg/kg and 96 mg/kg, respectively, in sample SB05-0-2, located next to the tie-in station. These levels, however, are less than established risk-based levels of 400 mg/kg and 310,000 mg/kg, respectively. No other TAL metals exceeded background levels.

## 4.4 Geotechnical Soil Analysis

One soil sample from each boring (6 total) was selected for geotechnical analysis. The soil samples were selected based on lithology and analyzed for grain size, moisture content, and Atterberg Limits by PTS Laboratories, Inc. in Santa Fe Springs, California. These results are summarized in Table 4-2. According to the USCS, the dominant soil types are silt (ML) and silty sands (SM). The median grain size ranged from 0.0532 mm (SB03, 0 to 2 feet) to 0.1136 mm (SB06, 2 to 4 feet). Liquid limits ranged from not measurable to 33 (SB03, 0 to 2 feet), while the plastic limit ranged from non-plastic to 26 (SB01 and SB03, 0 to 2 feet).

## 4.5 Phase I and II Groundwater Sampling Results

Groundwater analytical results are summarized in Table 4-4 and Figure 4-4. Laboratory analytical reports of analysis are presented in Appendix E-3. Phase I groundwater samples were analyzed for volatile organics, TAL metals and pH. Samples from groundwater sampling points GP01 through GP11 (with the exception of GP09) were analyzed during Phase I in ATI's on-site mobile laboratory. Phase II groundwater samples, collected from temporary well points GP09 through GP12, were analyzed for VOCs by Method 8240. The samples were analyzed offsite by ATI in Pensacola, Florida. The Phase II samples were not analyzed for TAL metals. Benzene ranged from ND to a maximum of 230 ug/l in GP09. The highest benzene concentrations correspond to the topographically low area northeast of Building 933. No other VOCs exceeded corresponding risk-based levels, with the exception of 1,2-dichloroethane at 170 ug/l in the duplicate sample from GP05. Sample GP12, installed to the west of GP09 to define lateral extent, contained benzene at 1 ug/l. TAL metals lead and zinc exceeded the Basewide background study levels in some samples. Aluminum and manganese were detected above the corresponding risk-based levels for tap water. Lead was detected with a maximum concentration of 54 ug/l. EPA Region III has not calculated a risk-based level for lead in tap water.

No phase-separated hydrocarbons were observed, and Phase I and II groundwater sampling delineated the extent of impact of VOCs in groundwater at the site. Therefore, no additional groundwater sampling was performed.

## 4.6 Summary of Results

The SI was conducted at the Bare Base Mobility Squadron Generator Run-Up Area (AOC-BBMS) between March 21, 1995 and April 20, 1995. Thirty-three soil vapor samples, 12 soil samples, and 12 groundwater samples were submitted for chemical analysis. Additionally, 6 soil samples were analyzed for geotechnical parameters. Geologic and hydrogeologic conditions at the site were described in the PA, and based upon the SI are summarized below:

1. The lithologic sequence at AOC-BBMS is comprised of silt (ML) and fine silty sand (SM) containing abundant gypsum crystals.

2. The unconsolidated material grades from a light brown silty sand at the surface to a red silt with depth.

3. Groundwater was encountered between 2 and 4 feet below grade, but some DPT groundwater sampling probes failed to produce water for samples.

Analytical results at AOC-BBMS can be summarized as follows:

1. The soil vapor survey identified the area surrounding the above-ground storage tank and the tie-in stations as potentially contaminated. TPH and BTEX constituents were detected in several of the 33 soil vapor samples collected at the site adjacent to the release site and the existing storage tank area. Soil and groundwater samples were subsequently collected from these targeted areas.

2. No TPH or VOCs were detected in 12 soil samples collected from 6 soil borings. Only calcium, lead and zinc were present above the Basewide background levels in some samples. These metal concentrations are not considered indicative of a petroleum release to soil or groundwater. The greatest lead concentration was 8.4 mg/kg, which is substantially less than the risk-based level of 400 mg/kg. The zinc value was three orders of magnitude less than the EPA Region III risk-based level of 310,000 mg/kg for industrial soil. Calcium did not exceed three times the Basewide background level.

3. VOCs were identified in groundwater samples collected at the site, confirming that a release has occurred. The maximum concentrations of benzene, ethylbenzene, and xylenes were 230 ug/l (GP09), 300 ug/l (GP02), and 47 ug/l (GP02), respectively. The extent of VOC contaminants in groundwater is defined and limited to the low area northeast of Building 933. No phase-separated hydrocarbons were detected on the water table.

4. TAL metals were identified in groundwater at the site. Groundwater samples contained lead and zinc above the Basewide background study levels in selected samples, however, the concentrations for zinc are less than EPA Region III's risk-based levels, and no other regulatory values established for lead are applicable given the non-beneficial use status of the aquifer beneath Holloman AFB.

## 4.7 Recommendations

NFA is recommended for AOC-BBMS. No VOCs were detected in soil, TPH greater than 1,000 mg/kg were not detected, and no phase-separated hydrocarbons were present on the water table. Further, the extent of groundwater impacted by VOCs (benzene) above screening levels has been delineated and all TAL metal constituents are below associated background or established risk-based levels, which are based on conservative standard default exposure scenarios. The exposure pathway via ingestion of VOCs or metals from groundwater at Holloman AFB is incomplete, due to the non-potable nature of the aquifer.

**TABLE 4-1**
**SOIL VAPOR SURVEY RESULTS AT AOC-BBMS[a]**
**BARE BASE MOBILITY SQUADRON - GENERATOR RUN-UP AREA**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| Sample No. | Benzene (ug/l) | Toluene (ug/l) | Ethyl-benzene (ug/l) | Xylenes (ug/l) | Total BTEX (ug/l) | TPH (ug/l) |
|---|---|---|---|---|---|---|
| AOC-BBMS-SG-01 | <0.05 | 0.31 | 0.49 | 1.9 | 2.70 | <20 |
| AOC-BBMS-SG-02 | <0.05 | 0.14 | <0.05 | 0.10 | 0.24 | <20 |
| AOC-BBMS-SG-03 | <0.05 | <0.05 | <0.05 | 0.19 | 0.19 | <20 |
| AOC-BBMS-SG-04 | <0.05 | 0.20 | 0.06 | 0.26 | 0.52 | 32 |
| AOC-BBMS-SG-05 | 0.06 | 0.30 | 0.08 | 0.32 | 0.76 | <20 |
| AOC-BBMS-SG-06 | 0.08 | 0.13 | <0.05 | 0.10 | 0.31 | <20 |
| AOC-BBMS-SG-07 | 0.19 | 0.16 | <0.05 | 0.08 | 0.43 | 23 |
| AOC-BBMS-SG-08 | 0.09 | 0.13 | <0.05 | 0.08 | 0.30 | <20 |
| AOC-BBMS-SG-09 | 0.07 | 0.11 | <0.05 | 0.07 | 0.25 | <20 |
| AOC-BBMS-SG-10 | <0.05 | 0.06 | <0.05 | <0.05 | 0.06 | <20 |
| AOC-BBMS-SG-10-DUP | <0.05 | <0.05 | <0.05 | <0.05 | -- | <20 |
| AOC-BBMS-SG-11 | 0.10 | 0.17 | <0.05 | 0.12 | 0.39 | <20 |
| AOC-BBMS-SG-12 | 0.30 | 0.31 | 0.07 | 0.23 | 0.91 | <20 |
| AOC-BBMS-SG-13 | <0.05 | 0.06 | <0.05 | 0.05 | 0.11 | <20 |
| AOC-BBMS-SG-14 | 0.19 | 0.22 | 0.05 | 0.18 | 0.64 | 24 |
| AOC-BBMS-SG-15 | 1.5 | 1.5 | 3.3 | 2.8 | 9.10 | 160 |
| AOC-BBMS-SG-16 | 0.09 | 0.12 | 0.16 | 0.08 | 0.45 | <20 |
| AOC-BBMS-SG-17 | <0.05 | 0.08 | <0.05 | 0.05 | 0.13 | <20 |
| AOC-BBMS-SG-18 | <0.05 | 0.13 | <0.05 | 0.18 | 0.31 | 23 |
| AOC-BBMS-SG-19 | 0.05 | 0.11 | <0.05 | 0.08 | 0.24 | <20 |
| AOC-BBMS-SG-20 | <0.05 | <0.05 | <0.05 | <0.05 | -- | <20 |
| AOC-BBMS-SG-21 | 0.07 | 0.10 | <0.05 | <0.05 | 0.17 | <20 |

**TABLE 4-1 (Continued)**
**SOIL VAPOR SURVEY RESULTS AT AOC-BBMS[a]**
**BARE BASE MOBILITY SQUADRON - GENERATOR RUN-UP AREA**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| Sample No. | Benzene (ug/l) | Toluene (ug/l) | Ethyl-benzene (ug/l) | Xylenes (ug/l) | Total BTEX (ug/l) | TPH (ug/l) |
|---|---|---|---|---|---|---|
| AOC-BBMS-SG-21-DUP | 0.06 | 0.08 | <0.05 | <0.05 | 0.14 | <20 |
| AOC-BBMS-SG-22 | <0.05 | 0.05 | <0.05 | 0.06 | 0.11 | <20 |
| AOC-BBMS-SG-23 | 0.11 | 0.14 | <0.05 | 0.08 | 0.33 | <20 |
| AOC-BBMS-SG-24 | <0.05 | 0.07 | <0.05 | <0.05 | 0.07 | <20 |
| AOC-BBMS-SG-25 | <0.05 | <0.05 | <0.05 | <0.05 | -- | <20 |
| EQUIPMENT BLANK | <0.05 | <0.05 | <0.05 | <0.05 | -- | <20 |
| AOC-BBMS-SG-26 | 0.06 | 0.07 | <0.05 | <0.05 | 0.13 | <20 |
| AOC-BBMS-SG-27 | 0.07 | 0.07 | <0.05 | <0.05 | 0.14 | <20 |
| AOC-BBMS-SG-28 | <0.05 | <0.05 | <0.05 | <0.05 | -- | <20 |
| AOC-BBMS-SG-29 | <0.05 | <0.05 | <0.05 | <0.05 | -- | <20 |
| AOC-BBMS-SG-29DUP | <0.05 | <0.05 | <0.05 | <0.05 | -- | <20 |
| AOC-BBMS-SG-30 | 0.08 | 0.07 | <0.05 | <0.05 | 0.15 | <20 |
| AOC-BBMS-SG-31 | 0.56 | 0.38 | 0.09 | 0.23 | 1.26 | <20 |
| AOC-BBMS-SG-32 | <0.05 | 0.07 | <0.05 | 0.05 | 0.12 | <20 |
| AOC-BBMS-SG-33 | <0.05 | <0.05 | <0.05 | <0.05 | -- | <20 |
| AOC-BBMS-SG-33DUP | <0.05 | <0.05 | <0.05 | <0.05 | -- | <20 |

[a]Samples analyzed for BTEX and TPH by EPA Methods Modified 5030/8020 and 8015.
ug/l = Micrograms per Liter
TPH = Total Petroleum Hydrocarbons as JP-4
< = Indicates compound not detected at the stated reporting limit.

**TABLE 4-2**
**GEOTECHNICAL SOIL ANALYTICAL RESULTS AT AOC-BBMS**
**BARE BASE MOBILITY SQUADRON - GENERATOR RUN-UP AREA**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| SAMPLE NO. | DEPTH (FT) | USCS IDENT | MOISTURE CONTENT (%wt.) | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | MEDIAN GRAIN SIZE (mm) |
|---|---|---|---|---|---|---|---|
| AOC-BBMS-SB-01-0-2 | 0-2 | ML | 16.1 | 30 | 26 | 4 | 0.0187 |
| AOC-BBMS-SB-02-4-6 | 4-6 | SM | 39.2 | - | NON-PLASTIC | - | 0.0861 |
| AOC-BBMS-SB-03-0-2 | 0-2 | ML | 24.6 | 33 | 26 | 7 | 0.0532 |
| AOC-BBMS-SB-04-2-4 | 2-4 | SM | 37.8 | - | NON-PLASTIC | - | 0.0709 |
| AOC-BBMS-SB-05-2-4 | 2-4 | SM | 28.5 | - | NON-PLASTIC | - | 0.0883 |
| AOC-BBMS-SB-06-2-4 | 2-4 | SC | 46.7 | - | NON-PLASTIC | - | 0.1136 |

- = Not measured
USCS = Unified Soil Classification System
%wt = % weight
FT = Feet
mm = Millimeter

# TABLE 4-3
# SUMMARY OF SOIL ANALYTICAL RESULTS AT AOC-BBMS
# BARE BASE MOBILITY SQUADRON - GENERATOR RUN-UP AREA
# HOLLOMAN AFB, NM
# MARCH 1995

| CONSTITUENTS | COMPARATIVE CONCENTRATIONS | | AOC-BBMS-SB-1-0-2 | AOC-BBMS-SB-1-4-6 | AOC-BBMS-SB-2-2-4 | AOC-BBMS-SB-2-4-6 | AOC-BBMS-SB-3-0-2 | AOC-BBMS-SB-3-4-6 | AOC-BBMS-SB-4-0-2 |
|---|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[a] | | | | | | | |
| SAMPLE DEPTH (feet) | -- | -- | 0-2 | 4-6 | 2-4 | 4-6 | 0-2 | 4-6 | 0-2 |
| VOLATILE ORGANICS - METHOD 8240 (ug/kg) | | | | | | | | | |
| All Constituents | N/A | N/A | ND | ND | ND | ND | ND | ND | ND |
| TOTAL PETROLEUM HYDROCARBONS - METHOD 8015 (mg/kg) | N/A | 1,000[a] | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| TAL METALS - METHODs 6000s and 7000s (mg/kg) | | | | | | | | | |
| Calcium | 250,000 | N/A | 220,000 | 180,000 | 240,000 | 410,000 | 240,000 | 210,000 | 200,000 |
| Lead | -2.32 | 400[a] | 5.8 | 2.1 | 2.7 | 5.4 | 2.2 | 2.3 | 2.4 |
| Zinc | 20.25 | 310,000 | 19 | 32 | 16 | 19 | 17 | 13 | 17 |

**TABLE 4-3 (continued)**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT AOC-BBMS**
**BARE BASE MOBILITY SQUADRON - GENERATOR RUN-UP AREA**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| CONSTITUENTS | COMPARATIVE CONCENTRATIONS | | AOC-BBMS-SB-4-2-4 | AOC-BBMS-SB-5-0-2 | AOC-BBMS-SB-5-2-4 | AOC-BBMS-6-0-2 | AOC-BBMS-6-0-02Dup | AOC-BBMS-6-2-4 |
|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | | |
| SAMPLE DEPTH (feet) | -- | -- | 2-4 | 0-2 | 2-4 | 0-2 | 0-2 | 2-4 |
| VOLATILE ORGANICS - METHOD 8240 (ug/kg) | | | | | | | | |
| All Constituents | N/A | N.A | ND | ND | ND | ND | ND | ND |
| TOTAL PETROLEUM HYDROCARBONS - METHOD 8015 (mg/kg) | N/A | 1,000[c] | <20 | <20 | <20 | <20 | <20 | <20 |
| TAL METALS - METHODS 6000s AND 7000s (mg/kg) | | | | | | | | |
| Calcium | 250,000 | N/A | 220,000 | 160,000 | 130,000 | 160,000 | 160,000 | 120,000 |
| Lead | -2.32 | 400[c] | 1.6 | 8.4 | 3.2 | 2.0 | 2.5 | 2.2 |
| Zinc | 20.25 | 310,000 | 55 | 96 | 48 | 13 | 17 | 89 |

**TABLE 4-3 (continued)**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT AOC-BBMS**
**BARE BASE MOBILITY SQUADRON - GENERATOR RUN-UP AREA**
**HOLLOMAN AFB, NM**
**MARCH 1995**

[1] *Basewide Background Study Holloman AFB* (Radian, 1993).

[2] EPA Region III Risk-based levels (R.L. Smith, November 1994).

[3] NMED USTB Correspondence to Holloman AFB, dated November 2, 1992.

[4] EPA Action Level for residential exposure.

ND = No compounds detected for method specified.

ug/kg = Micrograms per kilogram

N/A = Not applicable/not established

NA = Not analyzed

mg/kg = Milligrams per kilogram

TAL = Target Analyte List

< = Indicates compound not detected at the stated reporting limit.

# TABLE 4-4
## SUMMARY OF GROUNDWATER ANALYTICAL RESULTS AT AOC-BBMS
## BARE BASE MOBILITY SQUADRON - GENERATOR RUN-UP AREA
## HOLLOMAN AFB, NM
## MARCH - APRIL 1995

| ANALYTES | COMPARATIVE CONCENTRATIONS | | AOC-BBMS-GP-01 | AOC-BBMS-GP-02 | AOC-BBMS-GP-03 | AOC-BBMS-GP-04 | AOC-BBMS-GP-05 | AOC-BBMS-GP-05D | AOC-BBMS-GP-06 |
|---|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | | | |
| **VOLATILE ORGANICS - METHOD 8240 (ug/l)** | | | | | | | | | |
| Benzene | N/A | 0.36 | <5 | 30 | <5 | <5 | <5 | <5 | <5 |
| 1,2-Dichloroethane | N/A | 0.12 | <5 | <25 | <5 | <5 | <5 | 170 | <5 |
| Ethylbenzene | N/A | 1,300 | <5 | 300 | <5 | <5 | <5 | <5 | <5 |
| Toluene | N/A | 750 | <5 | <25 | <5 | <5 | <5 | <5 | <5 |
| Xylenes | N/A | 12,000 | <5 | 47 | <5 | <5 | <5 | <5 | <5 |
| **TAL METALS - METHODS 6000s and 7000s (ug/l)** | | | | | | | | | |
| Aluminum | N/A | 37,000 | <200 | 170,000 | <10,000 | 4,100 | <10,000 | NA | <10,000 |
| Lead | 19.9 | N/A | <4.0 | 7.5 | 8.1 | 4.5 | <4.0 | NA | <4.0 |
| Manganese | N/A | 180 | 28 | <750 | <750 | <300 | <750 | NA | <750 |
| Zinc | 253 | 10,000 | <20 | 7,400 | 7,900 | 1,800 | 1,400 | NA | 2,200 |
| **pH - METHOD 150.1** | N/A | 6-9 | 7.57 | 7.75 | 7.57 | 7.95 | 7.87 | 7.69 | 7.87 |

**TABLE 4-4 (continued)**
**SUMMARY OF GROUNDWATER ANALYTICAL RESULTS AT AOC-BBMS**
**BARE BASE MOBILITY SQUADRON - GENERATOR RUN-UP AREA**
**HOLLOMAN AFB, NM**
**MARCH - APRIL 1995**

| ANALYTES | COMPARATIVE CONCENTRATIONS | | AOC-BBMS-GP-07 | ACO-BBMS-GP-07D | AOC-BBMS-GP-08 | AOC-BBMS-GP-09 | AOC-BBMS-GP-10 | AOC-BBMS-GP-11 | AOC-BBMS-GP-12* |
|---|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | | | |
| **VOLATILE ORGANICS - METHOD 8240 (ug/l)** | | | | | | | | | |
| Benzene | N/A | 0.36 | <5 | <5 | <5 | 230 | 7 | <5 | 1 |
| 1,2-Dichloroethane | N/A | 0.12 | <5 | <5 | <5 | <4 | <5 | <5 | <2 |
| Ethylbenzene | N/A | 1,300 | <5 | <5 | <5 | <2 | <5 | <5 | <1 |
| Toluene | N/A | 750 | <5 | <5 | <5 | <10 | <5 | <5 | <5 |
| Xylenes | N/A | 12,000 | <5 | <5 | <5 | <4 | 7 | <5 | <2 |
| **TAL METALS - METHODS 6000s and 7000s (ug/l)** | | | | | | | | | |
| Aluminum | N/A | 37,000 | 1,000 | <10,000 | 1,500 | NA | 24,000 | 3,900 | NA |
| Lead | 19.9 | N/A | 32 | <4.0 | 41 | NA | 54 | 40 | NA |
| Manganese | N/A | 180 | 130 | <750 | 300 | NA | <750 | 810 | NA |
| Zinc | 253 | 10,000 | 56 | 2,200 | <40 | NA | 1,500 | <200 | NA |
| **pH - METHOD 150.1** | N/A | 6-9 | 7.71 | 7.87 | 7.79 | 7.10 | 7.54 | 7.84 | 7.15 |

**TABLE 4-4 (continued)**
**SUMMARY OF GROUNDWATER ANALYTICAL RESULTS AT AOC-BBMS**
**BARE BASE MOBILITY SQUADRON - GENERATOR RUN-UP AREA**
**HOLLOMAN AFB, NM**
**MARCH - APRIL 1995**

[a] *Basewide Background Study for Holloman AFB* (Radian, 1993).

[b] EPA Region III, Risk-Based Concentrations (R.L. Smith, November 8, 1994).

*Sample AOC-BBMS-GP-12 was mislabeled as GP-11 when sampled on 4-27-95.

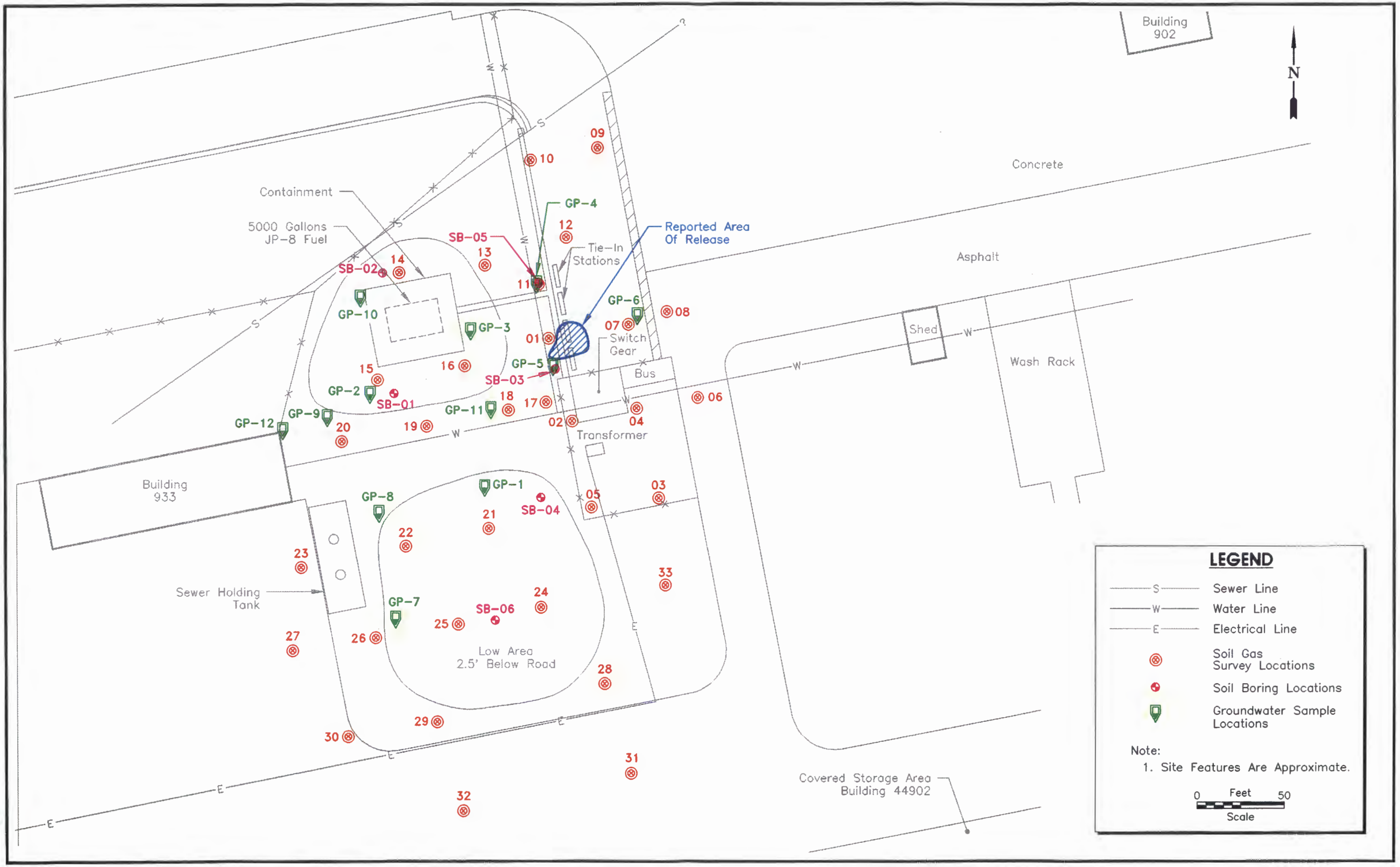
NA = Not Analyzed

ug/l = Micrograms per Liter

N/A = Not applicable/not established

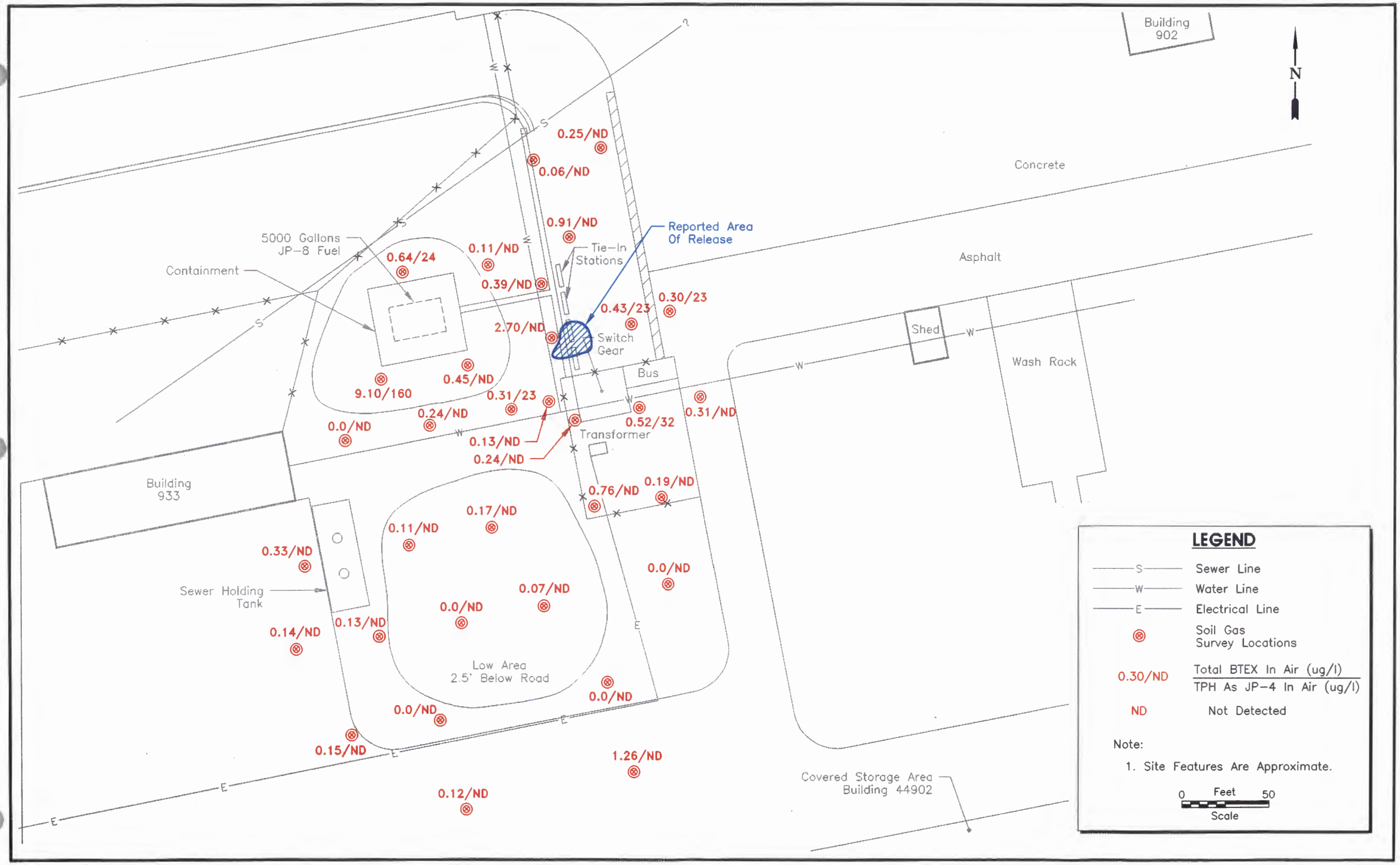
TAL = Target Analyte List

< = Indicates compound not detected at the stated reporting limit



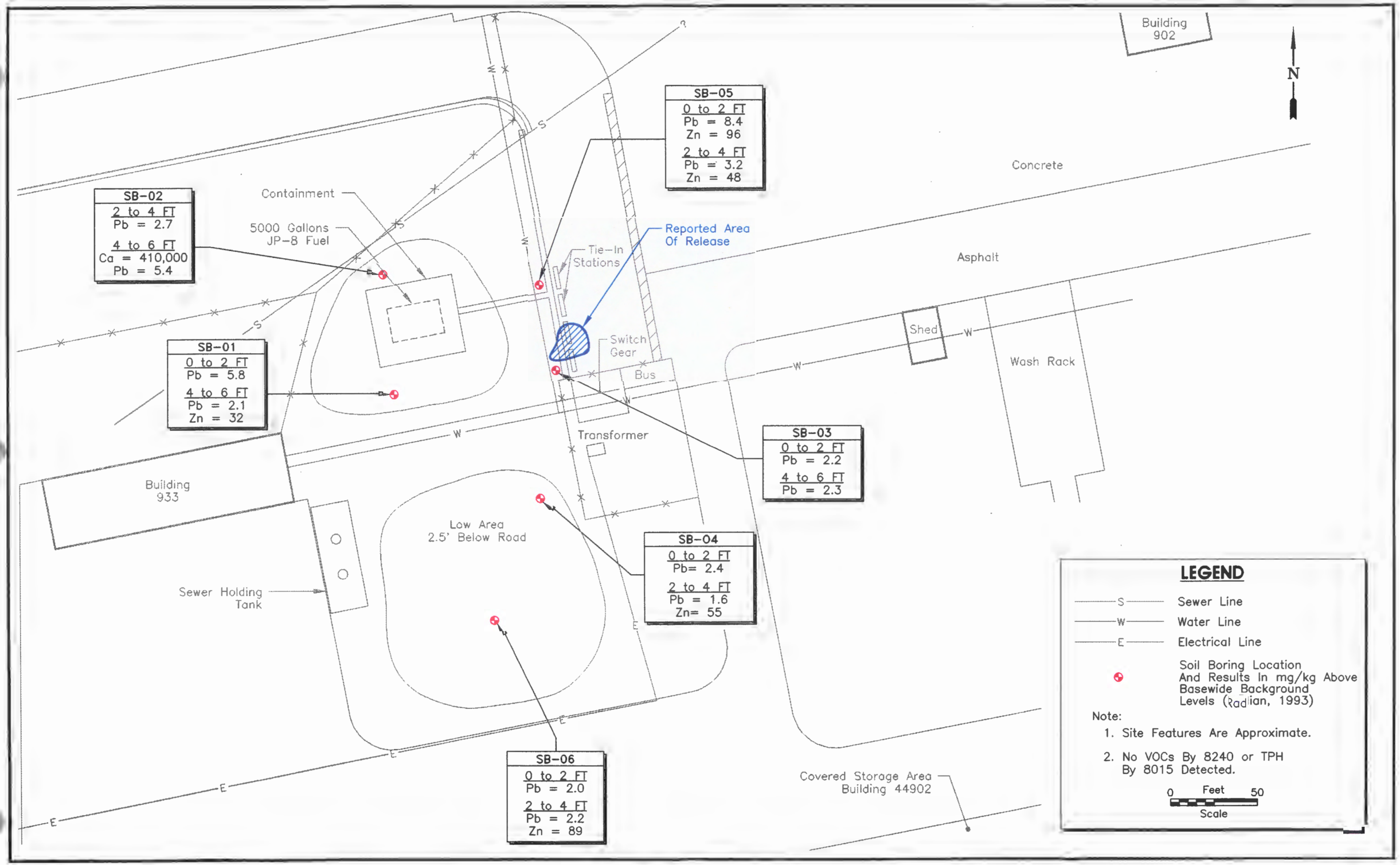

2201-ST4 (1:50)

**Figure 4-1. Site Map**
**Site AOC-BBMS, Bare Base Mobility Squadron/Generator Run-up Area**



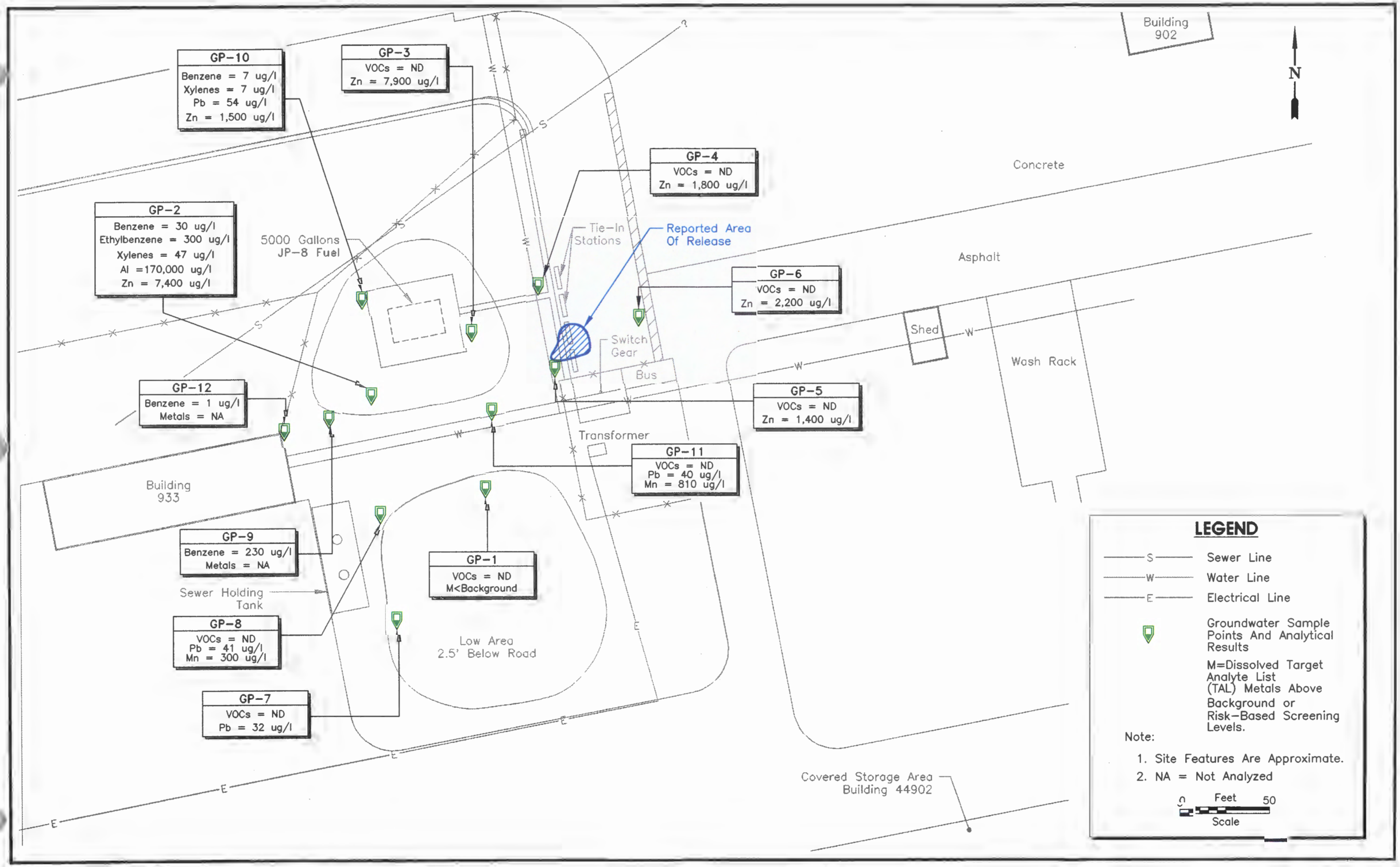

2201-SGS (1:50)

**Figure 4-2. Soil Vapor Survey Results, March 1995**
**Site AOC-BBMS, Bare Base Mobility Squadron/Generator Run-up Area**




2201-VAL (1:50)

**Figure 4-3. Soil Sample Results, March 1995**
**Site AOC-BBMS, Bare Base Mobility Squadron/Generator Run-up Area**




2201-PSL (1:50)

**Figure 4-4. Groundwater Analytical Results, March - April 1995**
**Site AOC-BBMS, Bare Base Mobility Squadron/Generator Run-up Area**

# SITE SD-15

## Refrigeration/Heat Shop Washrack

# 5.0 SITE INVESTIGATION AT SD-15, THE REFRIGERATION/HEAT SHOP WASHRACK

Site SD-15, the Refrigeration/Heat Shop Washrack, is located in the Civil Engineering Complex (Figure 5-1). From 1971 to 1981, a sulfuric acid solution was utilized to de-scale cooling equipment. The rinsewater was discharged to a septic tank drainfield. The washrack is located 2,200 feet from the Base boundary, and less then 25 feet from the nearest surface drainage ditch. A PA was conducted at Site SD-15 in 1983 (CH,M Hill, 1983). The oil/water separator and sump associated with the washrack were investigated during the IRP program and the Table 3 Resource Conservation and Recovery Act of 1976 (RCRA) Facility Investigation (RFI) conducted in October 1994. Samples were collected around the oil/water separator and in the area of the washrack during the RFI.

## 5.1 Objective and Scope of Work

The objective of the SI at Site SD-15 was to assess the nature and extent of impact to soil and groundwater related to washrack operations. The oil/water separator associated with the washrack was previously investigated as part of the Base Table 3 RFI, and was not the target of this investigation. The principal constituent of concern is sulfuric acid used in descaling operations and the possible discharge of oil and grease. Phase I activities included collecting at the washrack and analyzing soil and groundwater samples for analysis of volatile compounds and TAL metals. Phase I activities were conducted in accordance with the FSP. No Phase II investigative activities were required at the site.

### *5.1.1 Soil Sampling and Analysis*

Six soil boring locations were identified in the FSP. Soil samples were collected continuously in 2-foot sample sections to the total depth of each boring. A soil boring log was completed during drilling to describe the lithology and record PID readings. The soil borings were advanced until drill refusal or until a wet sample was collected. In general, sampling extended to between 5 and 7 feet below the ground surface where groundwater was encountered. Soil boring logs are presented in Appendix B-4.

Two samples, one from the groundwater interface and the other from the interval with the highest headspace VOC reading, were selected for chemical analysis. The soil samples were analyzed for pH, TPH, VOCs, and TAL metals by EPA Methods 9045 Modified 8015, 8240 and 6010/7000, respectively. One sample was selected from each boring for geotechnical analysis. Soil samples were selected based on lithology and analyzed for grain size, moisture content, and Atterberg Limits.

### *5.1.2 Phase I Groundwater Sampling*

Six groundwater samples were collected during the SI. The sampling was accomplished in accordance with the FSP using the DPT groundwater sampling probes. Sampling locations included 1 upgradient point and 5 locations surrounding the washrack. Groundwater samples were collected on March 30, 1995 from sampling points SD-15-GP01 through SD-15-GP06. Groundwater samples were analyzed for VOCs by Method 8240, dissolved TAL metals by Method 6010/7000 and field parameters of pH, temperature and specific conductivity. Metals samples were field-filtered with a 0.45-micron filter prior to preservation.

## 5.2 Soil Sampling Results

Soil sampling results are presented in Table 5-1 and plotted on Figure 5-2. The laboratory analytical reports are presented in Appendix C-4. No VOCs or TPH were detected in the soil samples. TAL metals constituents iron, lead, mercury, manganese, and zinc were present in at least one sample above the Basewide background study levels. Lead concentrations ranged from ND to 23 mg/kg at SB04 from 2 to 4 feet, which is below the risk-based level of 400 mg/kg. Mercury was detected in only one sample at 0.45 mg/kg (boring SB01, 0 to 2 feet), which is below the risk-based level of 310 mg/kg. Iron, manganese, and zinc did not exceed background concentrations by a factor of three. pH in soil ranged from 5.75 (SB01, 6 to 8 feet) to 7.91 (SB05, 0 to 2 feet).

## 5.3 Geotechnical Soil Analysis

One soil sample from each boring (6 total) was selected for geotechnical analysis. The soil samples were selected based on lithology and analyzed for grain size, moisture content,

and Atterberg Limits by PTS Laboratories, Inc. in Santa Fe Springs, California. These results are summarized in Table 5-2. According to the USCS, the dominant soil type was silty sand (SM) which grades to silt (ML) with depth. The median grain size ranged from 0.0073 mm (SB01, 0 to 2 feet) to 0.129 mm (SB03, 4 to 6 feet). Liquid limits ranged from not applicable to 45 (SB03, 4 to 6 feet) while the plastic limit ranged from non-plastic to 33 (SB06, 4 to 6 feet).

## 5.4 Groundwater Sampling Results

Groundwater analytical results are summarized in Table 5-3 and Figure 5-3. Laboratory reports are presented in Appendix E-4. Groundwater samples were analyzed for VOCs, TAL metals and pH. No VOCs except carbon disulfide (20 ug/l at GP05) were detected in the 6 samples and the duplicate sample analyzed. The risk-based level for carbon disulfide is 21 ug/l. There are no background levels established for aluminum or manganese. No other metals exceeded the Basewide background levels. Aluminum, although detected, did not exceed the risk-based level of 37,000 ug/l. Manganese ranged from ND at GP05 to 3,400 ug/l at GP03, which exceeds the EPA Region III level of 180 ug/l for tap water. pH values in groundwater ranged from 7.08 to 7.69.

## 5.5 Summary of Phase I Results

The Phase I SI was conducted at the Site SD-15 between March 27 and March 30, 1995. Twelve (12) soil samples plus 1 duplicate sample and 6 groundwater samples plus 1 duplicate were submitted for chemical analysis. Additionally, 6 soil samples were analyzed for geotechnical parameters. Geologic and hydrogeologic conditions detected at the site during the SI are summarized below:

1. The lithologic sequence at SD-15 is comprised of dark gray, fine silty sand (SM) which grades to silt (ML) with depth.

2. Groundwater was encountered between 5 and 7 feet below grade.

3. A hard caliche layer was not present immediately above the water table.

Analytical results at Site SD-15 can be summarized as follows:

1. No TPH or VOCs were detected in 12 soil samples collected from 6 soil borings. Lead was detected in several samples above the Basewide background study level, but the greatest lead concentration was 23 mg/kg, which is considerably less than the EPA risk-based action level for residential exposure of 400 mg/kg. Mercury was detected in one sample at 0.45 mg/kg, which is less than the Region III level of 310 mg/kg. Other metals, iron, manganese and zinc, exceeded the background levels derived from the Basewide background concentrations. However, no concentrations detected exceed background by more than three times with the exception of zinc. The maximum zinc concentration detected was 80 mg/kg, which is well below the risk-based level of 310,000 mg/kg for industrial soils. A pH value of 5.75 was detected in SB-01 at 6 to 8 feet. This was the only sample in which the pH was less than 6.

2. No VOCs were identified in groundwater samples at the site with the exception of carbon disulfide, which is a common laboratory contaminant. No metals exceeded established background or the EPA Region III risk-based screening levels with the exception of manganese, which was detected at a maximum concentration of 3,400 ug/l. Manganese is not considered a site-related contaminant. pH values ranged from 7.08 to 7.69.

## 5.6 Recommendations

NFA is recommended for Site SD-15. There is no evidence of release to soil or groundwater of wastes associated with the washrack, with the exception of the pH value in SB-01 at 6 to 8 feet (5.75) which may be related to past discharges of sulfuric acid. The site did not contain detectable concentrations of petroleum-related constituents in soil or water. Soil does not contain VOCs or TPH in excess of 1,000 mg/kg, and no phase-separated petroleum hydrocarbons were detected on the water table. In addition, pH of groundwater is within the acceptable range of 6 to 9. Only manganese in water exceeds the associated risk-based screening level of 180 ug/l for tap water. This risk-based level has been derived using conservative standard default exposure scenarios. Potential ingestion of manganese is not a viable exposure scenario for this site, given the non-potable nature of the groundwater at Holloman AFB.

**TABLE 5-1**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT SD-15**
**REFRIGERATOR/HEAT SHOP WASH RACK BUILDING 56**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| CONSTITUENTS | COMPARATIVE CONCENTRATIONS | | SD-15-SB01-0-2 | SD-15-SB01-6-8 | SD-15-SB02-2-4 | SD-15-SB02-4-6 | SD-15-SB03-2-4 | SD-15-SB03-2-4D | SD-15-SB03-4-6 |
|---|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[a] | | | | | | | |
| SAMPLE DEPTH (feet) | -- | -- | 0-2 | 6-8 | 2-4 | 4-6 | 2-4 | 2-4 | 4-6 |
| VOLATILE ORGANICS - METHOD 8240 (ug/kg) | | | | | | | | | |
| All Constituents | N/A | N/A | ND | ND | ND | ND | ND | ND | ND |
| TOTAL PETROLEUM HYDROCARBONS - METHOD 8015 (mg/kg) | N/A | 1,000[a] | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| TAL METALS - METHODS 6000s and 7000s (mg/kg) | | | | | | | | | |
| Iron | 6,362 | N/A | 4,800 | 1,800 | 4,800 | 4,600 | 230 | 960 | 2,200 |
| Manganese | 147 | 5,100 | 81 | 25 | 110 | 88 | 12 | 22 | 43 |
| Lead | -2.32 | 400[a] | 3.0 | 1.4 | 6.1 | 3.5 | 1.6 | 0.8 | 1.9 |
| Mercury | 0.0006 | 310 | 0.45 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| Zinc | 20.25 | 310,000 | 57 | 18 | 22 | 47 | 17 | <10 | 21 |
| pH - METHOD 9045 | N/A | 6-9 | 6.20 | 5.75 | 6.38 | 6.74 | 7.29 | 7.33 | 7.41 |

**TABLE 5-1 (Continued)**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT SD-15**
**REFRIGERATOR/HEAT SHOP WASH RACK BUILDING 56**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| CONSTITUENTS | COMPARATIVE CONCENTRATIONS | | SD-15-SB04-2-4 | SD-15-SB04-6-8 | SD-15-SB05-0-2 | SD-15-SB05-4-6 | SD-15-SB06-2-4 | SD-15-SB06-4-6 |
|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[a] | | | | | | |
| SAMPLE DEPTH (feet) | -- | -- | 2-4 | 6-8 | 0-2 | 4-6 | 2-4 | 4-6 |
| VOLATILE ORGANICS - METHOD 8240 (ug/kg) | | | | | | | | |
| All Constituents | N/A | N/A | ND | ND | ND | ND | ND | ND |
| TOTAL PETROLEUM HYDROCARBONS - METHOD 8015 (mg/kg) | N/A | 1,000[a] | <20 | <20 | <20 | <20 | <20 | <20 |
| TAL METALS - METHODS 6000s and 7000s (mg/kg) | | | | | | | | |
| Iron | 6,362 | N/A | 6,900 | 3,000 | 3,900 | 1,500 | 5,200 | 3,500 |
| Manganese | 147 | 5,100 | 200 | 38 | 60 | 35 | 86 | 53 |
| Lead | -2.32 | 400[a] | 23 | 2.9 | 2.0 | 1.6 | 3.3 | 1.8 |
| Mercury | 0.0006 | 310 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| Zinc | 20.25 | 310,000 | 44 | 71 | 38 | 80 | 33 | 18 |
| pH - METHOD 9045 | N/A | 6-9 | 7.55 | 7.53/7.55[a] | 7.91 | 7.70 | 7.53 | 7.58 |

**TABLE 5-1 (Continued)**
**SUMMARY OF SOIL ANALYTICAL RESULTS AT SD-15**
**REFRIGERATOR/HEAT SHOP WASH RACK BUILDING 56**
**HOLLOMAN AFB, NM**
**MARCH 1995**

[a]*Basewide Background Study Holloman AFB* (Radian, 1993).

[b]EPA Region III Risk-based levels (R.L. Smith, November 1994).

[c]NMED USTB Correspondence to Holloman AFB, dated November 2, 1992.

[d]EPA Action Level for residential exposure.

[e]Duplicate result for pH.

ND = No compounds detected for method specified.

ug/kg = Micrograms per kilogram

N/A = Not applicable/not established

NA = Not analyzed

mg/kg = Milligrams per kilogram

TAL = Target Analyte List

< = Indicates compound not detected at the stated reporting limit.

**TABLE 5-2**
**GEOTECHNICAL SOIL ANALYTICAL RESULTS AT SD-15**
**REFRIGERATOR/HEAT SHOP WASH RACK BUILDING 56**
**HOLLOMAN AFB, NM**
**MARCH 1995**

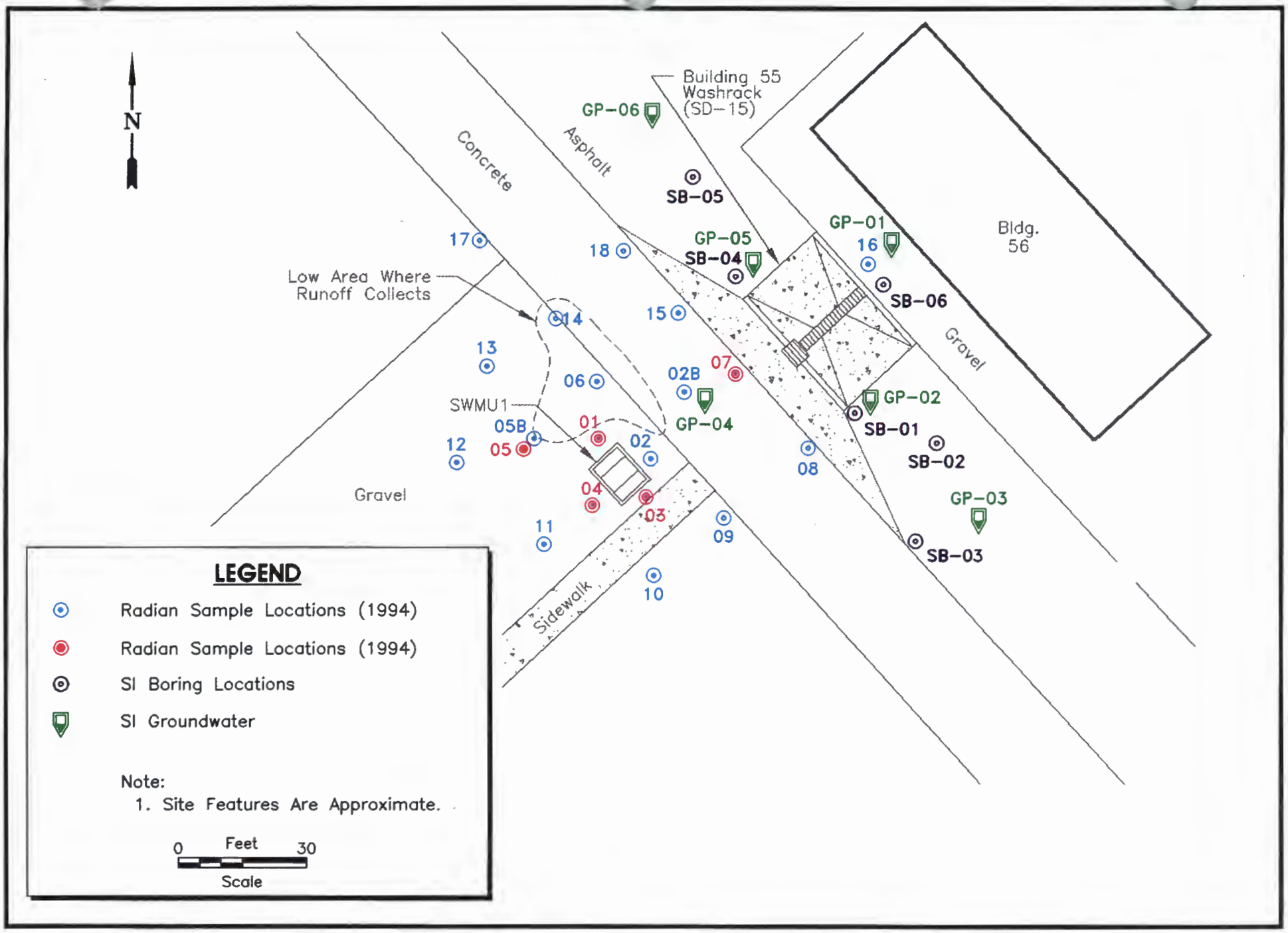
| SAMPLE NO. | DEPTH (FT) | USCS IDENT | MOISTURE CONTENT (%wt.) | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | MEDIAN GRAIN SIZE (mm) |
|---|---|---|---|---|---|---|---|
| SD-15-SB01-0-2 | 0-2 | SM/SC | 25.0 | - | NON PLASTIC | - | 0.0073 |
| SD-15-SB02-2-4 | 2-4 | SM | 18.4 | 30 | 26 | 4 | 0.7170 |
| SD-15-SB03-4-6 | 4-6 | SM | 38.1 | 45 | 41 | 4 | 0.1294 |
| SD-15-SB04-2-4 | 2-4 | SC/SM | 12.9 | 26 | 21 | 5 | 0.5130 |
| SD-15-SB05-4-6 | 4-6 | ML | 45.4 | 36 | 33 | 3 | 0.0472 |
| SD-15-SB06-4-6 | 4-6 | ML | 35.8 | 33 | 28 | 5 | 0.0399 |

- = Not measured
USCS = Unified Soil Classification System
%wt = % weight
FT = Feet
mm = Millimeter

# TABLE 5-3
# SUMMARY OF GROUNDWATER ANALYTICAL RESULTS AT SD-15
# REFRIGERATOR/HEAT SHOP WASH RACK BUILDING 56
# HOLLOMAN AFB, NM
# MARCH - APRIL 1995

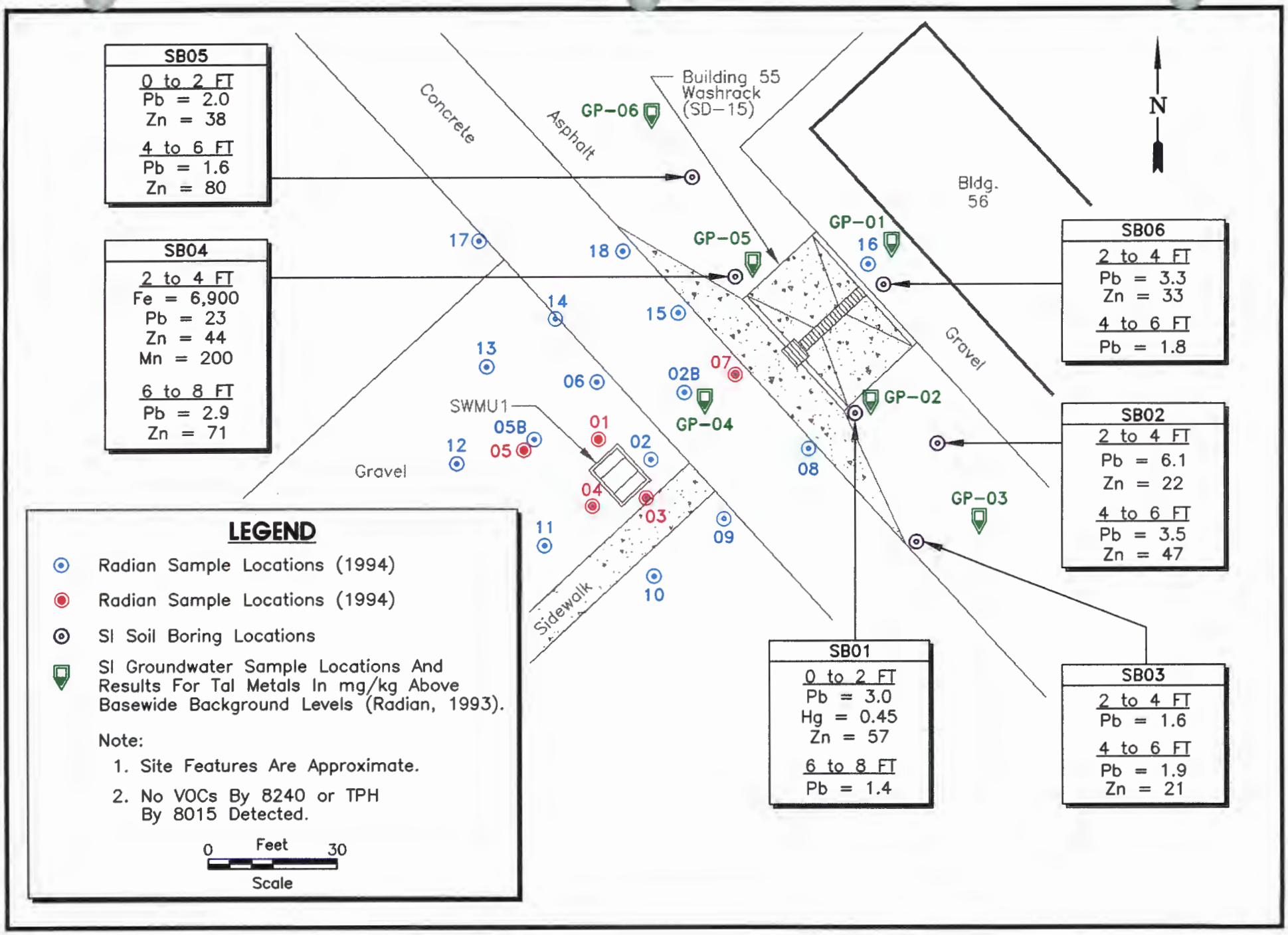
| ANALYTES | COMPARATIVE CONCENTRATIONS | | SD-15-GP-1 | SD-15-GP-2 | SD-15-GP-3 | SD-15-GP-4 | SD-15-GP-5 | SD-15-GP-6 | SD-15 GP-3D & GP-4D |
|---|---|---|---|---|---|---|---|---|---|
| | Background[a] | Risk-based Levels[b] | | | | | | | |
| **VOLATILE ORGANICS - METHOD 8240 (ug/l)** | | | | | | | | | |
| Carbon disulfide | N/A | 21 | <5 | <5 | <5 | <5 | 20 | <5 | <5 |
| **TAL METALS - METHODS 6000s and 7000s (ug/l)** | | | | | | | | | |
| Aluminum | N/A | 37,000 | 1,100 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000[c] |
| Manganese | N/A | 180 | 170 | 1,500 | 3,400 | 90 | <75 | 2,500 | 95[c] |
| pH METHOD 150.1 | N/A | 6-9 | 7.35 | 7.24 | 7.19 | 7.66 | 7.69 | 7.10 | 7.08[c] |

[a] *Basewide Background Study for Holloman AFB* (Radian, 1993).
[b] EPA Region III, Risk-Based Concentrations (R.L. Smith, November 8, 1994).
[c] Duplicate results from GP-3D.
[d] Duplicate results from GP-4D.
ug/l = Micrograms per Liter
NA = Not Analyzed
TAL = Target Analyte List
< = Indicates compound not detected at the stated reporting limit.
N/A = Not applicable/not established



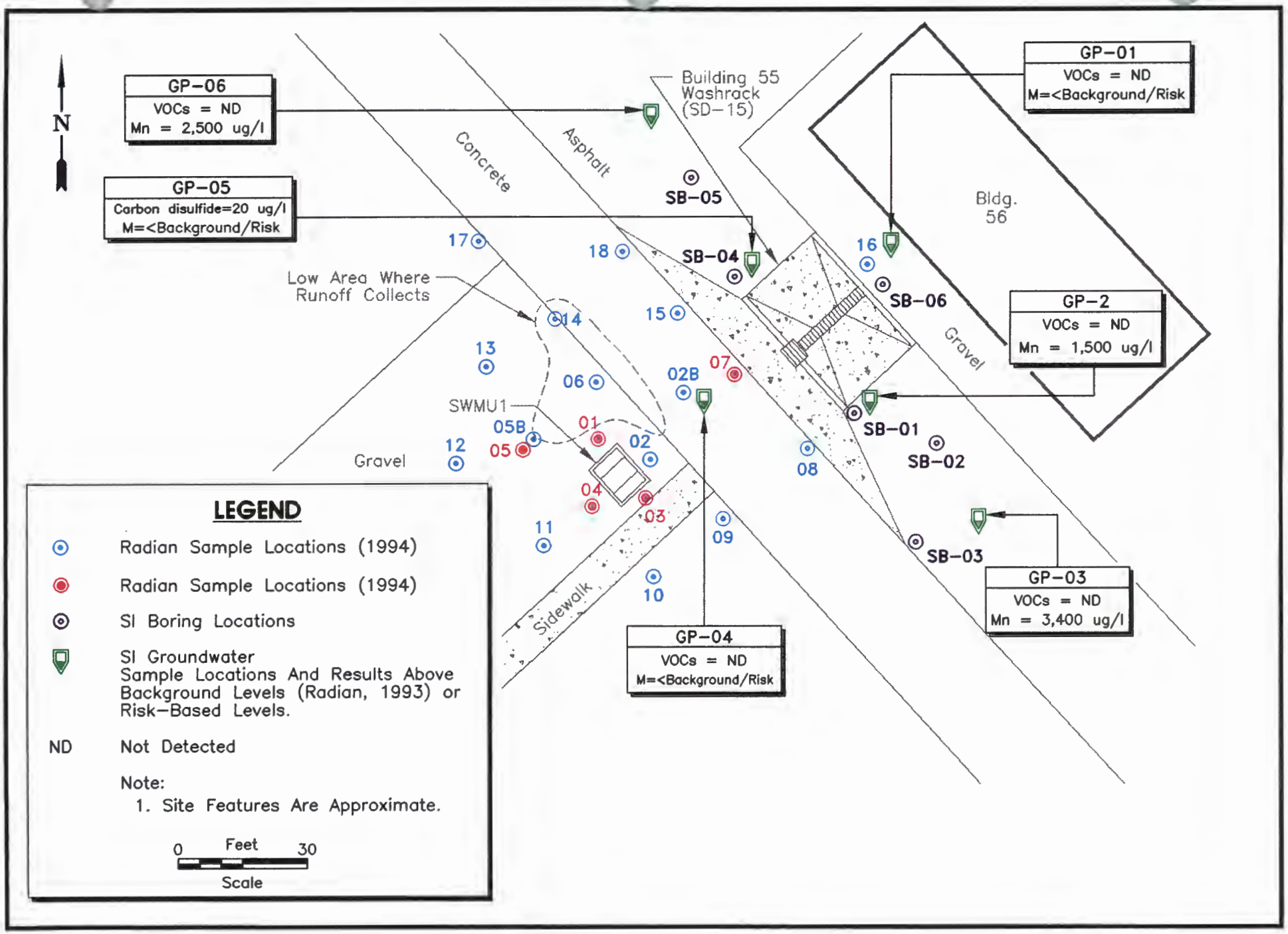

2201-ST5 (1:30)

**Figure 5-1. Site Map**
**Site SD-15, Refrigerator/Heat Shop Washrack**




2201SSR5 (1:30)

**Figure 5-2. Soil Sample Results, March 1995**
**Site SD-15, Refrigerator/Heat Shop Washrack**




2201-GSR (1:30)

**Figure 5-3. Groundwater Sample Results, April 1995**
**Site SD-15, Refrigerator/Heat Shop Washrack**

# Quality Control Summary Report

# 6.0 QUALITY CONTROL SUMMARY REPORT

## 6.1 Introduction

This section describes the quality control (QC) activities performed to ensure data reliability from the soil vapor, soil and groundwater sampling. Details of the sampling and laboratory analysis conducted by Groundwater Technology, GTEL Environmental Laboratories, Analytical Technologies, Inc. and PTS Laboratories Ltd, Inc. are presented in this section.

Additionally, quality assurance (QA) samples (split duplicate samples and trip blanks) were submitted to the USACE Missouri River Division (MRD) Analytical Laboratory in Omaha, Nebraska. The results of these analyses are presented in this report.

## 6.2 Approach and Mechanisms

The technical approach, mechanisms and procedures for collection and analysis of soil vapor, soil and groundwater samples were specified in the CDAP (FSP & QAPP) prepared prior to implementation of the investigation. The FSP was used to control the actions and specify sample collection procedures and sampling locations. The QAPP provided direction to the laboratories in the performance of various sampling control procedures. Data control was accomplished through the use of trip blanks, field blanks, method blanks, surrogates, matrix spikes, and daily quality control summary reports.

### *6.2.1 Field Sampling Plan*

The FSP is contained in Volume I of the CDAP. The FSP details the scope of work to be performed and the appropriate procedures for sample collection and handling in the field. Specifically, the FSP specified the appropriate sampling locations, sample containers, preservation procedures, shipping procedures, frequency for field duplicates, equipment blanks, and trip blanks, and the proposed analytical methodology. Further, the FSP specified the frequency for sample collection for QA split samples which were submitted to

the USACE MRD laboratory for analysis. The FSP identified these procedures which included: site maps indicating sampling locations; tables for sampling and analysis methodology; and standard operating procedures (SOPs) which provided specific instructions for every aspect of sample collection and handling.

### *6.2.2 Laboratory QA/QC*

Volume II of the CDAP contains the QAPP. This plan describes the appropriate procedures to be followed by the analytical laboratory and the field sampling team relevant to sample handling and analysis. The plan describes the procedures and frequency for analysis of matrix spike (MS), matrix spike duplicate (MSD), method blanks, split duplicate samples, and surrogate analysis.

## 6.3 QA/QC Summary for AOC-RR, AOC-BBMS, SS-06 and SD-15

### *6.3.1 Daily Reports*

Daily Quality Control Summary Reports (DQCSR) which summarize the activities conducted on site were prepared daily by the field team leader. The reports were provided to the EBASCO on-site representative. The reports describe the activities conducted during the work day including problems encountered and any deviations. Copies of the DQCSRs are presented in Appendix G.

### *6.3.2 Soil Vapor Survey*

Ninety-eight soil vapor samples were collected and analyzed at three of the SI sites. Soil vapor survey locations and results are summarized in previously referenced Tables 2-1, 3-1, and 4-1 and Figures 2-2, 3-2, and 4-2. The soil vapor laboratory analytical report is contained in Appendix A. BTEX analysis was performed by EPA Method 8020 while TPH as JP-4 was performed by Modified EPA Method 8015. Soil vapor samples were collected from the subsurface through the DPT sampling rods and transported to the onsite mobile laboratory in Tedlar bags. Duplicate samples were analyzed at a frequency of ten

percent. In addition, field equipment blank samples were collected at each site by drawing ambient air through the sampling equipment. Surrogate analysis for bromofluorobenzene and the standards were run with each sample analyzed. Surrogate recovery was within the specified method recovery limits of 70% to 130%. The mean relative percent difference (RPD) for total BTEX for all duplicate samples was 17%. Since TPH was rarely detected, insufficient data for meaningful comparisons is available. Table 6-1 summarizes the duplicate results. At Sites AOC-RR and SS-06, total BTEX analysis in equipment blank samples was similar to sample results. The BTEX concentrations observed in the equipment blanks could be the result of inadequately decontaminated sampling rods, exhaust fumes from the DPT rig or the ambient air quality at the site. Ambient air is the suspected contributor given the close proximity of Sites AOC-RR and SS-06 to the POL storage facility. In accordance with the CDAP, QA duplicate air samples were not submitted to the USACE MRD laboratory for analysis.

### *6.3.3 VOCs In Soil Samples*

Forty-eight soil samples were collected at the four SI sites. VOCs were analyzed by EPA Method 8240. Soil analytical results are summarized in Tables 2-3, 3-3, 4-3, and 5-1 and Figures 2-3, 3-3, 4-3, and 5-2. VOC constituents were not detected in the soil samples. The laboratory analytical reports are contained in Appendix C. Soil samples were collected with the DPT rig split-spoon samplers. At least one duplicate sample was collected at each site for a frequency of approximately 5%.

MS and MSD sample analysis was performed on soil and groundwater samples analyzed by the mobile laboratory. All MS and MSD results were within the acceptable range of 80 to 120%, most likely due to the low concentrations of constituents present in the samples. Surrogate recovery analyses for 1,2-dichloroethane D-4, bromofluorobenzene, and toluene D-8 were performed and reported for each sample. Surrogate recovery was within the method recovery limits for the individual compounds, and presented with each sample result. Duplicate samples were analyzed with the actual samples. Since VOCs were not detected, a comparison of RPD with actual samples was not performed.

The MRD laboratory contractor analyzed four soil samples for VOCs. Surrogate analysis for all QA samples was within acceptable limits (i.e., surrogate recovery ranged from 90 to 110%). The RPD for MS and MSD analyses of the batch sample run by the MRD contractor ranged from 1% (1,1-dichloroethene) to 8% (benzene). The laboratory control spikes (LCS) were within acceptable limits for the individual compounds. The MRD QA analytical results are presented in Appendix H.

### *6.3.4 TPH in Soil Samples*

Forty-eight soil samples were collected at the four SI sites. TPH was analyzed by EPA Modified Method 8015. Soil analytical results are summarized in Tables 2-3, 3-3, 4-3, and 5-1 and Figures 2-3, 3-3, 4-3, and 5-2. The laboratory analytical reports are contained in Appendix C. Soil samples were collected with the DPT rig split-spoon samplers. At least one duplicate sample was collected at each site, corresponding to a frequency of approximately 5%. Surrogate recovery analysis for bromofluorobenzene was performed and reported for each sample. Surrogate recovery was within the specified method recovery limits of 21.5 to 128% and presented with each sample result. Duplicate samples were analyzed with the actual samples. Because none of the duplicate samples contained detectable concentrations of TPH, a meaningful comparison cannot be made concerning duplicate TPH analysis.

The MRD laboratory analyzed one soil sample for TPH by Modified Method 8015. Since the results for the QA sample and the reporting sample (AOC BBMS-SB01-4-6) were both less than the detection limits, a meaningful comparison cannot be made.

### *6.3.5 Metals in Soil*

Forty-eight soil samples were collected at the four SI sites for TAL metals by EPA Methods 6010/7000s. Soil analytical results are summarized in Tables 2-3, 3-3, 4-3, and 5-1 and Figures 2-3, 3-3, 4-3, and 5-2. The laboratory analytical reports are contained in Appendix C. Soil samples were collected with the DPT rig split-spoon samplers. The samples were analyzed by GTEL Environmental Laboratories, Inc. in Wichita, Kansas.

One duplicate sample was collected at each site corresponding to a collection frequency of approximately 8%. A summary of the QC results is presented in the laboratory analytical reports contained in Appendix C.

Two batches of soil samples were submitted to the laboratory for analytical results. A QA nonconformance summary report was prepared for each batch of samples submitted and is provided in Appendix C. The following summarizes the QC results from Sites SS-06, SD-15 and AOC-RR:

1. Initial calibration verification for all metals was within the acceptable limits of 90% and 110%. Calibration blanks and preparation blanks did not contain detectable concentrations of TAL metals.

2. The recovery limits were outside the recommended range in the MSD for barium, chromium, manganese, potassium and sodium.

3. The recovery limits were outside the recommended range for antimony in the MS and MSD due to precipitation of antimony in the presence of hydrochloric acid.

4. The maximum relative percent difference (RPD) for the MS sample was outside the recommended range for aluminum, antimony, barium, chromium, iron magnesium, potassium, and sodium. The laboratory believes this is due to sample heterogeneity.

The following summarizes the QC results from Site AOC-BBMS:

1. Initial calibration verification for all metals was within the acceptable limits of 90% and 110%. Calibration blanks and preparation blanks did not contain detectable concentrations of TAL metals.

2. The MSD recovery results were outside the recommended range for aluminum, chromium, selenium, sodium and thallium.

3. The recovery results were outside the recommended range for antimony in the MS and MSDs due to precipitation of antimony in the presence of hydrochloric acid.

4. The maximum RPD for the MS sample was outside the recommended range for antimony, calcium, chromium, and selenium.

The samples were handled in accordance with the FSP and all samples were analyzed within the holding time limits. Six (6) field duplicate sample pairs were collected and analyzed. Meaningful estimates of precision cannot be determined due to the limited number of samples. A comparison of these duplicate pairs for selected metals above screening levels produces a mean RPD of 39%. Table 6-2 summarizes the duplicate results.

The MRD laboratory analyzed four QA soil samples for TAL metals. Method blanks analyzed with the samples contain only minor amounts of aluminum, calcium and iron compared to the amounts contained in the samples. Two MS/MSD analyses were performed with the samples, but only one was site specific (sample AOC-BBMS-SB1-4-6). Only the RPD for barium was outside the acceptable limits at 34.7. This appears to be the result of the MS analysis which reported a low 58% recovery. The LCS recoveries were within acceptable limits. All other metals reported acceptable RPDs.

### *6.3.6 Metals in Groundwater*

Twenty-one groundwater samples were collected for TAL metal analysis at the four SI sites. TAL metals were analyzed by EPA Methods 6010/7000s. Groundwater analytical results are summarized in Tables 2-4, 3-4, 4-4, and 5-3 and Figures 2-4, 3-4, 4-4, and 5-3. The laboratory analytical reports are contained in Appendix E. Groundwater samples were collected with the DPT rig groundwater samplers or from temporary PVC monitoring points. The samples were analyzed by GTEL Environmental Laboratories, Inc. in Wichita, Kansas. One duplicate sample was collected at each site, correlating to a sample collection frequency of approximately 15%. A summary of the QC results is presented in the laboratory analytical reports.

A QA nonconformance summary was report was prepared for each batch of samples submitted to the laboratory, and is provided in Appendix E. The following summarizes the QC results for Site SD-15:

1. Initial calibration verification for all metals was within the acceptable limits of 90% and 110%. Calibration blanks and preparation blanks did not contain detectable concentrations of TAL metals.

2. The MSD recoveries for barium, selenium, thallium, and silver were outside the recommended ranges.

3. The MS and MSD maximum RPD was outside the recommended range for aluminum, antimony, barium, and silver.

The following summarizes the QC results for Sites AOC-BBMS and AOC-RR:

1. Initial calibration verification for all metals was within the acceptable limits of 90% and 110%. Calibration blanks and preparation blanks did not contain detectable concentrations of TAL metals.

2. The MSD recoveries were outside the recommended limits for arsenic, barium, mercury, and thallium.

3. The MS and MSD maximum RPD was outside the recommended range for barium.

The following summarizes the QC results from Site SS-06:

1. Initial calibration verification for all metals was within the acceptable limits of 90% and 110%. Calibration blanks and preparation blanks did not contain detectable concentrations of TAL metals.

2. The MSD recoveries were outside the recommended range for barium and thallium.

3. The maximum RPD was outside recommended ranges for barium.

The samples were handled in accordance with the FSP. All samples were analyzed within the specified holding times. Six field duplicate sample pairs were collected and analyzed. Meaningful estimates of precision cannot be determined due to the limited number of samples and detected analytes.

The MRD laboratory contractor (VHG Labs, Inc.) analyzed seven QA groundwater samples for TAL metals. Table 6-3 presents the QA results for comparison with the environmental sample results. In general, these results do not correlate well and deviate by two to three orders of magnitude in most instances, particularly for aluminum, iron, manganese, and lead. These variances between reported and QA values could be due to breakthrough of the field filter apparatus, or inadequate sample preservation due to the high concentrations of carbonates in the groundwater samples. The RPDs for MS and MSD analyses were within the acceptable limits. Additionally, the LCS recoveries were within acceptable limits.

### *6.3.7 VOCs in Groundwater*

Thirty-three groundwater samples were collected at the four SI sites. VOCs were analyzed by EPA Method 8240. Groundwater analytical results are summarized in Tables 2-4, 3-4, 4-4, and 5-3 and Figures 2-4, 3-4, 4-4, and 5-3. The laboratory analytical reports are contained in Appendix E. Groundwater samples were collected with the DPT rig groundwater samplers or from temporary PVC monitoring points. The samples were analyzed onsite by the ATI mobile laboratory or offsite at their fixed base laboratory. One duplicate sample was collected at each site for a frequency of approximately 15%. A summary of the QC results is presented in the laboratory analytical reports (Appendix E).

All Phase I groundwater samples and several Phase II samples were submitted to the onsite mobile laboratory for analysis. The samples were analyzed for VOCs by Method 8240.

The laboratory analyzed duplicate samples and performed surrogate recovery analyses. Surrogate recovery results for 1,2-dichloroethane-D4, toluene-D8, and bromofluorobenzene are included with each sample result. No groundwater samples exceeded the surrogate recovery range. One duplicate sample was collected and analyzed at each site. MS/MSD results were within the acceptable range.

Some Phase II groundwater samples were submitted to the offsite ATI laboratory for analysis. MS, MSD, and surrogate recovery analysis were performed at the offsite laboratory. Surrogate recovery results for 1,2-dichloroethane-D4, toluene-D8, and bromofluorobenzene are included with each sample result. If surrogate recoveries were not within the acceptable range, the sample(s) were re-analyzed. No groundwater samples exceeded the surrogate recovery range. The QC results can be summarized as follows:

1. Two method blanks were analyzed with the samples. Volatile organics were not detected in the blank samples.

2. Surrogate recovery performed on method blanks and field samples were within acceptable limits.

3. MS and MSD percent recovery limits were not exceeded.

4. MS and MSD RPD were not exceeded.

One duplicate sample was collected and analyzed at each site. A comparison of the duplicate QC sample results is presented in Table 6-4. The limited number of samples reporting detectable quantities of VOCs makes a comparison impractical.

The MRD laboratory analyzed six groundwater samples for VOCs by Method 8240. Table 6-3 presents the actual results and the QA results for comparison. In general, these results correlate well and are within the same order of magnitude if not the same result, particularly for constituents reported as "not detected". The RPDs were within the acceptable limits except for benzene. The LCS recoveries were within acceptable limits.

### *6.3.8 Analysis of pH in Soil*

Twelve soil samples were analyzed for pH in accordance with Section 5.1.14 of the QAPP. Instrumentation was calibrated daily as directed in Section 5.3.10 of the QAPP. One duplicate sample was analyzed.

### *6.3.9 Analysis of pH in Groundwater*

A total of 48 groundwater samples were analyzed for pH in accordance with Section 5.1.15 of the QAPP. Thirteen Phase II groundwater samples were analyzed for pH in the field using portable instrumentation. This instrumentation was calibrated with two buffer solutions daily. Instrumentation was calibrated daily as directed in Section 5.3.10 of the QAPP. Four duplicate samples were collected during the investigation. The mean RPD for duplicate samples is 1%.

## 6.4 Deviations

Two deviations from the CDAP occurred during the site investigation. Each deviation or variance with the FSP and QAPP is discussed in the following paragraphs.

### *6.4.1 Phase II Groundwater Sampling*

The mobile field laboratory was demobilized from the site on April 7, 1995, because the anticipated volume of samples remaining to be analyzed did not warrant leaving the lab onsite and at least a two-week break in the field work was required to schedule additional activities. Remaining Phase II groundwater samples and Phase I samples from Site SS-06 were therefore analyzed offsite at the ATI Laboratories, Inc. fixed base laboratory.

### *6.4.2 pH Analysis of Phase II Groundwater Samples*

pH analysis performed on all Phase I and Phase II groundwater samples collected between March 17 and April 5, 1995 was performed by the on-site mobile laboratory.

Groundwater samples collected on April 20 and 21, 1995 were analyzed with a portable field pH meter. The field meter was calibrated daily with two buffer solutions as required in the QAPP.

## 6.5 Lessons Learned

One problem was encountered during the SI which had the potential to affect data quality. Samples shipped to the MRD Laboratory via Airborne arrived late and consequently warm. Apparently, shipments to the laboratory on Saturdays in Omaha do not arrive by 10:30 AM and personnel leave at 12:00 Noon on Saturday. All future shipments to the MRD Laboratory should be sent via a carrier such as Federal Express, which guarantees morning delivery. Alternatively, samples should be selected and sent such that no Saturday delivery is necessary. Although samples were received warm, comparison of VOC results for groundwater samples, which have the greatest potential to be affected by this deviation, indicate no significant difference between the samples analyzed by the MRD laboratory and ATI.

# TABLE 6-1
# COMPARISON OF DUPLICATE SOIL VAPOR SURVEY RESULTS
# HOLLOMAN AFB, NM
# MARCH 1995

| SAMPLE NO. | TOTAL BTEX (ug/l) | TPH (ug/l) | RPD (%) | |
|---|---|---|---|---|
| | | | BTEX (%) | TPH (%) |
| SS-06-SG-10 | 1.16 | <20 | 1.7 | N/A |
| SS-06-SG-10DUP | 1.18 | <20 | | |
| SS-06-SG-19 | 0.25 | <20 | 22.2 | N/A |
| SS-06-SG-19DUP | 0.20 | <20 | | |
| SS-06-SG-26 | 1.43 | <20 | 6.8 | N/A |
| SS-06-SG-26DUP | 1.53 | <20 | | |
| SS-06-SG-35 | 0.55 | <20 | 3.7 | N/A |
| SS-06-SG-35DUP | 0.53 | <20 | | |
| SS-06-SG-36 | 1.94 | 22 | 0 | 0 |
| SS-06-SG-36DUP | 1.94 | 22 | | |
| AOCRR-SG-11 | 0.46 | <20 | 35.5 | N/A |
| AOCRR-SG-11DUP | 0.25 | <20 | | |
| AOCRR-SG-22 | 0.38 | <20 | 2.7 | N/A |
| AOCRR-SG-22DUP | 0.37 | <20 | | |
| AOCRR-SG-29 | 0.34 | <20 | 47.3 | N/A |
| AOCRR-SG-29DUP | 0.21 | <20 | | |

**TABLE 6-1 (continued)**
**COMPARISON OF DUPLICATE SOIL VAPOR SURVEY RESULTS**
**HOLLOMAN AFB, NM**
**MARCH 1995**

| SAMPLE NO. | TOTAL BTEX (ug/l) | TPH (ug/l) | RPD (%) | |
|---|---|---|---|---|
| | | | BTEX (%) | TPH (%) |
| AOCBBMS-SG-10 | 0.06 | <20 | N/A | N/A |
| AOCBBMS-SG-10DUP | -- | <20 | | |
| AOCBBMS-SG-21 | 0.17 | <20 | 19.4 | N/A |
| AOCBBMS-SG-21DUP | 0.14 | <20 | | |
| AOCBBMS-SG-29 | -- | <20 | N/A | N/A |
| AOCBBMS-SG-29DUP | -- | <20 | | |
| AOCBBMS-SG-33 | -- | <20 | N/A | N/A |
| AOCBBMS-SG-33DUP | -- | <20 | | |

ug/l = Micrograms per liter
N/A = Not applicable
< = Indicates compound not detected at the stated reporting limit.
RPD = Relative percent difference
TPH = Total petroleum hydrocarbons as JP-4

# TABLE 6-2
# COMPARISON OF DUPLICATE SOIL SAMPLE ANALYSES FOR SELECT METALS SPECIES IN SOIL
# HOLLOMAN AFB, NM
# MARCH - APRIL 1995

| ANALYTES (mg/kg) | SS-06-SB-03-8-10 | SS-06-SB-03-8-10D | RPD (%) |
|---|---|---|---|
| Aluminum | 1,900 | 2,300 | 19 |
| Barium | <100 | <100 | N/A |
| Chromium | <15 | <15 | N/A |
| Iron | 1,800 | 2,000 | 10.5 |
| Lead | 2.5 | 1.4 | 56 |
| Magnesium | 3,400 | 5,100 | 40 |
| Potassium | <2,500 | <2,500 | N/A |
| Zinc | 27 | 12 | 76.9 |
| | SD-15-SB-03-2-4 | SD-15-SB-03-2-4D | RPD(%) |
| Iron | 230 | 960 | 123 |
| Lead | 1.6 | 0.8 | 66.7 |
| Zinc | 17 | <10 | N/A |
| | AOCBBMS-SB-06-0-2 | AOCBBMS-SB-06-0-2D | RPD(%) |
| Lead | 2.0 | 2.5 | 22 |
| Zinc | 13 | 17 | 26.7 |
| | AOCRR-SB-02-2-4 | AOCRR-SB-02-2-4D | RPD(%) |
| Barium | <100 | <100 | N/A |
| Iron | 2,500 | 2,600 | 3.9 |
| Lead | 2.0 | 1.8 | 10.5 |
| Zinc | 19 | 20 | 10.3 |

N/A = Data not available to make a meaningful comparison.
< = Indicates not detected at the stated reporting limit.
mg/kg = Milligrams per kilogram
RPD = Relative percent difference

# TABLE 6-3
# SUMMARY OF QA AND QC GROUNDWATER RESULTS
# SS-06, SD-15, AOC-RR AND AOC-BBMS
# HOLLOMAN AFB, NM
# MARCH - APRIL 1995

| ANALYTES | AOC-RR-GP-01 | AOC-RR-GPID[1] | AOC-RR-GP-05 | AOC-RR-GP-05DUP[2] | AOC-RR-GP-05D[1] | AOC-RR-GP-07 | AOC-RR-GP-07D[2] | AOC-RR-GP-07D[1] | AOC-RR-GP-12 | AOC-RR-GP-12D[1] |
|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS - METHOD 8240 (ug/l)** | | | | | | | | | | |
| Benzene | 3,000 | 4,200 | 36 | 23 | NA | 700 | 780 | 810 | <1 | <1 |
| 1,2-Dichloroethane | 380 | 180 | 190 | 170 | NA | <50 | 51 | <10 | <1 | <2 |
| 1,2-Dichloropropane | <250 | <50 | 20 | 16 | NA | <50 | <50 | <10 | <2 | <2 |
| Ethylbenzene | 260 | 250 | 30 | 18 | NA | <50 | <50 | 8.1J | 2 | 2 |
| Toluene | 1,200 | 1,300 | 8 | 5 | NA | <50 | <50 | 8.6J | <5 | <5 |
| Xylenes | 1,200 | 910 | 49 | 35 | NA | 120 | 180 | 225 | 3 | 6 |
| **TAL METALS - METHODS 6000s and 7000s (ug/l)** | | | | | | | | | | |
| Aluminum | 19,000 | NA | 12,000 | NA | <400 | 44,000 | NA | <2,000 | NA | NA |
| Calcium | 470,000 | NA | 370,000 | NA | 509,000 | 890,000 | NA | 603,000 | NA | NA |
| Iron | 8,700 | NA | 9,400 | NA | 2,340 | <10,000 | NA | <500 | NA | NA |
| Lead | <4.0 | NA | <4.0 | NA | <2 | 46 | NA | 9 | NA | NA |
| Magnesium | 1,400,000 | NA | 450,000 | NA | 529,000 | 3,300,000 | NA | 3,200,000 | NA | NA |
| Manganese | 4,200 | NA | 8,700 | NA | 9,710 | <1,500 | NA | <200 | NA | NA |
| Potassium | <250,000 | NA | <250,000 | NA | <8,000 | <500,000 | NA | <40,000 | NA | NA |
| Sodium | 6,700,000 | NA | 2,100,000 | NA | 2,400,000 | 1,300,000 | NA | 13,900,000 | NA | NA |
| Vanaduim | <2,500 | NA | <2,500 | NA | <100 | <5,000 | NA | <500 | NA | NA |
| Zinc | 9,300 | NA | 3,100 | NA | <40 | <2,000 | NA | <200 | NA | NA |
| pH - METHOD | 7.45 | NA | 7.29 | NA | NA | 7.20 | 7.17 | NA | NA | NA |

**TABLE 6-3 (continued)**
**SUMMARY OF QA AND QC GROUNDWATER RESULTS**
**SS-06, SD-15, AOC-RR AND AOC-BBMS**
**HOLLOMAN AFB, NM**
**MARCH - APRIL 1995**

| ANALYTES | AOC-BBMS-GP-1 | AOC-BBMS-GP-1D[1] | AOC-BBMS-GP-6 | AOC-BBMS-GP-6D[1] | AOC-BBMS-GP-07 | AOC-BBMS-GP-07D[2] | AOC-BBMS GP-7D[1] | AOC-RR-GP-13 | AOC-RR GP-13[2] |
|---|---|---|---|---|---|---|---|---|---|
| VOLATILE ORGANICS - METHOD 8240 (ug/l) | | | | | | | | | |
| Acetone | <20 | NA | <20 | NA | <20 | <20 | <2 | <20 | <20 |
| Benzene | <5 | NA | <5 | NA | <5 | <5 | <2 | 100 | 140 |
| 1,2-Dichloroethane | <5 | NA | <5 | NA | <5 | <5 | <2 | <20 | <20 |
| 1,2-Dichloropropane | <5 | NA | <5 | NA | <5 | <5 | <2 | <20 | <20 |
| Ethylbenzene | <5 | NA | <5 | NA | <5 | <5 | <2 | 490 | 570 |
| Toluene | <5 | NA | <5 | NA | <5 | <5 | <2 | 1,600 | 1,700 |
| Xylenes | <5 | NA | <5 | NA | <5 | <5 | <2 | 3,200 | 3,000 |
| TAL METALS - METHODS 6000s and 7000s (ug/l) | | | | | | | | | |
| Aluminum | <200 | <40 | <10,000 | <160 | 1,000 | NA | <40 | NA | NA |
| Calcium | 600,000 | 621,000 | 710,000 | 646,000 | 540,000 | NA | 559,000 | NA | NA |
| Iron | <100 | <10 | <5,000 | <40 | 390 | NA | 18 | NA | NA |
| Lead | <4.0 | <2.0 | <4.0 | <2 | 32 | NA | <2 | NA | NA |
| Magnesium | 73,000 | 74,600 | 340,000 | 374,000 | 110,000 | NA | 102,000 | NA | NA |
| Manganese | 28 | 27 | <750 | 113 | 130 | NA | 305 | NA | NA |
| Potassium | 41,000 | 37,500 | <25,000 | 47,400 | 25,000 | NA | 18,500 | NA | NA |
| Sodium | 180,000 | 179,000 | 960,000 | 1,090,000 | 240,000 | NA | 219,000 | NA | NA |
| Vanadium | 57 | 54 | <2,500 | 88 | <100 | NA | 19 | NA | NA |
| Zinc | <20 | <4.0 | 2,200 | 84 | 56 | NA | <4 | NA | NA |
| pH - METHOD | 7.75 | NA | 7.87 | - | 7.71 | NA | NA | NA | NA |

**TABLE 6-3 (continued)**
**SUMMARY OF QA AND QC GROUNDWATER RESULTS**
**SS-06, SD-15, AOC-RR AND AOC-BBMS**
**HOLLOMAN AFB, NM**
**MARCH - APRIL 1995**

| ANALYTES | SS-06-GP-1 | SS-06-GP-1D[2] | SS-06-GP-2 | SS-06-GP-2D[2] | SS-06-GP-2[1] | SS-06-GP-03 | SS-06-GP-3D[1] |
|---|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS - METHOD 8240 (ug/l)** | | | | | | | |
| Acetone | <10 | <10 | 17 | <10 | <5.0 | <10 | <120 |
| Benzene | <1 | <1 | <1 | <1 | <2 | <1 | <2 |
| 1,2-Dichloroethane | <2 | <2 | <1 | <1 | <2 | <2 | <2 |
| 1,2-Dichloropropane | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Ethylbenzene | <1 | <1 | <1 | <1 | <2 | <1 | <2 |
| Toluene | <5 | <5 | <5 | <5 | <2 | <5 | <15 |
| Xylenes | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| **TAL METALS - METHODS 6000s and 7000s (ug/l)** | | | | | | | |
| Aluminum | 26,000 | 40,000 | 72,000 | 12,000 | NA | 58,000 | <2,400 |
| Calcium | 670,000 | 700,000 | 560,000 | 720,000 | NA | 710,000 | 778,000 |
| Iron | <10,000 | <10,000 | <10,000 | <10,000 | NA | 10,000 | 1,270 |
| Lead | <4 | 140 | 63 | <4 | NA | 5.0 | <2 |
| Magnesium | 3,200,000 | 2,900,000 | 2,200,000 | 3,200,000 | NA | 3,00,000 | 3,490,000 |
| Manganese | <1,500 | <1,500 | <1,500 | <1,500 | NA | <1,500 | 588 |
| Potassium | <500,000 | <500,000 | <500,000 | <500,000 | NA | <500,000 | <48,000 |
| Sodium | 15,000,000 | 12,000,000 | 9,500,000 | 14,000,000 | NA | 12,000,000 | 15,900,000 |
| Vanadium | <5,000 | <5,000 | <5,000 | <5,000 | NA | <5,000 | <600 |
| Zinc | <2,000 | <2,000 | 3,400 | 3,400 | NA | <2,000 | <240 |
| **pH - METHOD 150.1** | NA | NA | NA | NA | NA | NA | 7.56 |

**TABLE 6-3 (continued)**
**SUMMARY OF QA AND QC GROUNDWATER RESULTS**
**SS-06, SD-15, AOC-RR AND AOC-BBMS**
**HOLLOMAN AFB, NM**
**MARCH - APRIL 1995**

| ANALYTES | SD-15-GP-3 | SD-15-GP-3[1] | SD-15-GP-3D[2] | SD-15-GP-4 | SD-15-GP-4D[2] |
|---|---|---|---|---|---|
| **VOLATILE ORGANICS - METHOD 8240 (ug/l)** | | | | | |
| Acetone | <20 | NA | <20 | <20 | NA |
| Benzene | <5 | NA | <5 | <5 | NA |
| 1,2-Dichloroethane | <5 | NA | <5 | <5 | NA |
| 1,2-Dichloropropane | <5 | NA | <5 | <5 | NA |
| Ethylbenzene | <5 | NA | <5 | <5 | NA |
| Toluene | <5 | NA | <5 | <5 | NA |
| Xylenes | <5 | NA | <5 | <5 | NA |
| **TAL METALS - METHODS 6000s and 7000s (ug/l)** | | | | | |
| Aluminum | <1,000 | <40 | NA | <1,000 | <1,000 |
| Calcium | 630,000 | 695,000 | NA | 550,000 | 420,000 |
| Iron | 500 | 200 | NA | 680 | 650 |
| Lead | 6.8 | <2 | NA | 16 | 16 |
| Magnesium | 56,000 | 54,600 | NA | 50,000 | 52,000 |
| Manganese | 3,400 | 3,240 | NA | 90 | 95 |
| Potassium | <25,000 | 17,700 | NA | <25,000 | <25,000 |
| Sodium | 1,200,000 | 125,000 | NA | 120,000 | 130,000 |
| Vanadium | <250 | <10 | NA | <250 | <250 |
| Zinc | <100 | <4 | NA | <100 | <100 |
| **pH - METHOD 150.1** | 7.56 | NA | 7.08 | 7.66 | NA |

**TABLE 6-3 (continued)**
**SUMMARY OF QA AND QC GROUNDWATER RESULTS**
**SS-06, SD-15, AOC-RR AND AOC-BBMS**
**HOLLOMAN AFB, NM**
**MARCH - APRIL 1995**

[a]QA Sample results for split duplicate sample from USACE MRD Laboratory

[a]QC Sample results for split duplicate sample from ATI/GTEL.

ug/l = Micrograms per Liter

NA = Not Analyzed

J = Estimated concentration

TAL = Target Analyte List

< = Indicates compound not detected at the stated reporting limit.

N/A = Not applicable/not established

# TABLE 6-4
# COMPARISON OF DUPLICATE ANALYSES FOR VOCS IN GROUNDWATER SAMPLES
# HOLLOMAN AFB, NM
# MARCH - APRIL 1995

| SAMPLE NO. | TOTAL BTEX (ug/l) | 1,2-DCA (ug/l) | 1,2-Dichloro-propane (ug/l) | RPD (%) | | |
|---|---|---|---|---|---|---|
| | | | | Total BTEX | 1,2-DCA | 1,2-Dichloro-propane |
| AOCRR-GP-07 | 700 | <50 | <50 | 31.3 | N/A | N/A |
| AOCRR-GP-07DUP | 960 | 51 | <50 | | | |
| AOCRR-GP-05 | 123 | 190 | 20 | 41.2 | 11.1 | 22 |
| AOCRR-GP-05DUP | 81 | 170 | 16 | | | |
| AOCBBMS-GP-07 | -- | <5 | <5 | N/A | N/A | N/A |
| AOCBBMS-GP-07DUP | -- | <5 | <5 | | | |
| SD-15-GP-03 | -- | <5 | <5 | N/A | N/A | N/A |
| SD-15-GP-03DUP | -- | <5 | <5 | | | |

N/A = Data not available to make a meaningful comparison.
< = Indicates not detected at the stated reporting limit.
1,2-DCA = 1,2-dichloroethane
ug/l = Micrograms per liter
RPD = Relative percent difference

# REFERENCES

# 7.0 REFERENCES

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Radian, October 1992, Remedial Investigation Study, and Recommendations for 29 Waste Sites.

Radian, December 1993, Phase I - Groundwater Assessment Monitoring Report for Holloman Air Force Base, New Mexico, Appendix B-1 "Statistical Analysis of Metals Data for Phase I Assessment Monitoring".

# APPENDIX A

## Soil Vapor Survey Analytical Reports

# APPENDIX A-1

## Site SS-06

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 001
Client Sample Id: SS-06-SG-01
Sample Date/Time: 19-MAR-95 0820
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.14 | 0.05 | |
| TOLUENE | UG/L | 1.20 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.15 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.56 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 101 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 002
Client Sample Id: SS-06-SG-02

Sample Date/Time: 19-MAR-95 0847
Received Date: 19-MAR-95

Batch: GRA037
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.10 | 0.05 | |
| TOLUENE | UG/L | 1.00 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.15 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.56 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 101 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 003
Client Sample Id: SS-06-SG-03

Sample Date/Time: 19-MAR-95 0847
Received Date: 19-MAR-95

Batch: GRA037
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.08 | 0.05 | |
| TOLUENE | UG/L | 0.89 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.15 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.59 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 101 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 004
Client Sample Id: SS-06-SG-04
Sample Date/Time: 19-MAR-95 0847
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.08 | 0.05 | |
| TOLUENE | UG/L | 0.84 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.14 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.56 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 103 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 005
Client Sample Id: SS-06-SG-05
Sample Date/Time: 19-MAR-95 0910
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.10 | 0.05 | |
| TOLUENE | UG/L | 0.82 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.15 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.60 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 101 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 006
Client Sample Id: SS-06-SG-06
Sample Date/Time: 19-MAR-95 0910
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.09 | 0.05 | |
| TOLUENE | UG/L | 0.77 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.15 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.59 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 103 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 007
Client Sample Id: SS-06-SG-07
Sample Date/Time: 19-MAR-95 0930
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.69 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.15 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.58 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 100 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 008
Client Sample Id: SS-06-SG-08
Sample Date/Time: 19-MAR-95 0930
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.54 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.12 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.48 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 106 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 009
Client Sample Id: SS-06-SG-09
Sample Date/Time: 19-MAR-95 0950
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.57 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.14 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.55 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 108 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 010
Client Sample Id: SS-06-SG-10
Sample Date/Time: 19-MAR-95 0950
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.52 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.13 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.51 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 106 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 011 Sample Date/Time: 19-MAR-95 1015
Client Sample Id: SS-06-SG-11 Received Date: 19-MAR-95

Batch: GRA037 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.50 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.11 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.39 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 110 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 012
Client Sample Id: SS-06-SG-12
Sample Date/Time: 19-MAR-95 1020
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.11 | 0.05 | |
| TOLUENE | UG/L | 0.36 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.13 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.32 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 106 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 013
Client Sample Id: SS-06-SG-13
Sample Date/Time: 19-MAR-95 1020
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.38 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.10 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.37 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 111 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 014
Client Sample Id: SS-06-SG-14
Sample Date/Time: 19-MAR-95 1030
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.29 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.07 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.26 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 104 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 015
Client Sample Id: SS-06-SG-15
Sample Date/Time: 19-MAR-95 1046
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.27 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.10 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.29 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 016
Client Sample Id: SS-06-SG-16
Sample Date/Time: 19-MAR-95 1058
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.30 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.09 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.33 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 102 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 017
Client Sample Id: SS-06-SG-17
Sample Date/Time: 19-MAR-95 1115
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.22 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 106 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 018
Client Sample Id: SS-06-SG-18
Sample Date/Time: 19-MAR-95 1230
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.10 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.17 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 108 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 019
Client Sample Id: SS-06-SG-19
Sample Date/Time: 19-MAR-95 1252
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.09 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.16 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 110 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 020
Client Sample Id: EQUIP-BLANK
Sample Date/Time: 19-MAR-95 1257
Received Date: 19-MAR-95

Batch: GRA037
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.52 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.13 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.48 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 107 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 021 Sample Date/Time: 19-MAR-95 1308
Client Sample Id: SS-06-SG-20 Received Date: 19-MAR-95

Batch: GRA038 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.28 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.08 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.32 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 107 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 022
Client Sample Id: SS-06-SG-21
Sample Date/Time: 19-MAR-95 1315
Received Date: 19-MAR-95

Batch: GRA038
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.05 | 0.05 | |
| TOLUENE | UG/L | 0.74 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.17 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.68 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 104 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 023
Client Sample Id: SS-06-SG-22

Sample Date/Time: 19-MAR-95 1335
Received Date: 19-MAR-95

Batch: GRA038
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.97 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.20 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.79 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 103 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 024
Client Sample Id: SS-06-SG-23
Sample Date/Time: 19-MAR-95 1345
Received Date: 19-MAR-95

Batch: GRA038
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.05 | 0.05 | |
| TOLUENE | UG/L | 0.60 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.14 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.57 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 98 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 025
Client Sample Id: SS-06-SG-24
Sample Date/Time: 19-MAR-95 1354
Received Date: 19-MAR-95

Batch: GRA038
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.09 | 0.05 | |
| TOLUENE | UG/L | 0.71 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.17 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.67 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 102 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 026 Sample Date/Time: 19-MAR-95 1400
Client Sample Id: SS-06-SG-25 Received Date: 19-MAR-95

Batch: GRA038 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.49 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.14 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.54 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 101 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 027 Sample Date/Time: 19-MAR-95 1420
Client Sample Id: SS-06-SG-26 Received Date: 19-MAR-95

Batch: GRA038 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.62 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.15 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.60 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 100 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 028
Client Sample Id: SS-06-SG-27
Sample Date/Time: 19-MAR-95 1430
Received Date: 19-MAR-95

Batch: GRA038
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.50 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.15 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.62 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 100 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 029
Client Sample Id: SS-06-SG-28
Sample Date/Time: 19-MAR-95 1442
Received Date: 19-MAR-95

Batch: GRA038
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.08 | 0.05 | |
| TOLUENE | UG/L | 0.37 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.12 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.47 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 102 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 030
Client Sample Id: SS-06-SG-29
Sample Date/Time: 20-MAR-95 0900
Received Date: 20-MAR-95

Batch: GRA039
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.30 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.08 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.30 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 117 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 031
Client Sample Id: EQUIP BLANK

Sample Date/Time: 20-MAR-95 0907
Received Date: 20-MAR-95

Batch: GRA039
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.17 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.22 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 118 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 032
Client Sample Id: SS-06-SG-30
Sample Date/Time: 20-MAR-95 0916
Received Date: 20-MAR-95

Batch: GRA039
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.23 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.08 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.32 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 116 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 033
Client Sample Id: SS-06-SG-31
Sample Date/Time: 20-MAR-95 0925
Received Date: 20-MAR-95

Batch: GRA039
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.14 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.10 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 118 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 034
Client Sample Id: SS-06-SG-32

Sample Date/Time: 20-MAR-95 0940
Received Date: 20-MAR-95

Batch: GRA039
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.14 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.24 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 124 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 035
Client Sample Id: SS-06-SG-33
Sample Date/Time: 20-MAR-95 0955
Received Date: 20-MAR-95

Batch: GRA039
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.31 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.12 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.47 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 111 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 036 Sample Date/Time: 20-MAR-95 1007
Client Sample Id: SS-06-SG-34 Received Date: 20-MAR-95

Batch: GRA039 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.23 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.80 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.33 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 112 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 037
Client Sample Id: SS-06-SG-35
Sample Date/Time: 20-MAR-95 1017
Received Date: 20-MAR-95

Batch: GRA039
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.20 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.07 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.28 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 111 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 038
Client Sample Id: SS-06-SG-36
Sample Date/Time: 20-MAR-95 1030
Received Date: 20-MAR-95

Batch: GRA039
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.69 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.23 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.95 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | 22 | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 123 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 252
Client Sample Id: SS-06-SG-10DUP
Sample Date/Time: 19-MAR-95 1015
Received Date: 19-MAR-95

Batch: GRA037
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.53 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.13 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.52 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 107 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 253
Client Sample Id: SS-06-SG-19DUP
Sample Date/Time: 19-MAR-95 1257
Received Date: 19-MAR-95

Batch: GRA037
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.08 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.12 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 110 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 254
Client Sample Id: SS-06-SG-26DUP

Sample Date/Time: 19-MAR-95 1420
Received Date: 19-MAR-95

Batch: GRA038
Blank: B

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 19-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.6 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.19 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.74 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 255
Client Sample Id: SS-06-SG-35DUP
Sample Date/Time: 20-MAR-95 1017
Received Date: 20-MAR-95

Batch: GRA039
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.19 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.07 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.27 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 108 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 256
Client Sample Id: SS-06-SG-36DUP
Sample Date/Time: 20-MAR-95 1030
Received Date: 20-MAR-95

Batch: GRA039
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.69 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.23 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.95 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | 22.0 | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 123 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

AnalyticalTechnologies,Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 503730
ATI ML I.D. 3

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE: 3-19-95 PAGE 1 OF 3

COMPANY: GROUNDWATER TECHNOLOGY
ADDRESS: 2501 YALE BLVD SE
ALBUQUERQUE, NM
PHONE: (505) 242-3113
FAX: (505) 242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, Inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) M-T J-4 8015M | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-06-SG-01 | 3-19 | 0820 | AIR | 1 | CWS | 0821 | [illegible] | | X | | | | | | | | | | 1 |
| SS-06-SG-02 | 3-19 | 0847 | AIR | 2 | CWS | 0847 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-03 | 3-19 | 0847 | AIR | 3 | CWS | 0847 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-04 | 3-19 | 0847 | AIR | 4 | CWS | 0847 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-05 | 3-19 | 0910 | AIR | 5 | CWS | 0910 | [illegible] | | X | | | | | | | | | | 1 |
| SS-06-SG-06 | 3/19 | 0910 | " | 6 | CWS | 0910 | [illegible] | | X | | | | | | | | | | 1 |
| SS-06-SG-07 | 3/19 | 0930 | " | 7 | CWS | 0930 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-08 | 3/19 | 0930 | " | 8 | CWS | 0930 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-09 | 3/19 | 0950 | AIR | 9 | CWS | 0955 | [illegible] | | X | | | | | | | | | | 1 |
| SS-06-SG-10 | 3/19 | 0950 | " | 10 | CWS | 0955 | [illegible] | | X | | | | | | | | | | 1 |
| SS-06-SG-11 | 3/19 | 1015 | " | 11 | CWS | 1034 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-12 | 3/19 | 1020 | " | 12 | CWS | 1034 | PL | | X | | | | | | | | | | 1 |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | Charles W. Schick | [signature] |
| MEB | MICHAEL E. BAKER | [signature] |
| PL | PAUL LOSCHENSKY | [signature] |

Mobile Lab Time:
Date: 3-19-95
Start Time: 0930
Stop Time: 20:30
Client Signoff: [signature]

PROJECT INFORMATION
PROJ. NO. 830012201.03.050
PROJ. NAME: HAFB/TERC OU#1 WADA3

SAMPLE RECEIPT
NO CONTAINERS: 12
CUSTODY SEALS: Y (N) NA
RECEIVED INTACT: Y
RECEIVED COLD: NA

ATI Labs: Sa (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland ( -0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC - ORIGINATOR

Analytical Technologies, Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 5037301
ATI ML I 3

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE: 3-19-95 PAGE 3 OF 3

COMPANY: GROUNDWATER TECHNOLOGY
ADDRESS: 2501 YALE BLVD SE
ALBUQUERQUE, NM 87106
PHONE: (505) 242-3113
FAX: (505) 242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) M TPH 8015M | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-06-SG-24 | 3/19 | 1354 | AIR | 25 | CWS | 1410 | [illegible] | | X | | | | | | | | | | |
| SS-06-SG-25 | 3/19 | 1400 | " | 26 | CWS | 1410 | [illegible] | | X | | | | | | | | | | |
| SS-06-SG-26 | 3/19 | 1420 | " | 27 | CWS | 1450 | PL | | X | | | | | | | | | | |
| SS-06-SG-27 | 3/19 | 1430 | " | 28 | CWS | 1450 | PL | | X | | | | | | | | | | |
| SS-06-SG-28 | 3/19 | 1442 | " | 29 | CWS | 1450 | PL | | X | | | | | | | | | | |
| FT31-SG01-4-6 Dup | 4/14 | 1150 | Air | 264 | | | | | X | | | | | | | | | | |
| FT31-SG03-4-6 Dup | 4/5 | 820 | Air | 265 | | | | | X | | | | | | | | | | |
| FT31-SG06-4-6 Dup | 4/5 | 1153 | Air | 266 | | | | | X | | | | | | | | | | |
| ~~SD-47-SG03-3-5 Dup~~ | ~~4/6~~ | ~~0945~~ | ~~Air~~ | | | | | | | | | | | | | | | | |
| ~~FT31-SG05-3-4 Dup~~ | ~~4/5~~ | ~~1305~~ | ~~Air~~ | 267 | | | | | X | | | | | | | | | | |
| SD-47-SG01-4-6 Dup | 4/5 | 1455 | Air | 268 | | | | | X | | | | | | | | | | |
| SD-47-SG06-3-5 Dup | 4/6 | 0835 | Air | 269 | | | | | X | | | | | | | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | Charles W. Schulk | [signature] |
| [illegible] | MICHAEL E. BARBER | [signature] |

Mobile Lab Time:
Date: 3-19-95
Start Time: 0730
Stop Time: 20:30
Client Signoff: [signature]

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. 830012201.03.050 | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: HAFB / TERC DO # 1 / LOAD # 3 | RECEIVED INTACT | |
| | RECEIVED COLD | |

AnalyticalTechnologies, Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 503930
ATI ML I.D. 3

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE: 3-19-95 PAGE 2 OF 3

COMPANY: GROUNDWATER TECHNOLOGY
ADDRESS: 2501 YALE BLVD SE
ALBUQUERQUE NM 87106
PHONE: (505) 242-3113
FAX: (505) 242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) M JP-4 ~~BY 8021M~~ 8020M PL 03/19/95 | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-06-SG-13 | 3/19 | 1020 | AIR | 13 | CWS | 1035 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-14 | 3/19 | 1030 | AIR | 14 | CWS | 1035 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-15 | 3/19 | 1046 | " | 15 | CWS | 1125 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-16 | 3/19 | 1058 | " | 16 | CWS | 1125 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-17 | 3/19 | 1115 | " | 17 | CWS | 1125 | PL | | X | | | | | | | | | | 1 |
| SS-06-SG-18 | 3/19 | 1230 | AIR | 18 | CWS | 1247 | PL | | X | | | | | | | | | | 1 |
| SS 06 SG-19 | 3/19 | 1252 | " | 19 | CWS | 1325 | MEB | | X | | | | | | | | | | 1 |
| EQUIP-BLK | 3/19 | 1257 | " | 20 | CWS | 1325 | MEB | | X | | | | | | | | | | 1 |
| SS 06-SG-20 | 3/19 | 1308 | " | 21 | CWS | 1325 | MEB | | X | | | | | | | | | | 1 |
| SS-06-SG-21 | 3/19 | 1305 | " | 22 | CWS | 1327 | MEB | | X | | | | | | | | | | 1 |
| SS-06-SG-22 | 3/19 | 1335 | AIR | 23 | CWS | 1410 | MEB | | X | | | | | | | | | | 1 |
| SS-06-SG-23 | 3/19 | 1345 | " | 24 | CWS | 1410 | MEB | | X | | | | | | | | | | 1 |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| MEB | MICHAEL E. BARBER | Michael E. Barber |
| CWS | Charles W. Schick | Charles W. Schick |
| PL | Paul Leschensky | Paul Leschensky |

Mobile Lab Time:
Date: 3/19/95
Start Time: 0730
Stop Time: 20:30
Client Signoff: Charles W. Schick

PROJECT INFORMATION
PROJ. NO. 830012201.03.050
PROJ. NAME: HAFB / TERC DO # 1 / WAD # 3

SAMPLE RECEIPT

| | |
|---|---|
| NO CONTAINERS | 12 |
| CUSTODY SEALS | Y (N) NA |
| RECEIVED INTACT | Y |
| RECEIVED COLD | NA |

Anal alTechnologies, Inc., Phoenix, Arizona
San Diego - Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBI LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 503730

ATI ML I.

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE: 03/20/95 PAGE 1 OF 2

COMPANY: GROUNDWATER TECHNOLOGY
ADDRESS: 2501 YALE BLVD SE
ALBUQUERQUE, NM 87106
PHONE: (505) 242-3113
FAX: (505) 242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) SP-4 (8015M) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-06-SG-29 | 3-20 | 0900 | AIR | -30 | CWS | 9:07 | PL | | X | | | | | | | | | | |
| EQUIP. BLK. | 3-20 | 0907 | AIR | -31 | CWS | 9:07 | PL | | X | | | | | | | | | | |
| SS-06-SG-30 | 3-20 | 0916 | AIR | -32 | CWS | 1001 | PL | | X | | | | | | | | | | |
| SS-06-SG-31 | 3-20 | 0925 | AIR | -33 | CWS | 1001 | PL | | X | | | | | | | | | | |
| SS-06-SG-32 | 3-20 | 0940 | AIR | -34 | CWS | 1001 | PL | | X | | | | | | | | | | |
| SS-06-SG-33 | 3-20 | 0955 | AIR | -35 | CWS | 1001 | PL | | X | | | | | | | | | | |
| SS-06-SG-34 | 3-20 | 1007 | AIR | -36 | CWS | 1035 | PL | | X | | | | | | | | | | |
| SS-06-SG-35 | 3-20 | 1017 | " | -37 | CWS | 1035 | PL | | X | | | | | | | | | | |
| SS-06-SG-36 | 3-20 | 1030 | " | -38 | CWS | 1035 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-01 | 3-20 | 1325 | AIR | -39 | CWS | 1345 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-02 | 3-20 | 1335 | " | -40 | CWS | 1345 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-03 | 3-20 | 1341 | " | -41 | CWS | 1345 | PL | | X | | | | | | | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | [illegible] | Charles W. Schirk |
| PL | PAUL LESCHENSKY | Paul Leschensky |

Mobile Lab Time:
Date: 03/20/95
Start Time: 7:30
Stop Time: 4:30
Client Signoff: [illegible]

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

AnalyticalTechnologies,Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 56373-6

ATI ML I.D. 3

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

COMPANY:
ADDRESS:
PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

DATE: 03/23/95 PAGE 2 OF 2

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, Inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) JP-4 8015M | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BBMS-SG-32 | 3/23/95 | 1045 | AIR | -101 | CWS | 1115 | PL | | X | | | | | | | | | | |
| BBMS-SG-33 | 3/23/95 | 1056 | AIR | -102 | CWS | 1115 | PL | | X | | | | | | | | | | |
| SS-06-SG-10 Dup | 3/19 | 1015 | air | -252 | | | | | X | | | | | | | | | | |
| SS-06-SG-19 Dup | 3/19 | 1257 | air | -253 | | | | | X | | | | | | | | | | |
| SS-06-SG-26 Dup | 3/19 | 1420 | air | -254 | | | | | X | | | | | | | | | | |
| SS-06-SG-35 Dup | 3/20 | 1017 ~~1030~~ | air | -255 | | | | | X | | | | | | | | | | |
| SS-06-SG-36 Dup | 3/20 | 1030 | air | -256 | | | | | X | | | | | | | | | | |
| AOC-RR-SG-11 Dup | 3/21 | 0910 | air | -257 | | | | | X | | | | | | | | | | |
| AOC-RR-SG-22 Dup | 3/21 | 1150 | air | -258 | | | | | X | | | | | | | | | | |
| AOC-RR-SG-29 Dup | 3/21 | 1423 | air | -259 | | | | | X | | | | | | | | | | |
| BBMS-SG-10 Dup | 3/22 | 1128 | air | -260 | | | | | X | | | | | | | | | | |
| BBMS-SG-21 Dup | 3/23 | 0831 | air | -261 | | | | | X | | | | | | | | | | |

Comments: BBMS-SG-29 Dup 3/23 1022 air -262
BBMS-SG-32 Dup 3/23 1056 air -263

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | Charles W. Schick | Charles W. Schick |
| PL | Paul Leschensky | Paul Leschensky |

Mobile Lab Time:
Date: 03-23-95
Start Time: 8:00
Stop Time:
Client Signoff:

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

# APPENDIX A-2

## Site AOC-RR

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 039
Client Sample Id: AOC-RR-SG-01

Sample Date/Time: 20-MAR-95 1325
Received Date: 20-MAR-95

Batch: GRA039
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.10 | 0.05 | |
| TOLUENE | UG/L | 0.24 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.26 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 114 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 040
Client Sample Id: AOC-RR-SG-02
Sample Date/Time: 20-MAR-95 1335
Received Date: 20-MAR-95

Batch: GRA039
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.05 | 0.05 | |
| TOLUENE | UG/L | 0.26 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.08 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.34 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 117 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 041
Client Sample Id: AOC-RR-SG-03
Sample Date/Time: 20-MAR-95 1344
Received Date: 20-MAR-95

Batch: GRA039
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.15 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.05 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.22 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 118 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 045 Sample Date/Time: 21-MAR-95 0830
Client Sample Id: AOC-RR-SG-04 Received Date: 21-MAR-95

Batch: GRA040 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.20 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.19 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 109 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 046
Client Sample Id: AOC-RR-SG-05
Sample Date/Time: 21-MAR-95 0840
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.21 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.07 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.27 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 104 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 042
Client Sample Id: AOC-RR-SG-06
Sample Date/Time: 20-MAR-95 1353
Received Date: 20-MAR-95

Batch: GRA039
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.24 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.07 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.28 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 116 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 043
Client Sample Id: AOC-RR-SG-07

Sample Date/Time: 20-MAR-95 1412
Received Date: 20-MAR-95

Batch: GRA039
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.10 | 0.05 | |
| TOLUENE | UG/L | 0.25 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.07 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.27 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 044
Client Sample Id: AOC-RR-SG-08

Sample Date/Time: 20-MAR-95 1421
Received Date: 20-MAR-95

Batch: GRA039
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 20-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.18 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.24 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 111 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 047
Client Sample Id: AOC-RR-SG-09

Sample Date/Time: 21-MAR-95 0850
Received Date: 21-MAR-95

Batch: GRA040
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.09 | 0.05 | |
| TOLUENE | UG/L | 0.19 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.07 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.27 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 108 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 048
Client Sample Id: AOC-RR-SG-10
Sample Date/Time: 21-MAR-95 0900
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.23 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.08 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.33 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 110 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 049
Client Sample Id: AOC-RR-SG-11
Sample Date/Time: 21-MAR-95 0910
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.17 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.23 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 108 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 050
Client Sample Id: AOC-RR-SG-12

Sample Date/Time: 21-MAR-95 0919
Received Date: 21-MAR-95

Batch: GRA040
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.17 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.05 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.21 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 111 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 051
Client Sample Id: AOC-RR-SG-13
Sample Date/Time: 21-MAR-95 0927
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.14 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.19 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 112 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 052
Client Sample Id: AOC-RR-SG-14
Sample Date/Time: 21-MAR-95 0937
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.21 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.07 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.29 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 053 Sample Date/Time: 21-MAR-95 0958
Client Sample Id: AOC-RR-SG-15 Received Date: 21-MAR-95

Batch: GRA040 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.10 | 0.05 | |
| TOLUENE | UG/L | 0.31 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.08 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.32 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 114 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 054
Client Sample Id: AOC-RR-SG-16
Sample Date/Time: 21-MAR-95 1007
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.58 | 0.05 | |
| TOLUENE | UG/L | 0.51 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.10 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.31 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 055
Client Sample Id: AOC-RR-SG-17
Sample Date/Time: 21-MAR-95 1017
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.11 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.18 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 114 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 056
Client Sample Id: AOC-RR-SG-18
Sample Date/Time: 21-MAR-95 1042
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.13 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.12 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 057
Client Sample Id: AOC-RR-SG-19
Sample Date/Time: 21-MAR-95 1058
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.15 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.22 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 116 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 058
Client Sample Id: AOC-RR-SG-20
Sample Date/Time: 21-MAR-95 1130
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.20 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.08 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.33 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 107 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 059
Client Sample Id: AOC-RR-SG-21
Sample Date/Time: 21-MAR-95 1140
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.15 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.22 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 060
Client Sample Id: AOC-RR-SG-22
Sample Date/Time: 21-MAR-95 1150
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.05 | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | 0.14 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.19 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 115 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 061
Client Sample Id: AOC-RR-SG-23

Sample Date/Time: 21-MAR-95 1205
Received Date: 21-MAR-95

Batch: GRA040
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.24 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.08 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.37 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 112 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 062
Client Sample Id: AOC-RR-SG-EQUIP BLANK
Sample Date/Time: 21-MAR-95 1210
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.18 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.30 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 75 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 063
Client Sample Id: AOC-RR-SG-24
Sample Date/Time: 21-MAR-95 1332
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.16 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.29 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 064
Client Sample Id: AOC-RR-SG-25
Sample Date/Time: 21-MAR-95 1340
Received Date: 21-MAR-95

Batch: GRA040
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.17 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.28 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 111 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 065
Client Sample Id: AOC-RR-SG-26
Sample Date/Time: 21-MAR-95 1350
Received Date: 21-MAR-95

Batch: GRA041
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.08 | 0.05 | |
| TOLUENE | UG/L | 0.40 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.15 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.71 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 112 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 066
Client Sample Id: AOC-RR-SG-27

Sample Date/Time: 21-MAR-95 1400
Received Date: 21-MAR-95

Batch: GRA041
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.14 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.22 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 110 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 067 Sample Date/Time: 21-MAR-95 1413
Client Sample Id: AOC-RR-SG-28 Received Date: 21-MAR-95

Batch: GRA041 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.17 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.27 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 109 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 068
Client Sample Id: AOC-RR-SG-29

Sample Date/Time: 21-MAR-95 1423
Received Date: 21-MAR-95

Batch: GRA041
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.14 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.20 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 110 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 257
Client Sample Id: AOC-RR-SG-11DUP
Sample Date/Time: 21-MAR-95 0910
Received Date: 21-MAR-95

Batch: GRA040
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.19 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 110 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 258
Client Sample Id: AOC-RR-SG-22DUP
Sample Date/Time: 21-MAR-95 1150
Received Date: 21-MAR-95

Batch: GRA040
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.16 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.21 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 259
Client Sample Id: AOC-RR-SG-29DUP
Sample Date/Time: 21-MAR-95 1423
Received Date: 21-MAR-95

Batch: GRA041
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 21-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.05 | 0.05 | |
| TOLUENE | UG/L | 0.16 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 112 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

Analytical Technologies, Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 50137B0
ATI ML I.D.

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE: 03/21/95 PAGE 1 OF 2

COMPANY: GROUNDWATER TECHNOLOGY
ADDRESS: 2501 YALE BLVD SE
ALBUQUERQUE, NM 87106
PHONE: 505-242-3113
FAX: 505-242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) M 8015M 5P-A | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-RR-SG-04 | 3/21 | 0830 | Air | -45 | JM | 855 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-05 | 3/21 | 0840 | Air | -46 | JM | 855 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-09 | 3/21 | 0850 | Air | -47 | JM | 855 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-10 | 3/21 | 0900 | Air | -48 | JM | 930 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-11 | 3/21 | 0910 | Air | -49 | JM | 930 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-12 | 3/21 | 0919 | Air | -50 | JM | 930 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-13 | 3/21 | 0927 | Air | -51 | JM | 930 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-14 | 3/21 | 0937 | Air | -52 | JM | 1027 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-15 | 3/21 | 0958 | Air | -53 | JM | ↓ | PL | | X | | | | | | | | | | |
| AOC-RR-SG-16 | 3/21 | 1007 | Air | -54 | JM | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-17 | 3/21 | 1017 | Air | -55 | JM | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-18 | 3/21 | 1042 | Air | -56 | JM | 1215 | | | X | | | | | | | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| JM | Jim Molesworth | |
| PL | Paul Leschensky | |

Mobile Lab Time:
Date: 03/12/95
Start Time: 7:00
Stop Time: 8:00
Client Signoff:

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

AnalyticalTechnologies,Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 503730

ATI ML I.D.

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE: 03/20/95 PAGE 2 OF 2

COMPANY: GROUNDWATER TECHNOLOGIES PL 03/20/95
ADDRESS: 2501 YALE BLVD SE
ALBUQUERQUE NM 87106
PHONE: (505)-242-3113
FAX: (505)-242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, Inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) JP-4 8015 | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-RR-SG-086 | 3/20 | 1353 | AIR | 42 | | 14:25 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-087 | 3/20 | 1412 | AIR | 43 | | 14:25 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-088 | 3/20 | 1421 | AIR | 44 | | 14:25 | PL | | X | | | | | | | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | Charles W. Schirk | [signature] |
| PL | PAUL LESCHENSKY | Paul Leschensky |

Mobile Lab Time:
Date: 03-20-95
Start Time: 7:30
Stop Time: 14:30
Client Signoff: [signature]

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

Analytical Technologies, Inc., Phoenix, Arizona
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 5/30/30 | ATI ML

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE: 03/21/95 PAGE 2 OF 2

COMPANY: Groundwater Technology Inc.
ADDRESS: 2501 Yale Blvd SE
Albuquerque, NM 87106
PHONE: 505 242-3113
FAX: 505 242-1103

BILL TO: Same
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) 8015M JP-4 | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-RR-SG-19 | 3/21 | 1058 | Air | -57 | JM | 1215 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-20 | 3/21 | 1130 | | -58 | | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-21 | 3/21 | 1140 | | -59 | | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-22 | 3/21 | 1150 | | -60 | | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-23 | 3/21 | 1205 | | -61 | | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-~~[illegible]~~ Equip blank | 3/21 | 1210 | | -62 | | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-24 | 3/21 | 1332 | | -63 | JM | 1405 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-25 | 3/21 | 1340 | | -64 | | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-26 | 3/21 | 1350 | | -65 | | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-27 | 3/21 | 1400 | | -66 | | | PL | | X | | | | | | | | | | |
| AOC-RR-SG-28 | 2/21 | 1413 | | -67 | JM | 1430 | PL | | X | | | | | | | | | | |
| AOC-RR-SG-29 | 2/21 | 1423 | | -68 | | | PL | | X | | | | | | | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| JM | Jim Molesworth | [signature] |
| PL | Paul Leschensky | [signature] |

Mobile Lab Time:
Date: 03/21/95
Start Time: 7:00
Stop Time: 8:00
Client Signoff:

PROJECT INFORMATION
PROJ. NO.
PROJ. NAME:

SAMPLE RECEIPT

| | |
|---|---|
| NO CONTAINERS | |
| CUSTODY SEALS | Y / N / NA |
| RECEIVED INTACT | |
| RECEIVED COLD | |

# APPENDIX A-3

## Site AOC-BBMS

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 069
Client Sample Id: BBMS-SG-01

Sample Date/Time: 22-MAR-95 0900
Received Date: 22-MAR-95

Batch: GRA042
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.31 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.49 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 1.9 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 070
Client Sample Id: BBMS-SG-02
Sample Date/Time: 22-MAR-95 0917
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.14 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.10 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 111 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 071
Client Sample Id: BBMS-SG-03
Sample Date/Time: 22-MAR-95 0955
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.19 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 114 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 072 Sample Date/Time: 22-MAR-95 1005
Client Sample Id: BBMS-SG-04 Received Date: 22-MAR-95

Batch: GRA042 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.20 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.06 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.26 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | 32 | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 073 Sample Date/Time: 22-MAR-95 1010
Client Sample Id: BBMS-SG-05 Received Date: 22-MAR-95

Batch: GRA042 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.30 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.08 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.32 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 112 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 074
Client Sample Id: BBMS-SG-06
Sample Date/Time: 22-MAR-95 1034
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.08 | 0.05 | |
| TOLUENE | UG/L | 0.13 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.10 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 114 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 075
Client Sample Id: BBMS-SG-07
Sample Date/Time: 22-MAR-95 1042
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.19 | 0.05 | |
| TOLUENE | UG/L | 0.16 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.08 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | 23 | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 118 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 076
Client Sample Id: BBMS-SG-08
Sample Date/Time: 22-MAR-95 1110
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.09 | 0.05 | |
| TOLUENE | UG/L | 0.13 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.08 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 115 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 077
Client Sample Id: BBMS-SG-09
Sample Date/Time: 22-MAR-95 1120
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.11 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.07 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 115 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 078
Client Sample Id: BBMS-SG-10
Sample Date/Time: 22-MAR-95 1128
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.06 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 117 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 079
Client Sample Id: BBMS-SG-11

Sample Date/Time: 22-MAR-95 1140
Received Date: 22-MAR-95

Batch: GRA042
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.10 | 0.05 | |
| TOLUENE | UG/L | 0.17 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.12 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 112 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 080
Client Sample Id: BBMS-SG-12

Sample Date/Time: 22-MAR-95 1150
Received Date: 22-MAR-95

Batch: GRA042
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.30 | 0.05 | |
| TOLUENE | UG/L | 0.31 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.07 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.23 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 120 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 081 Sample Date/Time: 22-MAR-95 1201
Client Sample Id: BBMS-SG-13 Received Date: 22-MAR-95

Batch: GRA042 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.06 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.05 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 118 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 082
Client Sample Id: BBMS-SG-14

Sample Date/Time: 22-MAR-95 1335
Received Date: 22-MAR-95

Batch: GRA042
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.19 | 0.05 | |
| TOLUENE | UG/L | 0.22 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.05 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.18 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | 24 | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 120 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 083 Sample Date/Time: 22-MAR-95 1345
Client Sample Id: BBMS-SG-15 Received Date: 22-MAR-95

Batch: GRA042 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 1.5 | 0.05 | |
| TOLUENE | UG/L | 1.5 | 0.05 | |
| ETHYLBENZENE | UG/L | 3.3 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 2.8 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | 160 | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 158* | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:
* SURROGATE OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE.

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 084 Sample Date/Time: 22-MAR-95 1352
Client Sample Id: BBMS-SG-16 Received Date: 22-MAR-95

Batch: GRA042 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.09 | 0.05 | |
| TOLUENE | UG/L | 0.12 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.16 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.08 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 119 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 085
Client Sample Id: BBMS-SG-17

Sample Date/Time: 22-MAR-95 1426
Received Date: 22-MAR-95

Batch: GRA042
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.08 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.05 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 123 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 086
Client Sample Id: BBMS-SG-18
Sample Date/Time: 22-MAR-95 1437
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.13 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.18 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | 23 | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 118 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 087
Client Sample Id: BBMS-SG-19
Sample Date/Time: 22-MAR-95 1445
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.05 | 0.05 | |
| TOLUENE | UG/L | 0.11 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.08 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 84 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 088
Client Sample Id: BBMS-SG-20
Sample Date/Time: 22-MAR-95 1455
Received Date: 22-MAR-95

Batch: GRA042
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 110 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 089
Client Sample Id: EQUIP BLANK

Sample Date/Time: 23-MAR-95 0820
Received Date: 23-MAR-95

Batch: GRA043
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 113 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 090
Client Sample Id: BBMS-SG-21
Sample Date/Time: 23-MAR-95 0831
Received Date: 23-MAR-95

Batch: GRA043
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.10 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 105 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 091 Sample Date/Time: 23-MAR-95 0842
Client Sample Id: BBMS-SG-22 Received Date: 23-MAR-95

Batch: GRA043 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.05 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.06 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 108 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 092
Client Sample Id: BBMS-SG-23
Sample Date/Time: 23-MAR-95 0851
Received Date: 23-MAR-95

Batch: GRA043
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.11 | 0.05 | |
| TOLUENE | UG/L | 0.14 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.08 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 108 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 093
Client Sample Id: BBMS-SG-24
Sample Date/Time: 23-MAR-95 0859
Received Date: 23-MAR-95

Batch: GRA043
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.07 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 106 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 094 Sample Date/Time: 23-MAR-95 0925
Client Sample Id: BBMS-SG-25 Received Date: 23-MAR-95

Batch: GRA043 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 107 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 095
Client Sample Id: BBMS-SG-26
Sample Date/Time: 23-MAR-95 0932
Received Date: 23-MAR-95

Batch: GRA043
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.07 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 104 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 096
Client Sample Id: BBMS-SG-27
Sample Date/Time: 23-MAR-95 0942
Received Date: 23-MAR-95

Batch: GRA043
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.07 | 0.05 | |
| TOLUENE | UG/L | 0.07 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 109 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 097
Client Sample Id: BBMS-SG-28
Sample Date/Time: 23-MAR-95 0954
Received Date: 23-MAR-95

Batch: GRA043
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 109 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 098 Sample Date/Time: 23-MAR-95 1022
Client Sample Id: BBMS-SG-29 Received Date: 23-MAR-95

Batch: GRA043 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 106 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 099 Sample Date/Time: 23-MAR-95 1027
Client Sample Id: BBMS-SG-30 Received Date: 23-MAR-95

Batch: GRA043 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.08 | 0.05 | |
| TOLUENE | UG/L | 0.07 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 104 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

---

Lab Id: 100 Sample Date/Time: 23-MAR-95 1035
Client Sample Id: BBMS-SG-31 Received Date: 23-MAR-95

Batch: GRA043 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.56 | 0.05 | |
| TOLUENE | UG/L | 0.38 | 0.05 | |
| ETHYLBENZENE | UG/L | 0.09 | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.23 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 110 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 101
Client Sample Id: BBMS-SG-32
Sample Date/Time: 23-MAR-95 1045
Received Date: 23-MAR-95

Batch: GRA043
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | 0.07 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | 0.05 | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 106 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 102
Client Sample Id: BBMS-SG-33
Sample Date/Time: 23-MAR-95 1056
Received Date: 23-MAR-95

Batch: GRA043
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 108 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

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Lab Id: 260
Client Sample Id: BBMS-SG-10-DUP
Sample Date/Time: 22-MAR-95 1128
Received Date: 22-MAR-95

Batch: GRA042
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 116 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 261
Client Sample Id: BBMS-SG-21-DUP
Sample Date/Time: 23-MAR-95 0831
Received Date: 23-MAR-95

Batch: GRA043
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | 0.06 | 0.05 | |
| TOLUENE | UG/L | 0.08 | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 103 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 262
Client Sample Id: BBMS-SG-29-DUP
Sample Date/Time: 23-MAR-95 1022
Received Date: 23-MAR-95

Batch: GRA043
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 109 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)
Analysis Method: GRO-5030/8020/8015/SW 846 (Modified Mobile Lab)
Extraction Method: N/A
Matrix: AIR
QC Level: N

Lab Id: 263
Client Sample Id: BBMS-SG-33-DUP
Sample Date/Time: 23-MAR-95 1056
Received Date: 23-MAR-95

Batch: GRA043
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| BENZENE | UG/L | ND | 0.05 | |
| TOLUENE | UG/L | ND | 0.05 | |
| ETHYLBENZENE | UG/L | ND | 0.05 | |
| XYLENES (TOTAL) | UG/L | ND | 0.05 | |
| TOTAL PETROLEUM HYDROCARBON | UG/L | ND | 20 | |
| BROMOFLUOROBENZENE (PID) | %REC/SURR | 103 | 70-130 | |
| ANALYST | INITIALS | PL | | |

Comments:

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| SS-06-SG-01 | BENZENE | UG/L | 0.14 |
| | TOLUENE | UG/L | 1.20 |
| | ETHYLBENZENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.56 |
| SS-06-SG-02 | BENZENE | UG/L | 0.10 |
| | TOLUENE | UG/L | 1.00 |
| | ETHYLBENZENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.56 |
| SS-06-SG-03 | BENZENE | UG/L | 0.08 |
| | TOLUENE | UG/L | 0.89 |
| | ETHYLBENZENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.59 |
| SS-06-SG-04 | BENZENE | UG/L | 0.08 |
| | TOLUENE | UG/L | 0.84 |
| | ETHYLBENZENE | UG/L | 0.14 |
| | XYLENES (TOTAL) | UG/L | 0.56 |
| SS-06-SG-05 | BENZENE | UG/L | 0.10 |
| | TOLUENE | UG/L | 0.82 |
| | ETHYLBENZENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.60 |
| SS-06-SG-06 | BENZENE | UG/L | 0.09 |
| | TOLUENE | UG/L | 0.77 |
| | ETHYLBENZENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.59 |
| SS-06-SG-07 | BENZENE | UG/L | 0.06 |
| | TOLUENE | UG/L | 0.69 |
| | ETHYLBENZENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.58 |
| SS-06-SG-08 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.54 |
| | ETHYLBENZENE | UG/L | 0.12 |
| | XYLENES (TOTAL) | UG/L | 0.48 |
| SS-06-SG-09 | TOLUENE | UG/L | 0.57 |
| | ETHYLBENZENE | UG/L | 0.14 |
| | XYLENES (TOTAL) | UG/L | 0.55 |
| SS-06-SG-10 | TOLUENE | UG/L | 0.52 |
| | ETHYLBENZENE | UG/L | 0.13 |
| | XYLENES (TOTAL) | UG/L | 0.51 |
| SS-06-SG-11 | TOLUENE | UG/L | 0.50 |
| | ETHYLBENZENE | UG/L | 0.11 |
| | XYLENES (TOTAL) | UG/L | 0.39 |
| SS-06-SG-12 | BENZENE | UG/L | 0.11 |
| | TOLUENE | UG/L | 0.36 |
| | ETHYLBENZENE | UG/L | 0.13 |

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| | XYLENES (TOTAL) | UG/L | 0.32 |
| SS-06-SG-13 | TOLUENE | UG/L | 0.38 |
| | ETHYLBENZENE | UG/L | 0.10 |
| | XYLENES (TOTAL) | UG/L | 0.37 |
| SS-06-SG-14 | TOLUENE | UG/L | 0.29 |
| | ETHYLBENZENE | UG/L | 0.07 |
| | XYLENES (TOTAL) | UG/L | 0.26 |
| SS-06-SG-15 | BENZENE | UG/L | 0.06 |
| | TOLUENE | UG/L | 0.27 |
| | ETHYLBENZENE | UG/L | 0.10 |
| | XYLENES (TOTAL) | UG/L | 0.29 |
| SS-06-SG-16 | TOLUENE | UG/L | 0.30 |
| | ETHYLBENZENE | UG/L | 0.09 |
| | XYLENES (TOTAL) | UG/L | 0.33 |
| SS-06-SG-17 | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.22 |
| SS-06-SG-18 | TOLUENE | UG/L | 0.10 |
| | XYLENES (TOTAL) | UG/L | 0.17 |
| SS-06-SG-19 | TOLUENE | UG/L | 0.09 |
| | XYLENES (TOTAL) | UG/L | 0.16 |
| EQUIP-BLANK | TOLUENE | UG/L | 0.52 |
| | ETHYLBENZENE | UG/L | 0.13 |
| | XYLENES (TOTAL) | UG/L | 0.48 |
| SS-06-SG-20 | TOLUENE | UG/L | 0.28 |
| | ETHYLBENZENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.32 |
| SS-06-SG-21 | BENZENE | UG/L | 0.05 |
| | TOLUENE | UG/L | 0.74 |
| | ETHYLBENZENE | UG/L | 0.17 |
| | XYLENES (TOTAL) | UG/L | 0.68 |
| SS-06-SG-22 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.97 |
| | ETHYLBENZENE | UG/L | 0.20 |
| | XYLENES (TOTAL) | UG/L | 0.79 |
| SS-06-SG-23 | BENZENE | UG/L | 0.05 |
| | TOLUENE | UG/L | 0.60 |
| | ETHYLBENZENE | UG/L | 0.14 |
| | XYLENES (TOTAL) | UG/L | 0.57 |
| SS-06-SG-24 | BENZENE | UG/L | 0.09 |
| | TOLUENE | UG/L | 0.71 |
| | ETHYLBENZENE | UG/L | 0.17 |
| | XYLENES (TOTAL) | UG/L | 0.67 |
| SS-06-SG-25 | BENZENE | UG/L | 0.06 |
| | TOLUENE | UG/L | 0.49 |
| | ETHYLBENZENE | UG/L | 0.14 |

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| | XYLENES (TOTAL) | UG/L | 0.54 |
| SS-06-SG-26 | BENZENE | UG/L | 0.06 |
| | TOLUENE | UG/L | 0.62 |
| | ETHYLBENZENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.60 |
| SS-06-SG-27 | BENZENE | UG/L | 0.06 |
| | TOLUENE | UG/L | 0.50 |
| | ETHYLBENZENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.62 |
| SS-06-SG-28 | BENZENE | UG/L | 0.08 |
| | TOLUENE | UG/L | 0.37 |
| | ETHYLBENZENE | UG/L | 0.12 |
| | XYLENES (TOTAL) | UG/L | 0.47 |
| SS-06-SG-29 | TOLUENE | UG/L | 0.30 |
| | ETHYLBENZENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.30 |
| EQUIP BLANK | TOLUENE | UG/L | 0.17 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.22 |
| SS-06-SG-30 | TOLUENE | UG/L | 0.23 |
| | ETHYLBENZENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.32 |
| SS-06-SG-31 | TOLUENE | UG/L | 0.14 |
| | XYLENES (TOTAL) | UG/L | 0.10 |
| SS-06-SG-32 | TOLUENE | UG/L | 0.14 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.24 |
| SS-06-SG-33 | TOLUENE | UG/L | 0.31 |
| | ETHYLBENZENE | UG/L | 0.12 |
| | XYLENES (TOTAL) | UG/L | 0.47 |
| SS-06-SG-34 | TOLUENE | UG/L | 0.23 |
| | ETHYLBENZENE | UG/L | 0.80 |
| | XYLENES (TOTAL) | UG/L | 0.33 |
| SS-06-SG-35 | TOLUENE | UG/L | 0.20 |
| | ETHYLBENZENE | UG/L | 0.07 |
| | XYLENES (TOTAL) | UG/L | 0.28 |
| SS-06-SG-36 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.69 |
| | ETHYLBENZENE | UG/L | 0.23 |
| | XYLENES (TOTAL) | UG/L | 0.95 |
| | TOTAL PETROLEUM HYDROCARBON | UG/L | 22 |
| AOC-RR-SG-01 | BENZENE | UG/L | 0.10 |
| | TOLUENE | UG/L | 0.24 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.26 |

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| AOC-RR-SG-02 | BENZENE | UG/L | 0.05 |
| | TOLUENE | UG/L | 0.26 |
| | ETHYLBENZENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.34 |
| AOC-RR-SG-03 | TOLUENE | UG/L | 0.15 |
| | ETHYLBENZENE | UG/L | 0.05 |
| | XYLENES (TOTAL) | UG/L | 0.22 |
| AOC-RR-SG-06 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.24 |
| | ETHYLBENZENE | UG/L | 0.07 |
| | XYLENES (TOTAL) | UG/L | 0.28 |
| AOC-RR-SG-07 | BENZENE | UG/L | 0.10 |
| | TOLUENE | UG/L | 0.25 |
| | ETHYLBENZENE | UG/L | 0.07 |
| | XYLENES (TOTAL) | UG/L | 0.27 |
| AOC-RR-SG-08 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.18 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.24 |
| AOC-RR-SG-04 | TOLUENE | UG/L | 0.20 |
| | XYLENES (TOTAL) | UG/L | 0.19 |
| AOC-RR-SG-05 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.21 |
| | ETHYLBENZENE | UG/L | 0.07 |
| | XYLENES (TOTAL) | UG/L | 0.27 |
| AOC-RR-SG-09 | BENZENE | UG/L | 0.09 |
| | TOLUENE | UG/L | 0.19 |
| | ETHYLBENZENE | UG/L | 0.07 |
| | XYLENES (TOTAL) | UG/L | 0.27 |
| AOC-RR-SG-10 | BENZENE | UG/L | 0.06 |
| | TOLUENE | UG/L | 0.23 |
| | ETHYLBENZENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.33 |
| AOC-RR-SG-11 | TOLUENE | UG/L | 0.17 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.23 |
| AOC-RR-SG-12 | TOLUENE | UG/L | 0.17 |
| | ETHYLBENZENE | UG/L | 0.05 |
| | XYLENES (TOTAL) | UG/L | 0.21 |
| AOC-RR-SG-13 | TOLUENE | UG/L | 0.14 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.19 |
| AOC-RR-SG-14 | TOLUENE | UG/L | 0.21 |
| | ETHYLBENZENE | UG/L | 0.07 |
| | XYLENES (TOTAL) | UG/L | 0.29 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| AOC-RR-SG-15 | BENZENE | UG/L | 0.10 |
| | TOLUENE | UG/L | 0.31 |
| | ETHYLBENZENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.32 |
| AOC-RR-SG-16 | BENZENE | UG/L | 0.58 |
| | TOLUENE | UG/L | 0.51 |
| | ETHYLBENZENE | UG/L | 0.10 |
| | XYLENES (TOTAL) | UG/L | 0.31 |
| AOC-RR-SG-17 | TOLUENE | UG/L | 0.11 |
| | XYLENES (TOTAL) | UG/L | 0.18 |
| AOC-RR-SG-18 | TOLUENE | UG/L | 0.13 |
| | XYLENES (TOTAL) | UG/L | 0.12 |
| AOC-RR-SG-19 | TOLUENE | UG/L | 0.15 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.22 |
| AOC-RR-SG-20 | TOLUENE | UG/L | 0.20 |
| | ETHYLBENZENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.33 |
| AOC-RR-SG-21 | TOLUENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.22 |
| AOC-RR-SG-22 | BENZENE | UG/L | 0.05 |
| | ETHYLBENZENE | UG/L | 0.14 |
| | XYLENES (TOTAL) | UG/L | 0.19 |
| AOC-RR-SG-23 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.24 |
| | ETHYLBENZENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.37 |
| AOC-RR-SG-EQUIP BLANK | TOLUENE | UG/L | 0.18 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.30 |
| AOC-RR-SG-24 | TOLUENE | UG/L | 0.16 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.29 |
| AOC-RR-SG-25 | TOLUENE | UG/L | 0.17 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.28 |
| AOC-RR-SG-26 | BENZENE | UG/L | 0.08 |
| | TOLUENE | UG/L | 0.40 |
| | ETHYLBENZENE | UG/L | 0.15 |
| | XYLENES (TOTAL) | UG/L | 0.71 |
| AOC-RR-SG-27 | TOLUENE | UG/L | 0.14 |
| | XYLENES (TOTAL) | UG/L | 0.22 |
| AOC-RR-SG-28 | TOLUENE | UG/L | 0.17 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.27 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| AOC-RR-SG-29 | TOLUENE | UG/L | 0.14 |
| | XYLENES (TOTAL) | UG/L | 0.20 |
| BBMS-SG-01 | TOLUENE | UG/L | 0.31 |
| | ETHYLBENZENE | UG/L | 0.49 |
| | XYLENES (TOTAL) | UG/L | 1.9 |
| BBMS-SG-02 | TOLUENE | UG/L | 0.14 |
| | XYLENES (TOTAL) | UG/L | 0.10 |
| BBMS-SG-03 | XYLENES (TOTAL) | UG/L | 0.19 |
| BBMS-SG-04 | TOLUENE | UG/L | 0.20 |
| | ETHYLBENZENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.26 |
| | TOTAL PETROLEUM HYDROCARBON | UG/L | 32 |
| BBMS-SG-05 | BENZENE | UG/L | 0.06 |
| | TOLUENE | UG/L | 0.30 |
| | ETHYLBENZENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.32 |
| BBMS-SG-06 | BENZENE | UG/L | 0.08 |
| | TOLUENE | UG/L | 0.13 |
| | XYLENES (TOTAL) | UG/L | 0.10 |
| BBMS-SG-07 | BENZENE | UG/L | 0.19 |
| | TOLUENE | UG/L | 0.16 |
| | XYLENES (TOTAL) | UG/L | 0.08 |
| | TOTAL PETROLEUM HYDROCARBON | UG/L | 23 |
| BBMS-SG-08 | BENZENE | UG/L | 0.09 |
| | TOLUENE | UG/L | 0.13 |
| | XYLENES (TOTAL) | UG/L | 0.08 |
| BBMS-SG-09 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.11 |
| | XYLENES (TOTAL) | UG/L | 0.07 |
| BBMS-SG-10 | TOLUENE | UG/L | 0.06 |
| BBMS-SG-11 | BENZENE | UG/L | 0.10 |
| | TOLUENE | UG/L | 0.17 |
| | XYLENES (TOTAL) | UG/L | 0.12 |
| BBMS-SG-12 | BENZENE | UG/L | 0.30 |
| | TOLUENE | UG/L | 0.31 |
| | ETHYLBENZENE | UG/L | 0.07 |
| | XYLENES (TOTAL) | UG/L | 0.23 |
| BBMS-SG-13 | TOLUENE | UG/L | 0.06 |
| | XYLENES (TOTAL) | UG/L | 0.05 |
| BBMS-SG-14 | BENZENE | UG/L | 0.19 |
| | TOLUENE | UG/L | 0.22 |
| | ETHYLBENZENE | UG/L | 0.05 |
| | XYLENES (TOTAL) | UG/L | 0.18 |
| | TOTAL PETROLEUM HYDROCARBON | UG/L | 24 |
| BBMS-SG-15 | BENZENE | UG/L | 1.5 |

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: BETX AND JP-4 C6-C14 RANGE (MOBILE LAB)

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| | TOLUENE | UG/L | 1.5 |
| | ETHYLBENZENE | UG/L | 3.3 |
| | XYLENES (TOTAL) | UG/L | 2.8 |
| | TOTAL PETROLEUM HYDROCARBON | UG/L | 160 |
| BBMS-SG-16 | BENZENE | UG/L | 0.09 |
| | TOLUENE | UG/L | 0.12 |
| | ETHYLBENZENE | UG/L | 0.16 |
| | XYLENES (TOTAL) | UG/L | 0.08 |
| BBMS-SG-17 | TOLUENE | UG/L | 0.08 |
| | XYLENES (TOTAL) | UG/L | 0.05 |
| BBMS-SG-18 | TOLUENE | UG/L | 0.13 |
| | XYLENES (TOTAL) | UG/L | 0.18 |
| | TOTAL PETROLEUM HYDROCARBON | UG/L | 23 |
| BBMS-SG-19 | BENZENE | UG/L | 0.05 |
| | TOLUENE | UG/L | 0.11 |
| | XYLENES (TOTAL) | UG/L | 0.08 |
| BBMS-SG-21 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.10 |
| BBMS-SG-22 | TOLUENE | UG/L | 0.05 |
| | XYLENES (TOTAL) | UG/L | 0.06 |
| BBMS-SG-23 | BENZENE | UG/L | 0.11 |
| | TOLUENE | UG/L | 0.14 |
| | XYLENES (TOTAL) | UG/L | 0.08 |
| BBMS-SG-24 | TOLUENE | UG/L | 0.07 |
| BBMS-SG-26 | BENZENE | UG/L | 0.06 |
| | TOLUENE | UG/L | 0.07 |
| BBMS-SG-27 | BENZENE | UG/L | 0.07 |
| | TOLUENE | UG/L | 0.07 |
| BBMS-SG-30 | BENZENE | UG/L | 0.08 |
| | TOLUENE | UG/L | 0.07 |
| BBMS-SG-31 | BENZENE | UG/L | 0.56 |
| | TOLUENE | UG/L | 0.38 |
| | ETHYLBENZENE | UG/L | 0.09 |
| | XYLENES (TOTAL) | UG/L | 0.23 |
| BBMS-SG-32 | TOLUENE | UG/L | 0.07 |
| | XYLENES (TOTAL) | UG/L | 0.05 |
| T38-PZ1-5-7 | XYLENES (TOTAL) | UG/KG | 0.93 |
| | TOTAL PETROLEUM HYDROCARBON | UG/KG | 570 |
| T38-PZ2-4-6 | TOTAL PETROLEUM HYDROCARBON | UG/KG | 200 |
| T38-PZ3-4-6 | TOLUENE | UG/KG | 0.79 |
| | ETHYLBENZENE | UG/KG | 4.4 |
| | XYLENES (TOTAL) | UG/KG | 6.3 |
| | TOTAL PETROLEUM HYDROCARBON | UG/KG | 1100 |
| T38-PZ4-4-6 | BENZENE | UG/KG | 1.1 |
| | TOLUENE | UG/KG | 0.39 |

Analytical Technologies, Inc., Phoenix, Arizona
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 503730 | ATI ML I. 3

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE: 03-22-95 PAGE 1 OF 2

COMPANY: GROUNDWATER TECHNOLOGY
ADDRESS: 2501 YALE BLVD SE
ALBUQUERQUE, NM 87106
PHONE: (505)-242-3113
FAX: (505)-242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) JP-4 8015M | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BBMS-SG-01 | 3/22/95 | 0900 | AIR | -69 | CWS | 0945 | PL | | X | | | | | | | | | | |
| BBMS-SG-02 | 3/22/95 | 0907 | AIR | -70 | CWS | 0945 | PL | | X | | | | | | | | | | |
| BBMS-SG-03 | 3/22/95 | 0955 | AIR | -71 | CWS | 1100 | PL | | X | | | | | | | | | | |
| BBMS-SG-04 | 3/22/95 | 1005 | AIR | -72 | CWS | 1100 | PL | | X | | | | | | | | | | |
| BBMS-SG-05 | 3/22/95 | 1010 | AIR | -73 | CWS | 1100 | PL | | X | | | | | | | | | | |
| BBMS-SG-06 | 3/22/95 | 1034 | AIR | -74 | CWS | 1100 | PL | | X | | | | | | | | | | |
| BBMS-SG-07 | 3/22/95 | 1042 | AIR | -75 | CWS | 1100 | PL | | X | | | | | | | | | | |
| BBMS-SG-08 | 3/22/95 | 1110 | | 76 | CWS | 1235 | PL | | X | | | | | | | | | | |
| BBMS-SG-09 | 3/22/95 | 1120 | | 77 | CWS | 1235 | PL | | X | | | | | | | | | | |
| BBMS-SG-10 | 3/22/95 | 1128 | | 78 | CWS | 1235 | PL | | X | | | | | | | | | | |
| BBMS-SG-11 | 3/22/95 | 1140 | | 79 | CWS | 1235 | PL | | X | | | | | | | | | | |
| BBMS-SG-12 | 3/22/95 | 1150 | — | 80 | CWS | 1235 | PL | | X | | | | | | | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | Charles W. Schick | |
| PL | Paul Leschensky | Paul Leschensky |

Mobile Lab Time:
Date: 03-22-95
Start Time: 7:30
Stop Time: 12:00
Client Signoff:

PROJECT INFORMATION
PROJ. NO.
PROJ. NAME:

SAMPLE RECEIPT

| | |
|---|---|
| NO CONTAINERS | |
| CUSTODY SEALS | Y / N / NA |
| RECEIVED INTACT | |
| RECEIVED COLD | |

AnalyticalTechnologies,Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 5637301 | ATI ML I.D.

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

COMPANY:
ADDRESS:
PHONE:
FAX:
BILL TO:
COMPANY:
ADDRESS:

DATE: 03-22-95 PAGE 2 OF 2

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) JP-4 8015M | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BBMS-SG-13 | 3/22/95 | 1201 | AIR | 81 | CWS | 1235 | PL | | X | | | | | | | | | | |
| BBMS-SG-14 | 3/22/95 | 1335 | " | 82 | CWS | 1413 | PL | | X | | | | | | | | | | |
| BBMS-SG-15 | 3/22/95 | 1345 | " | 83 | CWS | ↓ | PL | | X | | | | | | | | | | |
| BBMS-SG-16 | 3/22/95 | 1352 | " | 84 | CWS | ↓ | PL | | X | | | | | | | | | | |
| BBMS-SG-17 | 3/22/95 | 1426 | AIR | 85 | CWS | 1517 | PL | | X | | | | | | | | | | |
| BBMS-SG-18 | 3/22/95 | 1437 | ↓ | 86 | CWS | ↓ | PL | | X | | | | | | | | | | |
| BBMS-SG-19 | 3/22/95 | 1445 | ↓ | 87 | CWS | ↓ | PL | | X | | | | | | | | | | |
| BBMS-SG-20 | 3/22/95 | 1455 | — | 88 | CWS | ↓ | PL | | X | | | | | | | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | Charles W. Schick | [signature] |
| PL | Paul Leschensky | Paul Leschensky |

Mobile Lab Time:
Date: 03-21-95
Start Time: 11:30
Stop Time: 19:00
Client Signoff:

PROJECT INFORMATION
PROJ. NO.
PROJ. NAME:

SAMPLE RECEIPT

| | |
|---|---|
| NO CONTAINERS | |
| CUSTODY SEALS | Y / N / NA |
| RECEIVED INTACT | |
| RECEIVED COLD | |

ATI Labs: Sa (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland ( -0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC - ORIGINATOR

AnalyticalTechnologies, Inc., Phoenix, Arizona
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 503730
ATI ML I.D. 3

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE: 03/23/95 PAGE 1 OF 2

COMPANY: GROUNDWATER TECHNOLOGY
ADDRESS: 2501 YALE BLVD SE
ALBUQUERQUE NM 87106
PHONE: (505) 242-3113
FAX: (505) 242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) JP-4 8015M | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EQUIP BLK. | 3/23/95 | 0820 | AIR | -89 | CWS | 0905 | PL | | X | | | | | | | | | | |
| BBMS-SG-21 | 3/23/95 | 0831 | | -90 | CWS | 0905 | PL | | X | | | | | | | | | | |
| BBMS-SG-22 | 3/23/95 | 0842 | | -91 | CWS | 0905 | PL | | X | | | | | | | | | | |
| BBMS-SG-23 | 3/23/95 | 0851 | | -92 | CWS | 0905 | PL | | X | | | | | | | | | | |
| BBMS-SG-24 | 3/23/95 | 0859 | | -93 | CWS | 1010 | PL | | X | | | | | | | | | | |
| BBMS-SG-25 | 3/23/95 | 0825 | | -94 | CWS | 1010 | PL | | X | | | | | | | | | | |
| BBMS-SG-26 | 3/23/95 | 0932 | | -95 | CWS | 1010 | PL | | X | | | | | | | | | | |
| BBMS-SG-27 | 3/23/95 | 0942 | | -96 | CWS | 1010 | PL | | X | | | | | | | | | | |
| BBMS-SG-28 | 3/23/95 | 0954 | | -97 | CWS | 1010 | PL | | X | | | | | | | | | | |
| BBMS-SG-29 | 3/23/95 | 1022 | | -98 | CWS | 1115 | PL | | X | | | | | | | | | | |
| BBMS-SG-30 | 3/23/95 | 1027 | | -99 | CWS | 1115 | PL | | X | | | | | | | | | | |
| BBMS-SG-31 | 3/23/95 | 1035 | | -100 | CWS | 1115 | PL | | X | | | | | | | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | Charles W. Schick | [signature] |
| PL | PAUL LESCHINSKY | [signature] |

Mobile Lab Time:
Date: 03/23/95
Start Time: 8:00
Stop Time: 4:30
Client Signoff: [signature]

PROJECT INFORMATION
PROJ. NO.
PROJ. NAME:

SAMPLE RECEIPT

| | |
|---|---|
| NO CONTAINERS | |
| CUSTODY SEALS | Y / N / NA |
| RECEIVED INTACT | |
| RECEIVED COLD | |

# APPENDIX B

## Soil Boring Logs

# APPENDIX B-1

## Site SS-06

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-01 |
| SHEET 1 OF 1 SHEETS | |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| 3. PROJECT | PA/SI DO#1 WADs#3,5,9 |
| 4. LOCATION | HAFB Site SS-06 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | SB-1 south of POL Yard |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/24/95 |
| 11. DATE COMPLETED | 03/24/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 9 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 10 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 8-10' @ SS-06 | Y | N | NA |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 4-6' & 6-8' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.:** Light brown **SAND** (SM), fine grained, dry. (2.5YR, 7/2). | 0.0 | NA | | | 100% |
| -2 | 2 | **2-4 ft.:** Brown silty **SAND** (SM), dry (2.5YR, 7/2). | | | | | |
| -3 | 3 | | 10 | NA | | | 100% |
| -4 | 4 | **4-6 ft.** Brown silty **SAND** (SM), moist (2.5YR, 5/1). | | | | | |
| -5 | 5 | | 15 | NA | SS-06<br>SB-1-4-6 | | 100% |
| -6 | 6 | **6-8 ft.** Brown silty **SAND** (SM), moist (2.5YR, 5/1). Lab USCS ID=ML | | | | | |
| -7 | 7 | | 5.1 | NA | SB-06<br>SB-1-6-8 | | 100% |
| -8 | 8 | **8-10 ft.** Wet, white silty **SAND** (SM) (2.5YR, 7/1). | | | | | |
| -9 | 9 | | 15 | NA | | | 100% |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 | HOLE NO.: SB-01

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-02 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 OF 1 SHEETS | |
| 3. PROJECT | DACW-45-94D-003 PA/SI |
| 4. LOCATION | HAFB Site SS-06 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | SB-1 south of POL Yard |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/24/95 |
| 11. DATE COMPLETED | 03/24/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 9 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 10 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 6-8' | Y | N | NA |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 0-2' & 6-8' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.**: Light brown, silty **SAND** (SM) with gypsum, dry (2.5YR, 7/2). | 1.8 | NA | SS-06<br>SB-2-0-2 | | 100% |
| -2 | 2 | **2-4 ft.** Red brown silty **CLAY** (CL) with gypsum, moist (2.5YR, 4/3). | | | | | |
| -3 | 3 | | 2.0 | NA | | | 80% |
| -4 | 4 | **4-6 ft.** Red brown silty **CLAY** (CL) with gypsum, moist (2.5YR, 4/3). Lab USCS ID=ML | | | | | |
| -5 | 5 | | 9.0 | NA | | | 100% |
| -6 | 6 | **6-8 ft.** Light brown, sily **SAND** (SM), loose, moist (2.5YR, 7/2). | | | | | |
| -7 | 7 | | 11.0 | NA | SB-06<br>SB-2-6-8 | | 100% |
| -8 | 8 | **8-10 ft.** Wet, light brown, silty **SAND** (SM), loose, moist, (2.5YR, 7/2). | | | | | |
| -9 | 9 | | | NA | | | 100% |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 DACW-45-94D-003 PA/SI

HOLE NO.: SB-02

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-03 |
| SHEET 1 OF 1 SHEETS | |

| | |
|---|---|
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| 3. PROJECT | PA/SI DO#1 WADs#3,5,9 |
| 4. LOCATION | HAFB Site SS-06 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rid |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | SS-06-SB-3 South of POL Yard |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/24/95 |
| 11. DATE COMPLETED | 03/24/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 9.5 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 10 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 8-10' | Y | N | NA |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 8-10' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-1 ft.** Black-gray, GRAVEL (GP), coarse, dry, no odor. **1-2 ft.** Red brown silty SAND (SM), dry. | 0.6 | NA | | | 100% |
| -2 | 2 | | | | | | |
| -3 | 3 | **2-4 ft.** Red brown silty SAND (SM), moist (2.5YR, 4/3). | 14.2 | NA | SB-06 SB-3-2-4 | | 100% |
| -4 | 4 | | | | | | |
| -5 | 5 | **4-6 ft.** Red brown silty SAND (SM), moist (2.5YR, 4/3). | 11.2 | NA | | | 100% |
| -6 | 6 | | | | | | |
| -7 | 7 | **6-8 ft.** Very light brown, silty SAND (SM) moist (2.5YR, 7/2). | 6.9 | NA | | | 100% |
| -8 | 8 | | | | | | |
| -9 | 9 | **8-10 ft.** Very light brown, silty SAND (SM) wet (2.5YR, 7/2). Lab USCS ID=SM/SC | 47.2 | NA | SB-06 SB-3-8-10 | | 100% |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 HOLE NO.: SB-03

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-04 |
| SHEET 1 OF 1 SHEETS | |

| | |
|---|---|
| 1. COMPANY NAME: Groundwater Technology | 2. DRILLING SUBCONTRACTOR: Geo Environmental |
| 3. PROJECT: PA/SI DO#1 WADs#3,5,9 | 4. LOCATION: HAFB Site SS-06 |
| 5. NAME OF DRILLER: J. Steerman | 6. MANUFACTURERS DESIGNATION OF DRILL: Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Split-spoon, 1.5 inch diameter | 8. HOLE LOCATION: South of POL Yard |
| | 9. SURFACE ELEVATION: |
| | 10. DATE STARTED: 03/24/95 / 11. DATE COMPLETED: 03/24/95 |
| 12. OVERBURDEN THICKNESS: ft. | 15. DEPTH GROUNDWATER ENCOUNTERED: 9.5 ft. |
| 13. DEPTH DRILLED INTO ROCK: ft. | 6. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: |
| 14. TOTAL DEPTH OF HOLE: 10 ft. | 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 8-10' | Y | N | NA |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 4-6' & 8-10' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Red brown silty SAND (SM), dry (2.5YR, 4/3). | 0.0 | NA | | | 100% |
| -2 | 2 | **2-4 ft.** Red brown silty SAND (SM), damp (2.5YR, 4/3). | 128 | NA | | | 100% |
| -3 | 3 | | | | | | |
| -4 | 4 | **4-6 ft.** Red brown silty SAND (SM), damp with gypsum crystals, (2.5YR, 4/3). Lab USCS ID=SC | 120 | NA | SB-06 SB-4-4-6 | | 80% |
| -5 | 5 | | | | | | |
| -6 | 6 | **6-8 ft.** Red brown silty SAND (SM), damp with gypsum crystals. | 30.3 | NA | | | 80% |
| -7 | 7 | | | | | | |
| -8 | 8 | **8-10 ft.** White, ligth brown silty SAND (SM), no odor, wet. (2.5YR, 7/2). | 12.1 | NA | SB-06 SB-4-8-10 | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 | HOLE NO.: SB-04

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-05 |
| SHEET 1 OF 2 SHEETS | |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| 3. PROJECT | PA/SI DO#1 WADs#3,5,9 |
| 4. LOCATION | HAFB SS-06 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | South of POL Yard |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/24/95 |
| 11. DATE COMPLETED | 03/24/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 13 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 14 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 4-6' | Y | N | NA |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 4-6' & 10-12' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** White silty SAND (SM) gypsum crystals, no odor, dry (2.5YR, 7/1). | 372 | NA | | | 50% |
| -2 | 2 | **2-4 ft.** Red brown silty SAND (SM) with gypsum crystals, dry (2.5YR, 4/3). | 80 | NA | | | 100% |
| -3 | 3 | | | | | | |
| -4 | 4 | **4-6 ft.** Red brown silty SAND (SM) with gypsum crystals, dry (2.5YR, 4/3). Lab USCS ID=CL | 459 | NA | SB-06 SB-5-4-6 | | 100% |
| -5 | 5 | | | | | | |
| -6 | 6 | **6-8 ft.** Light brown silty SAND (SM), damp (2.5YR, 7/2). | 21.9 | NA | | | 75% |
| -7 | 7 | | | | | | |
| -8 | 8 | **8-10 ft.** Red brown silty CLAY (CL) with sand, moist, stiff (2.5YR) | 72 | NA | | | 100% |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 | HOLE NO.: SB-05

# HTW DRILLING LOG

HOLE NO. SB-05

1. COMPANY NAME: Groundwater Technology

2. INSPECTOR: [illegible]

SHEET 2 OF 2 SHEETS

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -11 | 11 | 10-12 ft. Red brown silty CLAY (CL) with sand, moist, stiff (2.5YR, 4/3). | 104 | NA | SB-06 SB-5-10-12 | | 100% |
| -12 | 12 | 12-14 ft. White, light brown silty SAND (SM), wet @ 13', (2.5YR, 7/2). | | | | | |
| -13 | 13 | | 23.1 | NA | | | 50% |
| -14 | 14 | BOH @ 14'. | | | | | |
| -15 | 15 | | | | | | |
| -16 | 16 | | | | | | |
| -17 | 17 | | | | | | |
| -18 | 18 | | | | | | |
| -19 | 19 | | | | | | |
| -20 | 20 | | | | | | |
| -21 | 21 | | | | | | |
| -22 | 22 | | | | | | |
| -23 | 23 | | | | | | |
| -24 | 24 | | | | | | |
| -25 | 25 | | | | | | |
| -26 | 26 | | | | | | |
| -27 | 27 | | | | | | |
| -28 | 28 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9

HOLE NO.: SB-05

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-06 |
| SHEET 1 OF 1 SHEETS | |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| 3. PROJECT | PA/SI DO#1 WADs#3,5,9 |
| 4. LOCATION | HAFB Site SS-06 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | South of POL Yard |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/25/95 |
| 11. DATE COMPLETED | 03/25/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 10 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 8-10' | | Y | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 4-6' & 8-10' | Y | Y | USACE MRD | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | 0-2 ft. White silty SAND (SM), loose, dry (10YR, 8/2). | 7.2 | NA | | | 80%<br>.12 |
| -2 | 2 | 2-4 ft. Fine white silty SAND (SM), loose, dry (10YR, 8/2). | | | | | |
| -3 | 3 | | 9.0 | NA | | | 100%<br>.14 |
| -4 | 4 | 4-6 ft. Fine white silty SAND (SM), loose, moist (10YR, 7/4). | | | | | |
| -5 | 5 | | 152 | NA | | | 100% |
| -6 | 6 | 6-8 ft. Fine white silty SAND (SM), loose, moist (10YR, 7/4). | | | | | |
| -7 | 7 | | 39 | NA | | | 80% |
| -8 | 8 | 8-10 ft. Stiff, moist, silty CLAY (CL), red. (5YR, 4/6). Lab USCS ID=ML. | | | | | |
| -9 | 9 | | 15.1 | NA | | | 100% |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9

HOLE NO.: SB-06

# APPENDIX B-2

## Site AOC-RR

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-01 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 | OF 2 SHEETS |
| 3. PROJECT | PA/SI DO#1 WADs# 3,5,9 |
| 4. LOCATION | HAFB Site AOC-RR |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | AOC-RR |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/25/95 |
| 11. DATE COMPLETED | 03/25/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 12 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 12 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 10-12' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 6-8' & 10-12' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Red brown silty SAND (SM), dry, loose (2.5YR, 7/2). | 0 | NA | | | 100% |
| -2 | 2 | **2-4 ft.** Red brown silty SAND (SM), dry, loose, moist (2.5YR, 7/2). | 7.0 | NA | | | 100% |
| -3 | 3 | | | | | | |
| -4 | 4 | **4-6 ft.** Red brown silty SAND (SM), dry, loose, moist (2.5YR, 7/2). | 11.9 | NA | | | 100% |
| -5 | 5 | | | | | | |
| -6 | 6 | **6-8 ft.** Red-brown silty CLAY (CL), wet (2.5YR, 4/3). Lab USCS ID=ML | 14.9 | NA | AOC-RR SB-1-6-8 | | 100% |
| -7 | 7 | | | | | | |
| -8 | 8 | **8-10 ft.** Red-brown silty CLAY (CL), wet (2.5YR, 4/3). | 5.8 | NA | | | 100% |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9 HOLE NO.: SB-01

# HTW DRILLING LOG

HOLE NO. SB-01

1. COMPANY NAME: Groundwater Technology

2. INSPECTOR: [illegible]

SHEET 2 OF 2 SHEETS

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| | | 10-12 ft. White SAND (SP), wet, loose (2.5YR, 7/2). | | | | | |
| -11 | 11 | | 33 | NA | AOC-RR SB-1-10-12 | | |
| -12 | 12 | BOH @ 12 feet. | | | | | |
| -13 | 13 | | | | | | |
| -14 | 14 | | | | | | |
| -15 | 15 | | | | | | |
| -16 | 16 | | | | | | |
| -17 | 17 | | | | | | |
| -18 | 18 | | | | | | |
| -19 | 19 | | | | | | |
| -20 | 20 | | | | | | |
| -21 | 21 | | | | | | |
| -22 | 22 | | | | | | |
| -23 | 23 | | | | | | |
| -24 | 24 | | | | | | |
| -25 | 25 | | | | | | |
| -26 | 26 | | | | | | |
| -27 | 27 | | | | | | |
| -28 | 28 | | | | | | |

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-02 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 OF 1 SHEETS | |
| 3. PROJECT | PA/SI DO#1 WADs# 3,5,9 |
| 4. LOCATION | HAFB AOC-RR |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | SW of tank location |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/25/95 |
| 11. DATE COMPLETED | 03/25/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 10 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 8-10' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 8-10' | | | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | 0-2 ft. Light brown sandy SILT (ML), loose, dry (2.5YR, 8/1). | 0.0 | NA | | | 75% |
| -2 | 2 | 2-4 ft. Same as above, moist. | | | | | |
| -3 | 3 | | 76.2 | NA | AOC-RR SB-2-2-4 | | 100% |
| -4 | 4 | 4-6 ft. Red brown silty SAND (SM), loose, moist (2.5YR, 6/4). | | | | | |
| -5 | 5 | | 30.2 | NA | | | 100% |
| -6 | 6 | 6-8 ft. Same as above, moist. | | | | | |
| -7 | 7 | | 44.7 | NA | | | 100% |
| -8 | 8 | 8-10 ft. Light brown silty SAND (SM), wet, loose (2.5YR, 8/1). Lab USCS ID=SM/SC. | | | | | |
| -9 | 9 | | 6.0 | NA | AOC-RR SB-2-8-10 | | 100% |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9

HOLE NO.: SB-02

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-03 |
| SHEET 1 OF 1 SHEETS | |

| | |
|---|---|
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| 3. PROJECT | PA/SI DO#1 WADs# 3,5,9 |
| 4. LOCATION | HAFB AOC-RR |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | West of building 80 |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/25/95 |
| 11. DATE COMPLETED | 03/25/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 10 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 4-6' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 4-6' & 8-10' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Red brown silty **SAND** (SM), dry (2.5YR, 5/4). | 5.8 | NA | | | 100% |
| -2 | 2 | **2-4 ft.** Red brown silty **SAND** (SM), moist (2.5YR, 5/4). | 16 | NA | | | 100% |
| -3 | 3 | | | | | | |
| -4 | 4 | **4-6 ft.** Red brown silty **SAND** (SM), moist (2.5YR, 5/4). Lab USCS ID=ML. | 32 | NA | AOC-RR SB-3-4-6 | | 100% |
| -5 | 5 | | | | | | |
| -6 | 6 | **6-8 ft.** Red brown silty **SAND** (SM), moist (2.5YR, 5/4). | 12.0 | NA | | | 50% |
| -7 | 7 | | | | | | |
| -8 | 8 | **8-10 ft.** Red brown sitly **SAND** (SM), wet (2.5YR, 6/4). | 16.3 | NA | AOC-RR SB-3-8-10 | | 100% |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9

HOLE NO.: SB-03

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-04 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 OF 1 SHEETS | |
| 3. PROJECT | PA/SI DO#1 WADs# 3,5,9 |
| 4. LOCATION | HAFB AOC-RR |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | South of building doorway |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/25/95 |
| 11. DATE COMPLETED | 03/25/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 9.75 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 10 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 2-4' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 6-8' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | [signature] |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | 0-2 ft. Light brown silty SAND (SM), loose, dry (2.5YR, 8/1). | 9.4 | NA | | | 100% |
| -2 | 2 | 2-4 ft. Light brown silty SAND (SM), loose, moist (2.5YR, 8/1). Lab USCS ID=SM/SC. | 17 | NA | AOC-RR SB-4-2-4 | | 100% |
| -3 | 3 | | | | | | |
| -4 | 4 | 4-6 ft. Moist, brown silty CLAY (CL), stiff, moist, (2.5YR, 5/6). | 35 | NA | | | 100% |
| -5 | 5 | | | | | | |
| -6 | 6 | 6-8 ft. Light brown silty SAND (SM), loose, moist, (2.5YR, 8/1). | 85 | NA | AOC-RR SB-4-6-8 | | 80% |
| -7 | 7 | | | | | | |
| -8 | 8 | 8-10 ft. Same as above, wet. | 70 | NA | | | 100% |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9 HOLE NO.: SB-04

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-05 |
| SHEET 1 OF 1 SHEETS | |

| | |
|---|---|
| 1. COMPANY NAME: Groundwater Technology | 2. DRILLING SUBCONTRACTOR: Geo Environmental |
| 3. PROJECT: PA/SI DO#1 WADs# 3,5,9 | 4. LOCATION: HAFB AOC-RR |
| 5. NAME OF DRILLER: J. Steerman | 6. MANUFACTURERS DESIGNATION OF DRILL: Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Split-spoon, 1.5 inch diameter | 8. HOLE LOCATION |
| | 9. SURFACE ELEVATION |
| | 10. DATE STARTED: 03/27/95 / 11. DATE COMPLETED: 03/27/95 |
| 12. OVERBURDEN THICKNESS: ft. | 15. DEPTH GROUNDWATER ENCOUNTERED: 9 ft. |
| 13. DEPTH DRILLED INTO ROCK: ft. | 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED |
| 14. TOTAL DEPTH OF HOLE: 10 ft. | 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 2-4' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 6-8' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Light brown sandy SILT (ML), dry, loose (2.5YR, 8/2). | 5.1 | NA | | | 100% |
| -2 | 2 | **2-4 ft.** Light brown silty SAND (SM), damp, loose (2.5YR, 8/2). | 5.7 | NA | AOC-RR SB-5-2-4 | | 100% |
| -3 | 3 | | | | | | |
| -4 | 4 | **4-6 ft.** Red brown silty SAND (SM), loose, moist (5YR, 7/4). | 4.8 | NA | | | 50% |
| -5 | 5 | | | | | | |
| -6 | 6 | **6-8 ft.** Red brown silty SAND (SM) with clay, moist, stiff (5YR, 7/4). Lab USCS ID=ML. | 12.1 | NA | AOC-RR SB-5-6-8 | | 100% |
| -7 | 7 | | | | | | |
| -8 | 8 | **8-10 ft.** Same as above, stiff - refusal, poor recovery, (5YR). | 5.9 | NA | | | 25% |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9 | HOLE NO.: SB-05

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-06 |
| SHEET 1 OF 1 SHEETS | |

| | |
|---|---|
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| 3. PROJECT | PA/SI DO#1 WADs 3,5,9 |
| 4. LOCATION | HAFB AOC-RR |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | AOC-RR |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/27/95 |
| 11. DATE COMPLETED | 03/27/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 8 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 10 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 6-8' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 6-8' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | 0-2 ft. Light brown silty SAND (SM), dry (2.5YR, 8/2). Poor recovery. | 32.6 | NA | | | 25% |
| -2 | 2 | 2-4 ft.: Red brown silty SAND (SM), moist, stiff, dry (5YR, 7/4). | | | | | |
| -3 | 3 | | 23.5 | NA | AOC-RR SB-6-2-4 | | 75% |
| -4 | 4 | 4-6 ft.: Red brown silty SAND (SM), moist, stiff, dry (5YR, 7/4). | | | | | |
| -5 | 5 | | 24.5 | NA | | | 75% |
| -6 | 6 | 6-8 ft.: Wet, light brown SAND (SP), loose (2.5YR, 8/2). Lab USCS ID=ML. | | | | | |
| -7 | 7 | | 5.9 | NA | AOC-RR SB-6-6-8 | | 75% |
| -8 | 8 | 8-10 ft.: Stiff brown silty CLAY and SAND, (CL/SM), wet. Poor recovery. | | | | | |
| -9 | 9 | | | NA | | | 25% |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs 3,5,9

HOLE NO.: SB-06

# APPENDIX B-3

## Site AOC-BBMS

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-01 |
| SHEET 1 OF 1 SHEETS | |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| 3. PROJECT | PA/SI DO#1 WADs 3,5,9 |
| 4. LOCATION | HAFB AOC-BBMS |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | ACOBBMS |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/29/95 |
| 11. DATE COMPLETED | 03/29/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 4 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 6 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 0-2' | | | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 0-2' & 4-6' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Light brown, silty fine to coarse **SAND** (SM), dry to moist, no odor/stain. (2.5YR, 4/4). Lab USCS ID=ML. | 0 | NA | | | 75% |
| -2 | 2 | | | | | | |
| -3 | 3 | **2-4 ft.** Tan to gray clayey, silty fine **SAND** (SM), wet, moderate odor, gray staining at 3.5 to 4.0 feet (2.5YR, 6/3). | 0 | NA | | | 75% |
| -4 | 4 | | | | | | |
| -5 | 5 | **4-6 ft.** Gray, clayey, silty, fine **SAND** (SM), wet, strong odor and stained. (2 5/10BG). | 142 | NA | | | 75% |
| -6 | 6 | BOH @ 6 feet. | | | | | |
| -7 | 7 | | | | | | |
| -8 | 8 | | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs 3,5,9 HOLE NO.: SB-01

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-02 |
| SHEET 1 OF 1 SHEETS | |

| | |
|---|---|
| 1. COMPANY NAME: Groundwater Technology | 2. DRILLING SUBCONTRACTOR: Geo Environmental |
| 3. PROJECT: PA/SI DO#1 WADs# 3,5,9 | 4. LOCATION: HAFB AOC-BBMS |
| 5. NAME OF DRILLER: J. Steerman | 6. MANUFACTURERS DESIGNATION OF DRILL: Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Split-spoon, 1.5 inch diameter | 8. HOLE LOCATION: AOCBBMS |
| | 9. SURFACE ELEVATION: |
| | 10. DATE STARTED: 03/29/95 / 11. DATE COMPLETED: 03/29/95 |
| 12. OVERBURDEN THICKNESS: ft. | 15. DEPTH GROUNDWATER ENCOUNTERED: 3 ft. |
| 13. DEPTH DRILLED INTO ROCK: ft. | 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: |
| 14. TOTAL DEPTH OF HOLE: 6 ft. | 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 4-6' | | | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 4-6' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Light brown, fine to medium grained **SAND** (SM), dry to moist, no odor, staining. (2.5YR, 7/3). | 0 | NA | | | 75% |
| -2 | 2 | **2-4 ft.** Same as above, no odor, wet (2.5YR, 7/3). | | | | | |
| -3 | 3 | | 0 | NA | AOC-BBMS SB-2-2-4 | | 75% |
| -4 | 4 | **4-6 ft.** Same as above, no odor, wet. Lab USCS ID=SM. | | | | | |
| -5 | 5 | | 20 | NA | AOC-BBMS SB-2-4-6 | | 85% |
| -6 | 6 | BOH @ 6 feet | | | | | |
| -7 | 7 | | | | | | |
| -8 | 8 | | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9 | HOLE NO.: SB-02

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-03 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 | OF 1 SHEETS |
| 3. PROJECT | PA/SI DO#1 WADs# 3,5,9 |
| 4. LOCATION | HAFB AOC-BBMS |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | AOCBBMS |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/29/95 |
| 11. DATE COMPLETED | 03/29/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 4 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 8 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 0-2' | | | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 0-2' & 4-6' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | [illegible] |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Light brown, tan silty fine SAND (SM), no odor or staining (2.5YR, 5/3). Lab USCS ID=ML. | 2 | NA | AOC-BBMS SB-3-0-2 | | 75% |
| -2 | 2 | **2-4 ft.** Light brown, tan clayey, silty, fine SAND (SM), no odor or staining, moist to wet (2.5YR, 6/3). | 0 | NA | | | 75% |
| -3 | 3 | | | | | | |
| -4 | 4 | **4-6 ft.** Light brown, tan clayey silty fine SAND (SM), no odor, wet (2.5YR, 6/3). | 0 | NA | AOC-BBMS SB-3-4-6 | | 80% |
| -5 | 5 | | | | | | |
| -6 | 6 | **6-8 ft.** Light gray, silty fine SAND (SM), no odor, wet (2.5YR, 5/1). | 0 | NA | | | 80% |
| -7 | 7 | | | | | | |
| -8 | 8 | BOH @ 8 feet | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9 HOLE NO.: SB-03

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-04 |
| SHEET 1 OF 1 SHEETS | |

| | |
|---|---|
| 1. COMPANY NAME: Groundwater Technology | 2. DRILLING SUBCONTRACTOR: Geo Environmental |
| 3. PROJECT: PA/SI DO#1 WADs# 3,5,9 | 4. LOCATION: HAFB AOC-BBMS |
| 5. NAME OF DRILLER: J. Steerman | 6. MANUFACTURERS DESIGNATION OF DRILL: Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Split-spoon, 1.5 inch diameter | 8. HOLE LOCATION: ACOBBMS |
| | 9. SURFACE ELEVATION: |
| | 10. DATE STARTED: 03/29/95 / 11. DATE COMPLETED: 03/29/95 |
| 12. OVERBURDEN THICKNESS: ft. | 15. DEPTH GROUNDWATER ENCOUNTERED: 3 ft. |
| 13. DEPTH DRILLED INTO ROCK: ft. | 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: |
| 14. TOTAL DEPTH OF HOLE: 6 ft. | 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 0-2' | | | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 0-2' & 2-4' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | [signature] |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Light brown silty fine **SAND** (SM), no odor, moist to wet (2.5YR, 5/2). | 0 | NA | AOC-BBMS SB-4-0-2 | | 75% |
| -2 | 2 | **2-4 ft.** Light brown silty fine **SAND** (SM), no odor, wet (2.5YR, 5/2). Lab USCS ID=SM. | 0 | NA | AAOC-BBMS SB-4-2-4 | | 75% |
| -3 | 3 | | | | | | |
| -4 | 4 | **4-6 ft.** Same as above, no odor (SM), wet. | 0 | NA | | | 80% |
| -5 | 5 | | | | | | |
| -6 | 6 | BOH @ 6 feet | | | | | |
| -7 | 7 | | | | | | |
| -8 | 8 | | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9 HOLE NO.: SB-04

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-05 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 OF 1 SHEETS | |
| 3. PROJECT | PA/SI DO#1 WADs# 3,5,9 |
| 4. LOCATION | HAFB AOC-BBMS |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/30/95 |
| 11. DATE COMPLETED | 03/30/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 4 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 6 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 2-4' | | | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 0-2' & 2-4' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | [illegible] |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Light brown silty SAND (SM), no odor, moist (2.5YR, 5/4). | 0 | NA | AOC-BBMS SB-5-0-2 | | 75% |
| -2 | 2 | **2-4 ft.** Light brown silty SAND (SM), no odor, wet (2.5YR, 5/4). Lab USCS ID=SM. | | | | | |
| -3 | 3 | | 38 | NA | AAOC-BBMS SB-5-2-4 | | 80% |
| -4 | 4 | **4-6 ft.** Light brown silty SAND (SM), no odor, wet (2.5YR, 5/4). | | | | | |
| -5 | 5 | | 21 | NA | | | 85% |
| -6 | 6 | BOH @ 6 feet | | | | | |
| -7 | 7 | | | | | | |
| -8 | 8 | | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9 HOLE NO.: SB-05

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-06 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 | OF 1 SHEETS |
| 3. PROJECT | PA/SI DO#1 WADs# 3,5,9 |
| 4. LOCATION | HAFB AOC-BBMS |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/30/95 |
| 11. DATE COMPLETED | 03/30/95 |
| 12. OVERBURDEN THICKNESS | ft. |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 2 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 6 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 2-4' | | | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 0-2' & 2-4' | Y | Y | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-2 ft.** Light brown silty fine SAND (SM), no odor, wet at 2 feet. (2.5YR, 5/4). | 9 | NA | AOC-BBMS SB-6-0-2 | | 75% |
| -2 | 2 | **2-4 ft.** Light brown silty fine SAND (SM), no odor, wet (2.5YR, 5/4). Lab USCS ID=SC. | 32 | NA | AAOC-BBMS SB-6-2-4 | | 75% |
| -3 | 3 | | | | | | |
| -4 | 4 | **4-6 ft.** Ligth brown sitly fine SAND (SM), no odor, wet (2.5YR, 5/4). | 39 | NA | | | 85% |
| -5 | 5 | | | | | | |
| -6 | 6 | BOH @ 6 feet. | | | | | |
| -7 | 7 | | | | | | |
| -8 | 8 | | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs# 3,5,9 HOLE NO.: SB-06

# APPENDIX B-4

## Site SD-15

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-01 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 OF 1 SHEETS | |
| 3. PROJECT | PA/SI DO#1 WADs#3,5,9 |
| 4. LOCATION | SW Corner of Wash Rack HAFB Site SD-15 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | SD-15 |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/27/95 |
| 11. DATE COMPLETED | 03/27/95 |
| 12. OVERBURDEN THICKNESS | NA |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 7 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 8 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 0-2' | Y | | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 0-2' & 6-8' | Y | Y | TPH | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | [illegible] |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0.5-1 ft.** Base coarse.<br>**1-2 ft.** Red brown silty **SAND** (SM), moist, loose (7.5YR, 7/2). Lab USCS ID=SM/SC. | 3500 | NA | SD15 SB-1-0-2 | | 75% |
| -2 | 2 | **2-4 ft.** Dark brown silty **SAND** (SM), loose, wet to moist (7.5YR, 3/2). | 850 | NA | | | 75% |
| -3 | 3 | | | | | | |
| -4 | 4 | **4-6 ft.** Dark brown, silty **SAND** (SM), loose, wet (7.5YR, 6/3). | 469 | NA | | | 75% |
| -5 | 5 | | | | | | |
| -6 | 6 | **6-8 ft.** Light brown loose **SAND** (SP), wet (7.5YR, 8/3) | 208 | NA | SD15 SB-1-6-8 | | 50% |
| -7 | 7 | | | | | | |
| -8 | 8 | BOH @ 8 feet. | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 HOLE NO.: SB-01

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-02 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 OF 1 SHEETS | |
| 3. PROJECT | PA/SI DO#1 WADs#3,5,9 |
| 4. LOCATION | SW Corner of Wash Rack HAFB Site SD-15 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | SD-15 |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/27/95 |
| 11. DATE COMPLETED | 03/27/95 |
| 12. OVERBURDEN THICKNESS | NA |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 5.5 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 8 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 2-4' | Y | | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 4-6' | Y | Y | TPH | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | [illegible] |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-0.5 ft.** Base coarse.<br>**0.5-2 ft.** Light brown silty SAND (SM), wet (7.5YR, 7/4). | 150 | NA | | | 75% |
| -2 | 2 | **2-4 ft.** Light brown silty SAND (SM), wet (7.5YR, 7/4). | | | | | |
| -3 | 3 | | 275 | NA | SD15 SB-2-2-4 | | 50% |
| -4 | 4 | **4-6 ft.** Light brown silty SAND (SM), wet (7.5YR, 7/4). | | | | | |
| -5 | 5 | | 450 | NA | SD15 SB-2-4-6 | | 100% |
| -6 | 6 | BOH @ 6 feet. | | | | | |
| -7 | 7 | | | | | | |
| -8 | 8 | | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 HOLE NO.: SB-02

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-03 |
| SHEET 1 OF 1 SHEETS | |

| | |
|---|---|
| 1. COMPANY NAME: Groundwater Technology | 2. DRILLING SUBCONTRACTOR: Geo Environmental |
| 3. PROJECT: PA/SI DO#1 WADs#3,5,9 | 4. LOCATION: SW Corner of Wash Rack HAFB Site SD-15 |
| 5. NAME OF DRILLER: J. Steerman | 6. MANUFACTURERS DESIGNATION OF DRILL: Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: DPT Split-spoon, 1.5 inch diameter | 8. HOLE LOCATION: SD-15 |
| | 9. SURFACE ELEVATION: |
| | 10. DATE STARTED: 03/27/95 / 11. DATE COMPLETED: 03/27/95 |
| 12. OVERBURDEN THICKNESS: NA | 15. DEPTH GROUNDWATER ENCOUNTERED: 5.5 ft. |
| 13. DEPTH DRILLED INTO ROCK: ft. | 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: |
| 14. TOTAL DEPTH OF HOLE: 6 ft. | 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 2-4' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 4-6' | Y | Y | TPH | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | [signature] |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | 0-0.5 ft. Base coarse. 0.5-2 ft. Brown, silty SAND (SM), dry, loose (7.5YR, 6/1). | 60 | NA | | | 100% |
| -2 | 2 | 2-4 ft. Brown, gray, wet, silty SAND (SM), wet to loose, strong petroleum odor (7.5YR, 5/2). | 68 | NA | SD15 SB-3-2-4 | | 75% |
| -3 | 3 | | | | | | |
| -4 | 4 | 4-6 ft. Loose, red brown SAND (SP) wet, no odor (7.5YR, 6/4). Lab USCS ID=SM. | 8 | NA | SD15 SB-3-4-6 | | 75% |
| -5 | 5 | | | | | | |
| -6 | 6 | BOH @ 6 feet. | | | | | |
| -7 | 7 | | | | | | |
| -8 | 8 | | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 HOLE NO.: SB-03

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-04 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 OF 1 SHEETS | |
| 3. PROJECT | PA/SI DO#1 WADs#3,5,9 |
| 4. LOCATION | SW Corner of Wash Rack HAFB Site SD-15 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/27/95 |
| 11. DATE COMPLETED | 03/27/95 |
| 12. OVERBURDEN THICKNESS | NA |
| 15. DEPTH GROUNDWATER ENCOUNTERED | 6 ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 8 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 2-4' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 6-8' | Y | Y | TPH | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | [signature] |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-0.5 ft.** Pavement. Poor recovery.<br>**0.5-1 ft.** Base coarse, no sample. | 145 | NA | | | 25% |
| -2 | 2 | **2-4 ft.** Red brown silty SAND (SM), with dark stained septic odor, moist (7.5YR, 6/4). Lab USCS ID=ML. | | | | | |
| -3 | 3 | | 127 | NA | SD15 SB-4-2-4 | | 75% |
| -4 | 4 | **4-6 ft.** Dark brown-black stained isilty SAND (SP), wet, septic odor (7.5YR, 4/1). | | | | | |
| -5 | 5 | | 0.0 | NA | | | 80% |
| -6 | 6 | **6-8 ft.** Dark brown-black stained silty SAND (SM) wet, septic septic odor (7.5YR, 4/1). | | | | | |
| -7 | 7 | | 43.7 | NA | SD15 SB-4-6-8 | | 80% |
| -8 | 8 | BOH @ 8 feet. | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 | HOLE NO.: SB-04

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-05 |
| SHEET 1 OF 1 SHEETS | |

| | |
|---|---|
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| 3. PROJECT | PA/SI DO#1 WADs#3,5,9 |
| 4. LOCATION | SW Corner of Wash Rack HAFB Site SD-15 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/29/95 |
| 11. DATE COMPLETED | 03/29/95 |
| 12. OVERBURDEN THICKNESS | NA |
| 15. DEPTH GROUNDWATER ENCOUNTERED | ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 6 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 4-6' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 0-2' & 4-6' | Y | N | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | [signature] |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | **0-1 ft.** Base coarse, gray white, dry.<br>**1-2 ft.** Red brown silty **SAND** (SM), damp (7.5YR, 5/4). | 114 | NA | | | 75% |
| -2 | 2 | **2-4 ft.** Red brown silty fine **SAND** (SM), moist (7.5YR, 5/4). | | | | | |
| -3 | 3 | | 70 | NA | SD15 SB-4-2-4 | | 75% |
| -4 | 4 | .b4 **4-6 ft.** Light brown-red, silty fine **SAND** (SM), moist to wet (7.5YR, 5/4). Lab USCS ID=ML. | | | | | |
| -5 | 5 | | 100 | NA | SD15 SB-4-4-6 | | 99% |
| -6 | 6 | BOH @ 6 feet. | | | | | |
| -7 | 7 | | | | | | |
| -8 | 8 | | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 HOLE NO.: SB-05

# HTW DRILLING LOG

| | |
|---|---|
| HOLE NO. | SB-06 |
| 1. COMPANY NAME | Groundwater Technology |
| 2. DRILLING SUBCONTRACTOR | Geo Environmental |
| SHEET 1 OF 1 SHEETS | |
| 3. PROJECT | PA/SI DO#1 WADs#3,5,9 |
| 4. LOCATION | SW Corner of Wash Rack HAFB Site SD-15 |
| 5. NAME OF DRILLER | J. Steerman |
| 6. MANUFACTURERS DESIGNATION OF DRILL | Scorpion Rig |
| 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT | DPT Split-spoon<br>1.5 inch diameter |
| 8. HOLE LOCATION | |
| 9. SURFACE ELEVATION | |
| 10. DATE STARTED | 03/29/95 |
| 11. DATE COMPLETED | 03/29/95 |
| 12. OVERBURDEN THICKNESS | NA |
| 15. DEPTH GROUNDWATER ENCOUNTERED | ft. |
| 13. DEPTH DRILLED INTO ROCK | ft. |
| 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 14. TOTAL DEPTH OF HOLE | 6 ft. |
| 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 18. GEOTECHNICAL SAMPLES | DISTURBED | UNDISTURBED | 19. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 4-6' | Y | N | 0 |

| 20. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHERS (SPECIFY) | OTHERS (SPECIFY) | OTHERS (SPECIFY) | 21. TOTAL CORE REC. |
|---|---|---|---|---|---|---|
| 2-4' & 4-6' | Y | N | | | | % |

| 22. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHERS (SPECIFY) | 23. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Abandoned | Bentonite | N | | Chris W Schuk |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS d | GEOTECH SAMPLE OR CORE BOX NO. e | ANALYTICAL SAMPLE NO. f | BLOW COUNTS g | REMARKS/RECOVERY h |
|---|---|---|---|---|---|---|---|
| -1 | 1 | 0-0.5 ft. Base coarse.<br>0.5-2 ft. Light brown silty fine SAND (SM), (7.5YR, 5/4). | 10 | NA | | | 75% |
| -2 | 2 | | | | | | |
| -3 | 3 | 2-4 ft. Light red-brown clayey silty fin SAND (SM), moist to wet, (2.5YR, 5/6). | 15 | NA | SD15 SB-6-2-4 | | 75% |
| -4 | 4 | | | | | | |
| -5 | 5 | 4-6 ft. Light brown clayey silty fine SAND (SM), wet (2.5YR, 5/6). | 15 | SD15 SB-6-4-6 | SD15 SB-6-4-6 | | 75% |
| -6 | 6 | BOH @ 6 feet | | | | | |
| -7 | 7 | | | | | | |
| -8 | 8 | | | | | | |
| -9 | 9 | | | | | | |
| -10 | 10 | | | | | | |

MRK Form 55-2

PROJECT: 830012201 PA/SI DO#1 WADs#3,5,9 HOLE NO.: SB-06

# APPENDIX C

## Soil Laboratory Analytical Reports

AnalyticalTechnologies,Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

SIGNATURE PAGE

Reviewed by: _____
ATI Project Manager

| | |
|---|---|
| Client: | GROUNDWATER TECHNOLOGY<br>ALBUQUERQUE, NEW MEXICO |
| Project Name: | HOLLOMAN AFB, NM |
| Project Number: | 830012201.03.050 |
| Project Location: | ALAMOGORDO, NM |
| Accession Number: | 503730 |
| Project Manager: | N/S |
| Sampled By: | CHARLES SCHICK |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

# Analysis Report

Analysis: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Department: | MOBILE LABORATORY UNITS |

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| SS-06-SB-01-6-8 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-01-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-02-0-2 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-02-6-8 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-03-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-03-8-10 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-03-8-10D | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-4-8-10 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-5-10-12 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-5-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-06-8-10 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SS-06-SB-06-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-1-6-8 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-1-10-12 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-2-8-10 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-2-2-4D | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-02-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-03-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-03-8-10 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-04-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-04-6-8 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-RR-SB05-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-RR-SB05-6-8 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB06-6-8 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOCRR-SB-06-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB01-0-2 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB01-6-8 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB02-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB02-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB03-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB03-2-4D | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB03-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB04-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB04-6-8 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB5-0-2 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB5-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB6-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| SD15-SB6-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB1-0-2 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB1-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB2-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB2-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB3-0-2 | HYDROCARBONS QUANTITATED USING | N/A | N/A |

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| AOC-BBMS-SB3-4-6 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB4-0-2 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB4-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB5-0-2 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB5-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB6-0-2 | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB6-0-2DUP | HYDROCARBONS QUANTITATED USING | N/A | N/A |
| AOC-BBMS-SB6-2-4 | HYDROCARBONS QUANTITATED USING | N/A | N/A |

Common notation for Organic reporting

ID = NOT DETECTED ABOVE REPORTING LIMIT.
I/S = NOT SUBMITTED
I/A = NOT APPLICABLE
) = DILUTED OUT
JG/L = PARTS PER BILLION.
JG/KG = PARTS PER BILLION.
1G/KG = PARTS PER MILLION.
1G/L = PARTS PER MILLION.
: = LESS THAN DETECTION LIMIT.
' = VALUES OUTSIDE OF QUALITY CONTROL LIMITS

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON AN 'AS IS' BASIS.

** COMPOUNDS FLAGGED IN METHOD ARE NOT WITHIN THE FIVE POINT CURVE. THEY ARE SEARCHED FOR QUALITATIVELY.

KS KENDALL SMITH
PL PAUL LESCHENSKY

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

# Analysis Report

Analysis: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Department: | MOBILE LABORATORY UNITS |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

# Analysis Report

Analysis: Group of Single Wetchem

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Department: | SEMI-VOLATILE FUELS |

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| SD15-SB01-0-2 | PH (9045) | UNITS | 6.20 |
| SD15-SB01-6-8 | PH (9045) | UNITS | 5.75 |
| SD15-SB02-2-4 | PH (9045) | UNITS | 6.38 |
| SD15-SB02-4-6 | PH (9045) | UNITS | 6.74 |
| SD15-SB03-2-4 | PH (9045) | UNITS | 7.29 |
| SD15-SB03-2-4D | PH (9045) | UNITS | 7.33 |
| SD15-SB03-4-6 | PH (9045) | UNITS | 7.41 |
| SD15-SB04-2-4 | PH (9045) | UNITS | 7.55 |
| SD15-SB04-6-8 | PH (9045) | UNITS | 7.53 |
| SD15-SB5-0-2 | PH (9045) | UNITS | 7.91 |
| SD15-SB5-4-6 | PH (9045) | UNITS | 7.70 |
| SD15-SB6-2-4 | PH (9045) | UNITS | 7.53 |
| SD15-SB6-4-6 | PH (9045) | UNITS | 7.58 |
| SD15-GP-1 | PH (150.1) | UNITS | 7.35 |
| SD15-GP-2 | PH (150.1) | UNITS | 7.24 |
| SD15-GP-3 | PH (150.1) | UNITS | 7.19 |
| SD15-GP-3D | PH (150.1) | UNITS | 7.08 |
| SD15-GP-4 | PH (150.1) | UNITS | 7.66 |
| SD15-GP-5 | PH (150.1) | UNITS | 7.69 |

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| SD15-GP-6 | PH (150.1) | UNITS | 7.10 |
| AOC-BBMS-GP1 | PH (150.1) | UNITS | 7.75 |
| AOC-BBMS-GP2 | PH (150.1) | UNITS | 7.75 |
| AOC-BBMS-GP4 | PH (150.1) | UNITS | 7.95 |
| AOC-BBMS-GP6 | PH (150.1) | UNITS | 7.87 |
| AOC-RR-GP01 | PH (150.1) | UNITS | 7.45 |
| AOC-RR-GP02 | PH (150.1) | UNITS | 7.72 |
| AOC-RR-GP03 | PH (150.1) | UNITS | 7.63 |
| AOC-RR-GP04 | PH (150.1) | UNITS | 7.67 |
| AOC-RR-GP05 | PH (150.1) | UNITS | 7.29 |
| AOC-RR-GP06 | PH (150.1) | UNITS | 7.25 |
| SS-06-GP03 | PH (150.1) | UNITS | 7.56 |
| AOC-BBMS-GP03 | PH (150.1) | UNITS | 7.57 |
| AOC-BBMS-GP05 | PH (150.1) | UNITS | 7.87 |
| AOC-RR-GP07 | PH (150.1) | UNITS | 7.20 |
| AOC-RR-GP08 | PH (150.1) | UNITS | 7.35 |
| AOC-RR-GP09 | PH (150.1) | UNITS | 7.64 |
| AOC-RR-GP11 | PH (150.1) | UNITS | 7.39 |
| AOC-RR-GP07D | PH (150.1) | UNITS | 7.17 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| AOC-BBMS-GP07 | PH (150.1) | UNITS | 7.71 |
| AOC-BBMS-GP08 | PH (150.1) | UNITS | 7.79 |
| AOC-BBMS-GP10 | PH (150.1) | UNITS | 7.54 |
| AOC-BBMS-GP11 | PH (150.1) | UNITS | 7.84 |
| AOC-BBMS-GP07D | PH (150.1) | UNITS | 7.70 |
| SD15-SB04-6-8 DUP | PH (9045) | UNITS | 7.55 |
| SD15-SB6-4-6 DUP | PH (9045) | UNITS | 7.57 |
| SD15-GP-6 DUP | PH (150.1) | UNITS | 7.10 |
| AOC-RR-GP06 DUP | PH (150.1) | UNITS | 7.24 |
| AOC-BBMS-GP05 DUP | PH (150.1) | UNITS | 7.87 |
| AOC-BBMS-GP05 DUP | PH (150.1) | UNITS | 7.69 |

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----- Common Footnotes Wet Chem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATI METHOD REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI METHOD REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW ATI METHOD DETECTION LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO FAILURE OF THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE.
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX.
P = ANALYTICAL (POST-DIGESTION) SPIKE
I = DUPLICATE INJECTION
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE IS BELOW 5 X ATI METHOD REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI METHOD DETECTION LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL"; SAMPLE IS NON -HOMOGENEOUS.
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL"; SAMPLE IS NON -HOMOGENEOUS.

METHOD REF. - 413.1/EPA 600/4-79/020
9073/SW846, 3rd Edition, November 1986.
9071/SW846,3rd Edition,November 1986 and Revision 1,July 1992.

BT = BECKY TREMMEL
BC = BETH COLEMAN
STG = SCOTT T. GRESHAM
SW = STEVE WILHITE

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# Quality Control Report

Analysis: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Department: | MOBILE LABORATORY UNITS |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Blank
Batch: BES005
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: A Date Analyzed: 26-MAR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/KG | ND | 10 |
| ACROLEIN | UG/KG | ND | 100 |
| ACRYLONITRILE | UG/KG | ND | 100 |
| BENZENE | UG/KG | ND | 1 |
| BROMODICHLOROMETHANE | UG/KG | ND | 1 |
| BROMOFORM | UG/KG | ND | 2 |
| BROMOMETHANE | UG/KG | ND | 1 |
| 2-BUTANONE (MEK) | UG/KG | ND | 3 |
| CARBON DISULFIDE | UG/KG | ND | 1 |
| CARBON TETRACHLORIDE | UG/KG | ND | 2 |
| CHLOROBENZENE | UG/KG | ND | 1 |
| CHLOROETHANE | UG/KG | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 5 |
| CHLOROFORM | UG/KG | ND | 2 |
| CHLOROMETHANE | UG/KG | ND | 2 |
| CHLORODIBROMOMETHANE | UG/KG | ND | 5 |
| DIBROMOMETHANE | UG/KG | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/KG | ND | 5 |
| 1,1-DICHLOROETHANE | UG/KG | ND | 1 |
| 1,2-DICHLOROETHANE | UG/KG | ND | 2 |
| 1,1-DICHLOROETHENE | UG/KG | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/KG | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/KG | ND | 5 |
| ETHYL BENZENE | UG/KG | ND | 1 |
| ETHYL METHACRYLATE | UG/KG | ND | 5 |
| 2-HEXANONE | UG/KG | ND | 3 |
| IODOMETHANE | UG/KG | ND | 5 |
| METHYLENE CHLORIDE | UG/KG | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 3 |
| STYRENE | UG/KG | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 2 |
| TETRACHLOROETHENE | UG/KG | ND | 1 |
| TOLUENE | UG/KG | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 2 |
| TRICHLOROETHENE | UG/KG | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/KG | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/KG | ND | 5 |
| VINYL ACETATE | UG/KG | ND | 2 |
| VINYL CHLORIDE | UG/KG | ND | 1 |
| TOTAL XYLENES | UG/KG | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 100 | 84-113 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 120 | 70-121 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Blank
Batch: BES005
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 104 | 81-117 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Low Soil Blank
Batch: BES010
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: A Date Analyzed: 05-APR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/KG | ND | 10 |
| ACROLEIN | UG/KG | ND | 100 |
| ACRYLONITRILE | UG/KG | ND | 100 |
| BENZENE | UG/KG | ND | 1 |
| BROMODICHLOROMETHANE | UG/KG | ND | 1 |
| BROMOFORM | UG/KG | ND | 2 |
| BROMOMETHANE | UG/KG | ND | 1 |
| 2-BUTANONE (MEK) | UG/KG | ND | 3 |
| CARBON DISULFIDE | UG/KG | ND | 1 |
| CARBON TETRACHLORIDE | UG/KG | ND | 2 |
| CHLOROBENZENE | UG/KG | ND | 1 |
| CHLOROETHANE | UG/KG | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 5 |
| CHLOROFORM | UG/KG | ND | 2 |
| CHLOROMETHANE | UG/KG | ND | 2 |
| CHLORODIBROMOMETHANE | UG/KG | ND | 5 |
| DIBROMOMETHANE | UG/KG | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/KG | ND | 5 |
| 1,1-DICHLOROETHANE | UG/KG | ND | 1 |
| 1,2-DICHLOROETHANE | UG/KG | ND | 2 |
| 1,1-DICHLOROETHENE | UG/KG | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/KG | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/KG | ND | 5 |
| ETHYL BENZENE | UG/KG | ND | 1 |
| ETHYL METHACRYLATE | UG/KG | ND | 5 |
| 2-HEXANONE | UG/KG | ND | 3 |
| IODOMETHANE | UG/KG | ND | 5 |
| METHYLENE CHLORIDE | UG/KG | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 3 |
| STYRENE | UG/KG | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 2 |
| TETRACHLOROETHENE | UG/KG | ND | 1 |
| TOLUENE | UG/KG | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 2 |
| TRICHLOROETHENE | UG/KG | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/KG | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/KG | ND | 5 |
| VINYL ACETATE | UG/KG | ND | 2 |
| VINYL CHLORIDE | UG/KG | ND | 1 |
| TOTAL XYLENES | UG/KG | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 99 | 84-113 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 92 | 70-121 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Blank
Batch: BES010
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 102 | 81-117 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Low Soil Blank
Batch: BES005
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: B Date Analyzed: 27-MAR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/KG | ND | 10 |
| ACROLEIN | UG/KG | ND | 100 |
| ACRYLONITRILE | UG/KG | ND | 100 |
| BENZENE | UG/KG | ND | 1 |
| BROMODICHLOROMETHANE | UG/KG | ND | 1 |
| BROMOFORM | UG/KG | ND | 2 |
| BROMOMETHANE | UG/KG | ND | 1 |
| 2-BUTANONE (MEK) | UG/KG | ND | 3 |
| CARBON DISULFIDE | UG/KG | ND | 1 |
| CARBON TETRACHLORIDE | UG/KG | ND | 2 |
| CHLOROBENZENE | UG/KG | ND | 1 |
| CHLOROETHANE | UG/KG | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 5 |
| CHLOROFORM | UG/KG | ND | 2 |
| CHLOROMETHANE | UG/KG | ND | 2 |
| CHLORODIBROMOMETHANE | UG/KG | ND | 5 |
| DIBROMOMETHANE | UG/KG | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/KG | ND | 5 |
| 1,1-DICHLOROETHANE | UG/KG | ND | 1 |
| 1,2-DICHLOROETHANE | UG/KG | ND | 2 |
| 1,1-DICHLOROETHENE | UG/KG | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/KG | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/KG | ND | 5 |
| ETHYL BENZENE | UG/KG | ND | 1 |
| ETHYL METHACRYLATE | UG/KG | ND | 5 |
| 2-HEXANONE | UG/KG | ND | 3 |
| IODOMETHANE | UG/KG | ND | 5 |
| METHYLENE CHLORIDE | UG/KG | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 3 |
| STYRENE | UG/KG | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 2 |
| TETRACHLOROETHENE | UG/KG | ND | 1 |
| TOLUENE | UG/KG | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 2 |
| TRICHLOROETHENE | UG/KG | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/KG | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/KG | ND | 5 |
| VINYL ACETATE | UG/KG | ND | 2 |
| VINYL CHLORIDE | UG/KG | ND | 1 |
| TOTAL XYLENES | UG/KG | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 99 | 84-113 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 100 | 70-121 |

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"QC Report"

Title: Low Soil Blank
Batch: BES005
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 95 | 81-117 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Low Soil Blank
Batch: BES010
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: B Date Analyzed: 06-APR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/KG | ND | 10 |
| ACROLEIN | UG/KG | ND | 100 |
| ACRYLONITRILE | UG/KG | ND | 100 |
| BENZENE | UG/KG | ND | 1 |
| BROMODICHLOROMETHANE | UG/KG | ND | 1 |
| BROMOFORM | UG/KG | ND | 2 |
| BROMOMETHANE | UG/KG | ND | 1 |
| 2-BUTANONE (MEK) | UG/KG | ND | 3 |
| CARBON DISULFIDE | UG/KG | ND | 1 |
| CARBON TETRACHLORIDE | UG/KG | ND | 2 |
| CHLOROBENZENE | UG/KG | ND | 1 |
| CHLOROETHANE | UG/KG | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 5 |
| CHLOROFORM | UG/KG | ND | 2 |
| CHLOROMETHANE | UG/KG | ND | 2 |
| CHLORODIBROMOMETHANE | UG/KG | ND | 5 |
| DIBROMOMETHANE | UG/KG | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/KG | ND | 5 |
| 1,1-DICHLOROETHANE | UG/KG | ND | 1 |
| 1,2-DICHLOROETHANE | UG/KG | ND | 2 |
| 1,1-DICHLOROETHENE | UG/KG | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/KG | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/KG | ND | 5 |
| ETHYL BENZENE | UG/KG | ND | 1 |
| ETHYL METHACRYLATE | UG/KG | ND | 5 |
| 2-HEXANONE | UG/KG | ND | 3 |
| IODOMETHANE | UG/KG | ND | 5 |
| METHYLENE CHLORIDE | UG/KG | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 3 |
| STYRENE | UG/KG | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 2 |
| TETRACHLOROETHENE | UG/KG | ND | 1 |
| TOLUENE | UG/KG | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 2 |
| TRICHLOROETHENE | UG/KG | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/KG | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/KG | ND | 5 |
| VINYL ACETATE | UG/KG | ND | 2 |
| VINYL CHLORIDE | UG/KG | ND | 1 |
| TOTAL XYLENES | UG/KG | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 84-113 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 89 | 70-121 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Blank
Batch: BES010
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 103 | 81-117 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Low Soil Blank
Batch: BES007
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: A Date Analyzed: 29-MAR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/KG | ND | 10 |
| ACROLEIN | UG/KG | ND | 100 |
| ACRYLONITRILE | UG/KG | ND | 100 |
| BENZENE | UG/KG | ND | 1 |
| BROMODICHLOROMETHANE | UG/KG | ND | 1 |
| BROMOFORM | UG/KG | ND | 2 |
| BROMOMETHANE | UG/KG | ND | 1 |
| 2-BUTANONE (MEK) | UG/KG | ND | 3 |
| CARBON DISULFIDE | UG/KG | ND | 1 |
| CARBON TETRACHLORIDE | UG/KG | ND | 2 |
| CHLOROBENZENE | UG/KG | ND | 1 |
| CHLOROETHANE | UG/KG | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 5 |
| CHLOROFORM | UG/KG | ND | 2 |
| CHLOROMETHANE | UG/KG | ND | 2 |
| CHLORODIBROMOMETHANE | UG/KG | ND | 5 |
| DIBROMOMETHANE | UG/KG | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/KG | ND | 5 |
| 1,1-DICHLOROETHANE | UG/KG | ND | 1 |
| 1,2-DICHLOROETHANE | UG/KG | ND | 2 |
| 1,1-DICHLOROETHENE | UG/KG | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/KG | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/KG | ND | 5 |
| ETHYL BENZENE | UG/KG | ND | 1 |
| ETHYL METHACRYLATE | UG/KG | ND | 5 |
| 2-HEXANONE | UG/KG | ND | 3 |
| IODOMETHANE | UG/KG | ND | 5 |
| METHYLENE CHLORIDE | UG/KG | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 3 |
| STYRENE | UG/KG | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 2 |
| TETRACHLOROETHENE | UG/KG | ND | 1 |
| TOLUENE | UG/KG | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 2 |
| TRICHLOROETHENE | UG/KG | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/KG | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/KG | ND | 5 |
| VINYL ACETATE | UG/KG | ND | 2 |
| VINYL CHLORIDE | UG/KG | ND | 1 |
| TOTAL XYLENES | UG/KG | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 113 | 84-113 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 111 | 70-121 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Blank
Batch: BES007
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 108 | 81-117 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Low Soil Blank
Batch: BES007
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: B Date Analyzed: 30-MAR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/KG | ND | 10 |
| ACROLEIN | UG/KG | ND | 100 |
| ACRYLONITRILE | UG/KG | ND | 100 |
| BENZENE | UG/KG | ND | 1 |
| BROMODICHLOROMETHANE | UG/KG | ND | 1 |
| BROMOFORM | UG/KG | ND | 2 |
| BROMOMETHANE | UG/KG | ND | 1 |
| 2-BUTANONE (MEK) | UG/KG | ND | 3 |
| CARBON DISULFIDE | UG/KG | ND | 1 |
| CARBON TETRACHLORIDE | UG/KG | ND | 2 |
| CHLOROBENZENE | UG/KG | ND | 1 |
| CHLOROETHANE | UG/KG | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 5 |
| CHLOROFORM | UG/KG | ND | 2 |
| CHLOROMETHANE | UG/KG | ND | 2 |
| CHLORODIBROMOMETHANE | UG/KG | ND | 5 |
| DIBROMOMETHANE | UG/KG | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/KG | ND | 5 |
| 1,1-DICHLOROETHANE | UG/KG | ND | 1 |
| 1,2-DICHLOROETHANE | UG/KG | ND | 2 |
| 1,1-DICHLOROETHENE | UG/KG | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/KG | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/KG | ND | 5 |
| ETHYL BENZENE | UG/KG | ND | 1 |
| ETHYL METHACRYLATE | UG/KG | ND | 5 |
| 2-HEXANONE | UG/KG | ND | 3 |
| IODOMETHANE | UG/KG | ND | 5 |
| METHYLENE CHLORIDE | UG/KG | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 3 |
| STYRENE | UG/KG | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 2 |
| TETRACHLOROETHENE | UG/KG | ND | 1 |
| TOLUENE | UG/KG | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 2 |
| TRICHLOROETHENE | UG/KG | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/KG | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/KG | ND | 5 |
| VINYL ACETATE | UG/KG | ND | 2 |
| VINYL CHLORIDE | UG/KG | ND | 1 |
| TOTAL XYLENES | UG/KG | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 111 | 84-113 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 115 | 70-121 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Blank
Batch: BES007
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 102 | 81-117 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Low Soil Blank
Batch: BES007
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: C Date Analyzed: 30-MAR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/KG | ND | 10 |
| ACROLEIN | UG/KG | ND | 100 |
| ACRYLONITRILE | UG/KG | ND | 100 |
| BENZENE | UG/KG | ND | 1 |
| BROMODICHLOROMETHANE | UG/KG | ND | 1 |
| BROMOFORM | UG/KG | ND | 2 |
| BROMOMETHANE | UG/KG | ND | 1 |
| 2-BUTANONE (MEK) | UG/KG | ND | 3 |
| CARBON DISULFIDE | UG/KG | ND | 1 |
| CARBON TETRACHLORIDE | UG/KG | ND | 2 |
| CHLOROBENZENE | UG/KG | ND | 1 |
| CHLOROETHANE | UG/KG | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 5 |
| CHLOROFORM | UG/KG | ND | 2 |
| CHLOROMETHANE | UG/KG | ND | 2 |
| CHLORODIBROMOMETHANE | UG/KG | ND | 5 |
| DIBROMOMETHANE | UG/KG | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/KG | ND | 5 |
| 1,1-DICHLOROETHANE | UG/KG | ND | 1 |
| 1,2-DICHLOROETHANE | UG/KG | ND | 2 |
| 1,1-DICHLOROETHENE | UG/KG | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/KG | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/KG | ND | 5 |
| ETHYL BENZENE | UG/KG | ND | 1 |
| ETHYL METHACRYLATE | UG/KG | ND | 5 |
| 2-HEXANONE | UG/KG | ND | 3 |
| IODOMETHANE | UG/KG | ND | 5 |
| METHYLENE CHLORIDE | UG/KG | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 3 |
| STYRENE | UG/KG | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 2 |
| TETRACHLOROETHENE | UG/KG | ND | 1 |
| TOLUENE | UG/KG | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 2 |
| TRICHLOROETHENE | UG/KG | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/KG | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/KG | ND | 5 |
| VINYL ACETATE | UG/KG | ND | 2 |
| VINYL CHLORIDE | UG/KG | ND | 1 |
| TOTAL XYLENES | UG/KG | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 101 | 84-113 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 95 | 70-121 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Blank
Batch: BES007
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 103 | 81-117 |
| ANALYST | INITIALS | PL | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Reagent
Batch: BES005
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

RS Date Analyzed: 26-Mar-95
RSD Date Analyzed: 27-Mar-95

RS Date Extracted: N/A
RSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | RSD Conc | RSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 44 | 88 | 47 | 94 | 7 | 50 | 50-150 |
| BENZENE | 50 | <1 | 47 | 94 | 48 | 96 | 2 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 49 | 98 | 47 | 94 | 4 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 50 | 100 | 50 | 100 | 0 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 26 | 104 | 26 | 104 | 0 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/KG = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Reagent
Batch: BES010
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

RS Date Analyzed: 05-APR-95
RSD Date Analyzed: 05-APR-95

RS Date Extracted: N/A
RSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | RSD Conc | RSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 46 | 92 | 48 | 96 | 4 | 50 | 50-150 |
| BENZENE | 50 | <1 | 48 | 96 | 49 | 98 | 2 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 45 | 90 | 45 | 90 | 0 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 48 | 96 | 50 | 100 | 4 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 25 | 100 | 25 | 100 | 0 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/KG = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Reagent
Batch: BES007
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

RS Date Analyzed: 30-MAR-95
RSD Date Analyzed: 30-MAR-95

RS Date Extracted: N/A
RSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | RSD Conc | RSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 43 | 86 | 44 | 88 | 2 | 50 | 50-150 |
| BENZENE | 50 | <1 | 49 | 98 | 48 | 96 | 2 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 52 | 104 | 50 | 100 | 4 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 56 | 112 | 54 | 108 | 4 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 26 | 104 | 26 | 104 | 0 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/KG = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Low Soil Matrix
Batch: BES005
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Dry Weight %: N/A
Sample Spiked: 507730-103

MS Date Analyzed: 28-MAR-95
MSD Date Analyzed: 29-MAR-95

MS Date Extracted: N/A
MSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 58 | 116 | 54 | 108 | 7 | 50 | 50-150 |
| BENZENE | 50 | <1 | 44 | 88 | 42 | 84 | 5 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 51 | 102 | 47 | 94 | 8 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 51 | 102 | 48 | 96 | 6 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 24 | 96 | 23 | 92 | 4 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/KG = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Low Soil Matrix
Batch: BES010
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Dry Weight %: N/A
Sample Spiked: 503730-125

MS Date Analyzed: 06-APR-95
MSD Date Analyzed: 06-APR-95

MS Date Extracted: N/A
MSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 49 | 98 | 49 | 98 | 0 | 50 | 50-150 |
| BENZENE | 50 | <1 | 49 | 98 | 51 | 102 | 4 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 48 | 96 | 48 | 96 | 0 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 51 | 102 | 50 | 100 | 2 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 26 | 104 | 25 | 100 | 4 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/KG = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Low Soil Matrix
Batch: BES007
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Dry Weight %: N/A
Sample Spiked: 503730-154

MS Date Analyzed: 30-MAR-95
MSD Date Analyzed: 30-MAR-95

MS Date Extracted: N/A
MSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 45 | 90 | 52 | 104 | 14 | 50 | 50-150 |
| BENZENE | 50 | <1 | 47 | 94 | 44 | 88 | 7 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 47 | 94 | 42 | 84 | 11 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 48 | 96 | 45 | 90 | 6 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 25 | 100 | 23 | 92 | 8 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/KG = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

AnalyticalTechnologies, Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D.: [illegible]
ATI ML:

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

COMPANY:
ADDRESS:
PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

DATE: _____ PAGE _____ OF _____

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | 8240 | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-06-SB-01-6-8 | 03/24 | | S | -103 | CWS | 9:55 | PL | | | X | | | | | X | | | | |
| SS-06-SB-01-4-6 | 03/24 | | S | -104 | CWS | 9:55 | PL | | | X | | | | | X | | | | |
| SS-06-SB-02-0-2 | 3/24 | | Soil | -105 | CWS | 10:43 | PL | | | X | | | | | X | | | | |
| SS-06-SB-02-6-8 | 3/24 | | | -106 | CWS | 10:43 | PL | | | X | | | | | X | | | | |
| SS- SB03-2-4 | 3/24 | | | -107 | CWS | 11:30 | PL | | | X | | | | | X | | | | |
| SS- SB03-8-10 | 3/24 | | | -108 | CWS | | PL | | | X | | | | | X | | | | |
| SS- SB03-8-10D | 3/24 | | | -109 | CWS | | PL | | | X | | | | | X | | | | |
| SS-06-SB-4-6 | 3/24 | | | -110 | CWS | 13:56 | PL | | | X | | | | | X | | | | |
| SS-06-SB-4-8-10 | 3/24 | | | -111 | CWS | 13:56 | PL | | | X | | | | | X | | | | |
| SS 06 SB-5 10-12 | 3/24 | | | -112 | CWS | 15:38 | PL | | | X | | | | | X | | | | |
| SS-06 SB-5 4-6 | 3/24 | | | -113 | CWS | 15:38 | PL | | | X | | | | | X | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | Charles W. Schuh | Charles W. Schuh |
| PL | Paul Leschensky | Paul Leschensky |

Mobile Lab Time:
Date:
Start Time:
Stop Time:
Client Signoff: Charles W. Schuh

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

AnalyticalTechnologies, Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 503730

ATI ML I.D.

PLEASE FILL THIS FORM IN COMPLETELY... SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

COMPANY:
ADDRESS:
PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

DATE: _____ PAGE _____ OF _____

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | 8240 | 8011 | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-RR-SB05-(2-4) | 03/27 | ~~9:25~~ | S | -125 | | 9:25 | PL | | | X | | | | | X | | | | 1 |
| AOC-RR-SB05 (6-8) | 03/27 | 9:25 | S | -126 | | 9:25 | PL | | | X | | | | | X | | | | 1 |
| AOC/RR-SB06 6-8 | 3/27 | 10:30 | S | -127 | | 10:30 | PL | | | X | | | | | X | | | | 1 |
| AOC/RR-SB06-2-4 | 3/27 | 10:30 | S | -128 | | 10:30 | PL | | | X | | | | | X | | | | 1 |
| SD15-SB01-0-2 | 3/27 | 11:45 | S | -129 | | 11:50 | PL | | | X | | | | | X | X | | | |
| SD15-SB01-6-8 | 3/27 | 11:45 | S | -130 | | 11:50 | PL | | | X | | | | | X | X | | | |
| SD15-SB02-0-4 | 3/27 | 1:00 | S | -131 | | 1:00 | PL | | | X | | | | | X | X | | | |
| SD15-SB02-4-6 | 3/27 | 1:00 | S | -132 | | 1:00 | PL | | | X | | | | | X | X | | | |
| SD15-SB03-2-4 | 3/27 | 3:00 | S | -133 | | 3:00 | PL | | | X | | | | | X | X | | | |
| SD15-SB03-8-10 | 3/27 | 3:00 | S | -134 | | 3:00 | PL | | | X | | | | | X | X | | | |
| SD15-SB03-4-6 | 3/27 | 3:00 | S | -135 | | 3:00 | PL | | | X | | | | | X | X | | | |
| SD15-SB04-2-4 | 3/27 | 4:25 | SV | -136 | | 4:25 | PL | | | X | | | | | X | X | | | |
| SD15-SB04 6-8 | 3/27 | 4:25 | S | -137 | | 4:25 | PL | | | X | | | | | X | X | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| [illegible] | Kenneth Sorrell | [illegible] |
| PL | Paul Lechanski | [illegible] |
| aws | Charles W. Schick | [illegible] |

Mobile Lab Time:
Date: 3/27/95
Start Time: 7:30
Stop Time:
Client Signoff: [illegible]

PROJECT INFORMATION
PROJ. NO.
PROJ. NAME:

SAMPLE RECEIPT

| | |
|---|---|
| NO CONTAINERS | |
| CUSTODY SEALS | Y / N / NA |
| RECEIVED INTACT | |
| RECEIVED COLD | |

Analytical Technologies, Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

| ATI LAB I.D. | ATI ML |
|---|---|
| | |

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

COMPANY:
ADDRESS:
PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

DATE:_____ PAGE_____ OF_____

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | 8240 | pH | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SD15-SB5-0-2 | 3/29/95 | 0900 | Soil | 154 | JM | 0950 | PL | | | X | | | | | X | X | | | |
| SD15-SB5-4-6 | 3/29/95 | 0900 | Soil | 155 | JM | 0930 | PL | | | X | | | | | X | X | | | |
| SD15-SB6-2-4 | 3/29/95 | 0930 | Soil | 156 | JM | 1020 | PL | | | X | | | | | X | X | | | |
| SD15-SB6-4-6 | 3/29/95 | 0935 | Soil | 157 | JM | 1020 | PL | | | X | | | | | X | X | | | |
| AOC-BBMS-SB1-0-2 | | 1300 | | 158 | | 1700 | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB1-4-6 | | 1320 | | 159 | | | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB2-2-4 | | 1335 | | 160 | | | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB2-4-6 | | 1340 | | 161 | | | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB3-0-2 | | 1335 | | 162 | | | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB3-4-6 | | 1410 | | 163 | | | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB4-0-2 | | 1420 | | 164 | | | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB4-2-4 | | 1430 | | 165 | | | PL | | | X | | | | | X | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| JM | Jim Molesworth | [signature] |
| PL | Paul Leschensky | [signature] |
| | | |
| | | |
| | | |

Mobile Lab Time:
Date: 03/29/95
Start Time: 7:00
Stop Time:
Client Signoff: [signature]

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

Analytical Technologies, Inc., Phoenix, Arizona
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D. 103720

ATI ML I.

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

COMPANY:
ADDRESS:
PHONE:
FAX:
BILL TO:
COMPANY:
ADDRESS:

DATE: _____ PAGE _____ OF _____

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS06-SB06-8-10 | 3/25 | 9:30 | SOIL | 114 | CWS | 1630 | [illegible] | | | X | | | | | X | | | | 1 |
| SS06-SB06-4-6 | " | " | SOIL | 115 | CWS | 9:30 | [illegible] | | | X | | | | | X | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | CWS | [illegible] | [illegible] | | | [illegible] | | | | | [illegible] | | | | |
| [illegible] | 3/25 | [illegible] | [illegible] | 117 | CWS | [illegible] | [illegible] | | | [illegible] | | | | | [illegible] | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | CWS | [illegible] | [illegible] | | | [illegible] | | | | | | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | 119 | CWS | [illegible] | [illegible] | | | [illegible] | | | | | [illegible] | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | 120 | CWS | [illegible] | [illegible] | | | [illegible] | | | | | [illegible] | | | | |
| [illegible] | [illegible] | [illegible] | SOIL | 121 | CWS | 2:00 | [illegible] | | | [illegible] | | | | | [illegible] | | | | |
| [illegible] | [illegible] | [illegible] | SOIL | 122 | CWS | 2:00 | [illegible] | | | [illegible] | | | | | X | | | | |
| [illegible] | 3/25 | [illegible] | [illegible] | [illegible] | CWS | [illegible] | [illegible] | | | X | | | | | X | | | | |
| [illegible] | 3/25 | [illegible] | [illegible] | 124 | CWS | [illegible] | [illegible] | | | X | | | | | X | | | | |
| | | | | | | | | | | | | | | | | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| CWS | [illegible] | Charles W. Schill |

Mobile Lab Time:
Date: 3/25/95
Start Time:
Stop Time:
Client Signoff: [illegible]

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

# APPENDIX C-1

## Site SS-06

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 103
Client Sample Id: SS-06-SB-01-6-8
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: DRS001
Blank: A
Dry Weight %: N/A
Extraction Date: 24-MAR-95
Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 120 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Test: | MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32 |
| Analysis Method: | DRO-8015/SW 846 (Modified Mobile Lab) |
| Extraction Method: | 3550/SW 846 (Modified Mobile Lab) |
| Matrix: | SOIL |
| QC Level: | N |

| | | | |
|---|---|---|---|
| Lab Id: | 104 | Sample Date/Time: | 24-MAR-95 N/S |
| Client Sample Id: | SS-06-SB-01-4-6 | Received Date: | 24-MAR-95 |
| Batch: DRS001 | | Extraction Date: | 24-MAR-95 |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 24-MAR-95 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 117 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 105
Client Sample Id: SS-06-SB-02-0-2

Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: DRS001
Blank: A Dry Weight %: N/A

Extraction Date: 24-MAR-95
Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 107 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 106 Sample Date/Time: 24-MAR-95 N/S
Client Sample Id: SS-06-SB-02-6-8 Received Date: 24-MAR-95

Batch: DRS001 Extraction Date: 24-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 130 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 107 Sample Date/Time: 24-MAR-95 N/S
Client Sample Id: SS-06-SB-03-2-4 Received Date: 24-MAR-95

Batch: DRS001 Extraction Date: 24-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 129 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 108
Client Sample Id: SS-06-SB-03-8-10

Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: DRS001
Blank: A Dry Weight %: N/A

Extraction Date: 24-MAR-95
Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 96 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 109
Client Sample Id: SS-06-SB-03-8-10D

Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: DRS001
Blank: A Dry Weight %: N/A

Extraction Date: 24-MAR-95
Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 98 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 110 Sample Date/Time: 24-MAR-95 N/S
Client Sample Id: SS-06-SB-4-6 Received Date: 24-MAR-95

Batch: DRS001 Extraction Date: 24-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 144 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 111 Sample Date/Time: 24-MAR-95 N/S
Client Sample Id: SS-06-SB-4-8-10 Received Date: 24-MAR-95

Batch: DRS001 Extraction Date: 24-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 113 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 112
Client Sample Id: SS-06-SB-5-10-12

Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: DRS001
Blank: A Dry Weight %: N/A

Extraction Date: 24-MAR-95
Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 106 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 113
Client Sample Id: SS-06-SB-5-4-6

Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: DRS001
Blank: A Dry Weight %: N/A

Extraction Date: 24-MAR-95
Analysis Date: 24-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 122 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 114 Sample Date/Time: 25-MAR-95 0930
Client Sample Id: SS-06-SB-06-8-10 Received Date: 25-MAR-95

Batch: DRS002 Extraction Date: 25-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 129 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 115
Client Sample Id: SS-06-SB-06-4-6

Sample Date/Time: 25-MAR-95 0930
Received Date: 25-MAR-95

Batch: DRS002
Blank: A Dry Weight %: N/A

Extraction Date: 25-MAR-95
Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 88 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 103
Client Sample Id: SS-06-SB-01-6-8
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES005
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 103 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 101 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 104
Client Sample Id: SS-06-SB-01-4-6
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES005
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 106 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 100 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 105
Client Sample Id: SS-06-SB-02-0-2
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES005
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 106 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 100 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 93 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 106
Client Sample Id: SS-06-SB-02-6-8
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES005
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 107 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 99 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 107
Client Sample Id: SS-06-SB-03-2-4
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES005
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 100 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 100 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 101 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 108 Sample Date/Time: 24-MAR-95 N/S
Client Sample Id: SS-06-SB-03-8-10 Received Date: 24-MAR-95

Batch: BES005 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 116 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 96 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 109
Client Sample Id: SS-06-SB-03-8-10D
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES005
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 100 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 105 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 97 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 110
Client Sample Id: SS-06-SB-4-6
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES005
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 101 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 103 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 111
Client Sample Id: SS-06-SB-4-8-10
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES010
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 05-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 97 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 104 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 96 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 112
Client Sample Id: SS-06-SB-5-10-12
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES005
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 101 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 105 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 101 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 113
Client Sample Id: SS-06-SB-5-4-6
Sample Date/Time: 24-MAR-95 N/S
Received Date: 24-MAR-95

Batch: BES005
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 105 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 104 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 114
Client Sample Id: SS-06-SB-06-8-10
Sample Date/Time: 25-MAR-95 0930
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 101 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 103 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 115
Client Sample Id: SS-06-SB-06-4-6
Sample Date/Time: 25-MAR-95 0930
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 102 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 109 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 106 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

**Midwest Region**
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366

RECEIVED
APR 2 1 1995

April 13, 1995

C. Schick/S. Brothers
Groundwater Technology, Inc.
2501 Yale Blvd., SE, #204
Albuquerque, NM 87106

Dear C. Schick/S. Brothers:

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories on 03-30-95 under chain of custody records 36916, 36917, 36905 and 36907.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions concerning this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

Project Coordinator for

Terry R. Loucks
Laboratory Director

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 01 | 02 | 03 | 04 |
|---|---|---|---|---|---|---|
| | | Client Identification | SS06-SB01-4-6 | SS06-SB01-6-8 | SS06-SB02-0-2 | SS06-SB02-6-8 |
| | | Date Sampled | 03-25-95 | 03-25-95 | 03-25-95 | 03-25-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 5 | 1 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **10000** | **2400** | **2100** | **5100** |
| Antimony | EPA 6010A | 20 | <100 | <20 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **3.5** | <1.0 | **1.3** | <1.0 |
| **Barium** | EPA 6010A | 20 | <100 | **20** | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <0.50 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <2.0 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **160000** | **110000** | **260000** | **190000** |
| **Chromium** | EPA 6010A | 3.0 | <15 | **3.2** | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <5.0 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <2.5 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **10000** | **2300** | **2100** | **4000** |
| **Lead** | EPA 7421 | 0.40 | **6.7** | **1.8** | **12** | **3.1** |
| **Magnesium** | EPA 6010A | 100 | **19000** | **2400** | **7000** | **14000** |
| **Manganese** | EPA 6010A | 1.5 | **310** | **33** | **76** | **59** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| **Nickel** | EPA 6010A | 4.0 | **21** | **4.6** | **32** | <20 |
| **Potassium** | EPA 6010A | 500 | <2500 | **718** | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <2.0 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **3200** | **530** | **2100** | **4000** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Vanadium** | EPA 6010A | 5.0 | **28** | **5.4** | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **59** | **6.9** | **21** | **20** |
| Percent Solids | | | 80.9 | 69.5 | 77.8 | 51.1 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|
| | | Client Identification | SS06-SB03-2-4 | SS06-SB03-8-10 | SS06-SB03-8-10D | SS06-SB04-4-6 |
| | | Date Sampled | 03-25-95 | 03-25-95 | 03-25-95 | 03-25-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 1 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **7200** | **1900** | **2300** | **15000** |
| Antimony | EPA 6010A | 20 | <20 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **3.6** | <1.0 | <1.0 | **3.3** |
| **Barium** | EPA 6010A | 20 | **28** | <100 | <100 | **120** |
| Beryllium | EPA 6010A | 0.50 | <0.50 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <2.0 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **99000** | **160000** | **160000** | **120000** |
| **Chromium** | EPA 6010A | 3.0 | **6.7** | <15 | <15 | **19** |
| Cobalt | EPA 6010A | 5.0 | <5.0 | <25 | <25 | <25 |
| **Copper** | EPA 6010A | 2.5 | **3.6** | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **6000** | **1800** | **2000** | **16000** |
| **Lead** | EPA 7421 | 0.40 | **6.6** | **2.5** | **1.4** | **12** |
| **Magnesium** | EPA 6010A | 100 | **13000** | **3400** | **5100** | **16000** |
| **Manganese** | EPA 6010A | 1.5 | **110** | **22** | **38** | **280** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| **Nickel** | EPA 6010A | 4.0 | **7.4** | <20 | <20 | <20 |
| **Potassium** | EPA 6010A | 500 | **1900** | <2500 | <2500 | **3400** |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <2.0 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **2700** | **3300** | **3400** | **4100** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Vanadium** | EPA 6010A | 5.0 | **19** | <25 | <25 | **33** |
| **Zinc** | EPA 6010A | 2.0 | **16** | **27** | **12** | **59** |
| Percent Solids | | | 81.1 | 75.9 | 75.6 | 80.6 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 09 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|
| | | Client Identification | SS06-SB04-8-10 | SS06-SB05-4-6 | SS06-SB05-10-12 | SS06-SB06-4-6 |
| | | Date Sampled | 03-25-95 | 03-25-95 | 03-25-95 | 03-25-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 1 | 5 | 1 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **1700** | **13000** | **2700** | **4500** |
| Antimony | EPA 6010A | 20 | <20 | <100 | <20 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **1.4** | **1.8** | **2.1** | **1.8** |
| **Barium** | EPA 6010A | 20 | <20 | **130** | **51** | <100 |
| Beryllium | EPA 6010A | 0.50 | <0.50 | <2.5 | <0.50 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <2.0 | <10 | <2.0 | <10 |
| **Calcium** | EPA 6010A | 100 | **45000** | **140000** | **58000** | **180000** |
| **Chromium** | EPA 6010A | 3.0 | <3.0 | **20** | **3.3** | <15 |
| Cobalt | EPA 6010A | 5.0 | <5.0 | <25 | <5.0 | <25 |
| Copper | EPA 6010A | 2.5 | <2.5 | <12 | <2.5 | <12 |
| **Iron** | EPA 6010A | 10 | **2000** | **11000** | **2900** | **4100** |
| **Lead** | EPA 7421 | 0.40 | **3.2** | **4.3** | **3.1** | **1.9** |
| **Magnesium** | EPA 6010A | 100 | **2600** | **32000** | **3600** | **7300** |
| **Manganese** | EPA 6010A | 1.5 | **46** | **190** | **100** | **48** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| **Nickel** | EPA 6010A | 4.0 | <4.0 | **21** | **4.7** | <20 |
| **Potassium** | EPA 6010A | 500 | **530** | **3600** | **720** | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <2.0 | <10 | <2.0 | <10 |
| **Sodium** | EPA 6010A | 100 | **1400** | **3700** | **1700** | **1800** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Vanadium** | EPA 6010A | 5.0 | <5.0 | **36** | **7.3** | <25 |
| **Zinc** | EPA 6010A | 2.0 | **6.3** | **75** | **10** | **21** |
| Percent Solids | | | 85.3 | 79.5 | 76.8 | 82.9 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|
| | | Client Identification | SS06-SB06-8-10 | AOCRR-SB01-6-8 | AOCRR-SB01-10-12 | AOCRR-SB02-2-4 |
| | | Date Sampled | 03-25-95 | 03-25-95 | 03-25-95 | 03-25-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **13000** | **8400** | **7000** | **3200** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **2.0** | **1.9** | **3.2** | **1.1** |
| Barium | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **130000** | **160000** | **130000** | **170000** |
| Chromium | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **11000** | **9100** | **7600** | **2500** |
| **Lead** | EPA 7421 | 0.40 | **4.2** | **7.5** | **3.9** | **2.0** |
| **Magnesium** | EPA 6010A | 100 | **20000** | **5600** | **13000** | **2400** |
| **Manganese** | EPA 6010A | 1.5 | **86** | **140** | **68** | **35** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| Nickel | EPA 6010A | 4.0 | <20 | <20 | <20 | <20 |
| **Potassium** | EPA 6010A | 500 | **3100** | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **3000** | **3000** | **1300** | **2900** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Vanadium** | EPA 6010A | 5.0 | **25** | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **71** | **30** | **32** | **19** |
| Percent Solids | | | 84.8 | 80.4 | 78.4 | 82.6 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

# APPENDIX C-2

## Site AOC-RR

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 116
Client Sample Id: AOCRR-SB-1-6-8

Sample Date/Time: 25-MAR-95 1100
Received Date: 25-MAR-95

Batch: DRS002
Blank: A Dry Weight %: N/A

Extraction Date: 25-MAR-95
Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 105 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 117 Sample Date/Time: 25-MAR-95 1100
Client Sample Id: AOCRR-SB-1-10-12 Received Date: 25-MAR-95

Batch: DRS002 Extraction Date: 25-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 98 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 120
Client Sample Id: AOCRR-SB-02-2-4

Sample Date/Time: 25-MAR-95 1220
Received Date: 25-MAR-95

Batch: DRS002
Blank: A Dry Weight %: N/A

Extraction Date: 25-MAR-95
Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 112 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 119 Sample Date/Time: 25-MAR-95 1220
Client Sample Id: AOCRR-SB-2-2-4D Received Date: 25-MAR-95

Batch: DRS002 Extraction Date: 25-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 109 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 118 Sample Date/Time: 25-MAR-95 1220
Client Sample Id: AOCRR-SB-2-8-10 Received Date: 25-MAR-95

Batch: DRS002 Extraction Date: 25-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 110 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 121 Sample Date/Time: 25-MAR-95 1220
Client Sample Id: AOCRR-SB-03-4-6 Received Date: 25-MAR-95

Batch: DRS002 Extraction Date: 25-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 112 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 122
Client Sample Id: AOCRR-SB-03-8-10

Sample Date/Time: 25-MAR-95 1220
Received Date: 25-MAR-95

Batch: DRS002
Blank: A Dry Weight %: N/A

Extraction Date: 25-MAR-95
Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 129 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 123 Sample Date/Time: 25-MAR-95 1500
Client Sample Id: AOCRR-SB-04-2-4 Received Date: 25-MAR-95

Batch: DRS002 Extraction Date: 25-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 118 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 124 Sample Date/Time: 25-MAR-95 1500
Client Sample Id: AOCRR-SB-04-6-8 Received Date: 25-MAR-95

Batch: DRS002 Extraction Date: 25-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 25-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 113 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 125
Client Sample Id: AOC-RR-SB05-2-4

Sample Date/Time: 27-MAR-95 N/S
Received Date: 27-MAR-95

Batch: DRS003
Blank: A Dry Weight %: N/A

Extraction Date: 27-MAR-95
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 116 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Test: | MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32 |
| Analysis Method: | DRO-8015/SW 846 (Modified Mobile Lab) |
| Extraction Method: | 3550/SW 846 (Modified Mobile Lab) |
| Matrix: | SOIL |
| QC Level: | N |

| | | | |
|---|---|---|---|
| Lab Id: | 126 | Sample Date/Time: | 27-MAR-95 0925 |
| Client Sample Id: | AOC-RR-SB05-6-8 | Received Date: | 27-MAR-95 |
| Batch: DRS003 | | Extraction Date: | 27-MAR-95 |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 27-MAR-95 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 112 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 128 Sample Date/Time: 27-MAR-95 1030
Client Sample Id: AOCRR-SB-06-2-4 Received Date: 27-MAR-95

Batch: DRS003 Extraction Date: 27-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 98 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Test: | MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32 |
| Analysis Method: | DRO-8015/SW 846 (Modified Mobile Lab) |
| Extraction Method: | 3550/SW 846 (Modified Mobile Lab) |
| Matrix: | SOIL |
| QC Level: | N |

| | | | |
|---|---|---|---|
| Lab Id: | 127 | Sample Date/Time: | 27-MAR-95 1030 |
| Client Sample Id: | AOCRR-SB06-6-8 | Received Date: | 27-MAR-95 |
| Batch: DRS003 | | Extraction Date: | 27-MAR-95 |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 27-MAR-95 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 103 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 116
Client Sample Id: AOCRR-SB-1-6-8
Sample Date/Time: 25-MAR-95 1100
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 107 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 103 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 106 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 117
Client Sample Id: AOCRR-SB-1-10-12
Sample Date/Time: 25-MAR-95 1100
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 108 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 103 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 100 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 120
Client Sample Id: AOCRR-SB-02-2-4
Sample Date/Time: 25-MAR-95 1220
Received Date: 25-MAR-95

Batch: BES010
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 05-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 89 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 103 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 99 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 119
Client Sample Id: AOCRR-SB-2-2-4D
Sample Date/Time: 25-MAR-95 1220
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 99 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 105 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 107 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 118
Client Sample Id: AOCRR-SB-2-8-10
Sample Date/Time: 25-MAR-95 1220
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 106 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 103 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 121
Client Sample Id: AOCRR-SB-03-4-6
Sample Date/Time: 25-MAR-95 1220
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 106 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 101 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 97 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 122
Client Sample Id: AOCRR-SB-03-8-10
Sample Date/Time: 25-MAR-95 1220
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 107 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 108 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 107 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 123
Client Sample Id: AOCRR-SB-04-2-4
Sample Date/Time: 25-MAR-95 1500
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 105 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 107 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 107 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 124
Client Sample Id: AOCRR-SB-04-6-8
Sample Date/Time: 25-MAR-95 1500
Received Date: 25-MAR-95

Batch: BES005
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 101 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 105 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 103 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 125
Client Sample Id: AOC-RR-SB05-2-4
Sample Date/Time: 27-MAR-95 N/S
Received Date: 27-MAR-95

Batch: BES010
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 05-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 104 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 92 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 126
Client Sample Id: AOC-RR-SB05-6-8
Sample Date/Time: 27-MAR-95 0925
Received Date: 27-MAR-95

Batch: BES010
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 05-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 92 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 97 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 104 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 128
Client Sample Id: AOCRR-SB-06-2-4
Sample Date/Time: 27-MAR-95 1030
Received Date: 27-MAR-95

Batch: BES010
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 92 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 101 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 96 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 127
Client Sample Id: AOCRR-SB06-6-8
Sample Date/Time: 27-MAR-95 1030
Received Date: 27-MAR-95

Batch: BES010
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 95 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 99 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 95 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|
| | | Client Identification | SS06-SB06-8-10 | AOCRR-SB01-6-8 | AOCRR-SB01-10-12 | AOCRR-SB02-2-4 |
| | | Date Sampled | 03-25-95 | 03-25-95 | 03-25-95 | 03-25-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **13000** | **8400** | **7000** | **3200** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **2.0** | **1.9** | **3.2** | **1.1** |
| Barium | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **130000** | **160000** | **130000** | **170000** |
| Chromium | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **11000** | **9100** | **7600** | **2500** |
| **Lead** | EPA 7421 | 0.40 | **4.2** | **7.5** | **3.9** | **2.0** |
| **Magnesium** | EPA 6010A | 100 | **20000** | **5600** | **13000** | **2400** |
| **Manganese** | EPA 6010A | 1.5 | **86** | **140** | **68** | **35** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| Nickel | EPA 6010A | 4.0 | <20 | <20 | <20 | <20 |
| **Potassium** | EPA 6010A | 500 | **3100** | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **3000** | **3000** | **1300** | **2900** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Vanadium** | EPA 6010A | 5.0 | **25** | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **71** | **30** | **32** | **19** |
| Percent Solids | | | 84.8 | 80.4 | 78.4 | 82.6 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|
| | | Client Identification | A0CRR-SB02-2-4D | AOCRR-SB02-8-10 | AOCRR-SB03-4-6 | AOCRR-SB03-8-10 |
| | | Date Sampled | 03-25-95 | 03-25-95 | 03-25-95 | 03-25-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 1 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **3100** | **3400** | **7000** | **5900** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <20 |
| **Arsenic** | EPA 7060 | 1.0 | <1.0 | <1.0 | **1.7** | **1.9** |
| **Barium** | EPA 6010A | 20 | <100 | <100 | **170** | **63** |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <0.50 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <2.0 |
| **Calcium** | EPA 6010A | 100 | **170000** | **140000** | **140000** | **130000** |
| **Chromium** | EPA 6010A | 3.0 | <15 | <15 | <15 | **6.6** |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <5.0 |
| **Copper** | EPA 6010A | 2.5 | <12 | <12 | <12 | **5.0** |
| **Iron** | EPA 6010A | 10 | **2600** | **3400** | **5400** | **6300** |
| **Lead** | EPA 7421 | 0.40 | **1.8** | **1.4** | **3.2** | **3.0** |
| **Magnesium** | EPA 6010A | 100 | **2100** | **1700** | **3700** | **9900** |
| **Manganese** | EPA 6010A | 1.5 | **38** | **46** | **55** | **67** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| **Nickel** | EPA 6010A | 4.0 | <20 | <20 | <20 | **8.0** |
| **Potassium** | EPA 6010A | 500 | <2500 | <2500 | <2500 | **1600** |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <2.0 |
| **Sodium** | EPA 6010A | 100 | **2000** | **640** | **1900** | **990** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Vanadium** | EPA 6010A | 5.0 | <25 | <25 | <25 | **17** |
| **Zinc** | EPA 6010A | 2.0 | **20** | **31** | **25** | **19** |
| Percent Solids | | | 76.4 | 82.5 | 72.9 | 73.6 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOCRR-SB04-2-4 | AOCRR-SB04-6-8 | AOCRR-SB05-6-8 | AOCRR-SB05-2-4 |
| | | Date Sampled | 03-25-95 | 03-25-95 | 03-27-95 | 03-27-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **3700** | **3500** | **7200** | **1200** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **1.4** | **1.2** | **2.4** | <1.0 |
| Barium | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **130000** | **120000** | **300000** | **220000** |
| Chromium | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **3700** | **4600** | **6700** | **1200** |
| **Lead** | EPA 7421 | 0.40 | **2.9** | **2.3** | **3.8** | **1.3** |
| **Magnesium** | EPA 6010A | 100 | **2800** | **2300** | **5100** | **1300** |
| **Manganese** | EPA 6010A | 1.5 | **69** | **62** | **130** | **20** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| **Nickel** | EPA 6010A | 4.0 | <20 | <20 | **22** | <20 |
| Potassium | EPA 6010A | 500 | <2500 | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **1800** | **634** | **1400** | **990** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Vanadium | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **27** | **24** | **41** | **64** |
| Percent Solids | | | 82.8 | 83.7 | 44.6 | 72.2 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 25 | 26 | 27 | 28 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOCRR-SB06-2-4 | AOCRR-SB06-6-8 | SD15-SB01-0-2 | SD15-SB01-6-8 |
| | | Date Sampled | 03-27-95 | 03-27-95 | 03-27-95 | 03-27-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **7700** | **3200** | **5500** | **1900** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **2.0** | <1.0 | <1.0 | <1.0 |
| **Barium** | EPA 6010A | 20 | **280** | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **180000** | **190000** | **210000** | **180000** |
| Chromium | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **6700** | **3100** | **4800** | **1800** |
| **Lead** | EPA 7421 | 0.40 | **2.6** | **6.9** | **3.0** | **1.4** |
| **Magnesium** | EPA 6010A | 100 | **4200** | **2200** | **3200** | **1000** |
| **Manganese** | EPA 6010A | 1.5 | **72** | **56** | **81** | **25** |
| **Mercury** | EPA 7471 | 0.25 | <0.25 | <0.25 | **0.45** | <0.25 |
| Nickel | EPA 6010A | 4.0 | <20 | <20 | <20 | <20 |
| Potassium | EPA 6010A | 500 | <2500 | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **1600** | **1100** | **1100** | <500 |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Vanadium | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **26** | **60** | **57** | **18** |
| Percent Solids | | | 82.4 | 77.5 | 55.4 | 71.2 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

# APPENDIX C-3

## Site AOC-BBMS

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 158 Sample Date/Time: 29-MAR-95 1300
Client Sample Id: AOC-BBMS-SB1-0-2 Received Date: 29-MAR-95

Batch: DRS004 Extraction Date: 30-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 92 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 159 Sample Date/Time: 29-MAR-95 1320
Client Sample Id: AOC-BBMS-SB1-4-6 Received Date: 29-MAR-95

Batch: DRS004 Extraction Date: 30-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 92 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 160 Sample Date/Time: 29-MAR-95 1335
Client Sample Id: AOC-BBMS-SB2-2-4 Received Date: 29-MAR-95

Batch: DRS004 Extraction Date: 30-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 79 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

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Lab Id: 161
Client Sample Id: AOC-BBMS-SB2-4-6

Sample Date/Time: 29-MAR-95 1340
Received Date: 29-MAR-95

Batch: DRS004
Blank: A Dry Weight %: N/A

Extraction Date: 30-MAR-95
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 94 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 162 Sample Date/Time: 29-MAR-95 1335
Client Sample Id: AOC-BBMS-SB3-0-2 Received Date: 29-MAR-95

Batch: DRS004 Extraction Date: 30-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 86 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 163
Client Sample Id: AOC-BBMS-SB3-4-6

Sample Date/Time: 29-MAR-95 1410
Received Date: 29-MAR-95

Batch: DRS004
Blank: A Dry Weight %: N/A

Extraction Date: 30-MAR-95
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 92 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 164
Client Sample Id: AOC-BBMS-SB4-0-2
Sample Date/Time: 29-MAR-95 1420
Received Date: 29-MAR-95

Batch: DRS004
Blank: A
Dry Weight %: N/A
Extraction Date: 30-MAR-95
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 77 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

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Lab Id: 165 Sample Date/Time: 29-MAR-95 1430
Client Sample Id: AOC-BBMS-SB4-2-4 Received Date: 29-MAR-95

Batch: DRS004 Extraction Date: 30-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 91 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

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Lab Id: 166 Sample Date/Time: 30-MAR-95 0820
Client Sample Id: AOC-BBMS-SB5-0-2 Received Date: 30-MAR-95

Batch: DRS004 Extraction Date: 30-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 91 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

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Lab Id: 167
Client Sample Id: AOC-BBMS-SB5-2-4

Sample Date/Time: 30-MAR-95 0825
Received Date: 30-MAR-95

Batch: DRS004
Blank: A Dry Weight %: N/A

Extraction Date: 30-MAR-95
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 90 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

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Lab Id: 168 Sample Date/Time: 30-MAR-95 0845
Client Sample Id: AOC-BBMS-SB6-0-2 Received Date: 30-MAR-95

Batch: DRS004 Extraction Date: 30-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 100 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 169 Sample Date/Time: 30-MAR-95 0845
Client Sample Id: AOC-BBMS-SB6-0-2DUP Received Date: 30-MAR-95

Batch: DRS004 Extraction Date: 30-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 103 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 170 Sample Date/Time: 30-MAR-95 0850
Client Sample Id: AOC-BBMS-SB6-2-4 Received Date: 30-MAR-95

Batch: DRS004 Extraction Date: 30-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 83 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 158
Client Sample Id: AOC-BBMS-SB1-0-2

Sample Date/Time: 29-MAR-95 1300
Received Date: 29-MAR-95

Batch: BES007
Blank: B Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 88 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 98 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 95 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 159 Sample Date/Time: 29-MAR-95 1320
Client Sample Id: AOC-BBMS-SB1-4-6 Received Date: 29-MAR-95

Batch: BES007 Extraction Date: N/A
Blank: B Dry Weight %: N/A Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 101 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 100 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 100 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 160
Client Sample Id: AOC-BBMS-SB2-2-4
Sample Date/Time: 29-MAR-95 1335
Received Date: 29-MAR-95

Batch: BES007
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 90 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 101 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 99 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 161
Client Sample Id: AOC-BBMS-SB2-4-6
Sample Date/Time: 29-MAR-95 1340
Received Date: 29-MAR-95

Batch: BES007
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 118 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 114 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 113 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 162
Client Sample Id: AOC-BBMS-SB3-0-2
Sample Date/Time: 29-MAR-95 1335
Received Date: 29-MAR-95

Batch: BES007
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 104 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 163
Client Sample Id: AOC-BBMS-SB3-4-6
Sample Date/Time: 29-MAR-95 1410
Received Date: 29-MAR-95

Batch: BES007
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 101 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 107 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 164
Client Sample Id: AOC-BBMS-SB4-0-2
Sample Date/Time: 29-MAR-95 1420
Received Date: 29-MAR-95

Batch: BES007
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 89 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 165
Client Sample Id: AOC-BBMS-SB4-2-4
Sample Date/Time: 29-MAR-95 1430
Received Date: 29-MAR-95

Batch: BES007
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 99 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 104 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 101 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 166
Client Sample Id: AOC-BBMS-SB5-0-2
Sample Date/Time: 30-MAR-95 0820
Received Date: 30-MAR-95

Batch: BES007
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 94 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 92 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 167
Client Sample Id: AOC-BBMS-SB5-2-4
Sample Date/Time: 30-MAR-95 0825
Received Date: 30-MAR-95

Batch: BES007
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 86 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 101 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 96 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 168
Client Sample Id: AOC-BBMS-SB6-0-2
Sample Date/Time: 30-MAR-95 0845
Received Date: 30-MAR-95

Batch: BES007
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 102 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 102 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 170
Client Sample Id: AOC-BBMS-SB6-2-4
Sample Date/Time: 30-MAR-95 0850
Received Date: 30-MAR-95

Batch: BES007
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 94 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 101 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 100 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 169
Client Sample Id: AOC-BBMS-SB6-0-2DUP
Sample Date/Time: 30-MAR-95 0845
Received Date: 30-MAR-95

Batch: BES007
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 103 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 100 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 93 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

**Midwest Region**
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402

RECEIVED

APR 2 1 1995

April 14, 1995

C. Schick/S. Brothers
Groundwater Technology, Inc.
2501 Yale Blvd., SE, #204
Albuquerque, NM 87106

Dear C. Schick/S. Brothers:

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories on 03-31-95 under chain of custody records 36910 and 36908.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions concerning this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

Project Coordinator for

Terry R. Loucks
Laboratory Director

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 01 | 02 | 03 | 04 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOCBBMS-SB01-0-2 | AOCBBMS-SB01-4-6 | AOCBBMS-SB02-2-4 | AOCBBMS-SB02-4-6 |
| | | Date Sampled | 03-29-95 | 03-29-95 | 03-29-95 | 03-29-95 |
| | | Date Digested | 04-04 to 04-10-95 | 04-04 to 04-10-95 | 04-04 to 04-10-95 | 04-04 to 04-10-95 |
| | | Date Analyzed | 04-04 to 04-14-95 | 04-04 to 04-14-95 | 04-04 to 04-14-95 | 04-04 to 04-14-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **2500** | **1400** | **3000** | **4500** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **1.1** | <1.0 | <1.0 | <1.0 |
| **Barium** | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **220000** | **180000** | **240000** | **410000** |
| **Chromium** | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **3400** | **1900** | **2800** | **4300** |
| **Lead** | EPA 7421 | 0.40 | **5.8** | **2.1** | **2.7** | **5.4** |
| **Magnesium** | EPA 6010A | 100 | **3600** | **790** | **2000** | **3000** |
| **Manganese** | EPA 6010A | 1.5 | **120** | **17** | **42** | **52** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| **Nickel** | EPA 6010A | 4.0 | <20 | <20 | <20 | <20 |
| **Potassium** | EPA 6010A | 500 | <2500 | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | <500 | **870** | **1400** | **1300** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Vanadium** | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **19** | **32** | **16** | **19** |
| Percent Solids | | | 96.3 | 74.9 | 53.5 | 33.6 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOCBBMS-SB03-0-2 | AOCBBMS-SB03-4-6 | AOCBBMS-SB04-0-2 | AOCBBMS-SB04-2-4 |
| | | Date Sampled | 03-29-95 | 03-29-95 | 03-29-95 | 03-29-95 |
| | | Date Digested | 04-04 to 04-10-95 | 04-04 to 04-10-95 | 04-04 to 04-10-95 | 04-04 to 04-10-95 |
| | | Date Analyzed | 04-04 to 04-14-95 | 04-04 to 04-14-95 | 04-04 to 04-14-95 | 04-04 to 04-14-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **2500** | **1400** | **2800** | **2000** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | <1.0 | <1.0 | **1.7** | <1.0 |
| **Barium** | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **240000** | **210000** | **200000** | **220000** |
| **Chromium** | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| **Copper** | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **2000** | **1600** | **2500** | **1900** |
| **Lead** | EPA 7421 | 0.40 | **2.2** | **2.3** | **2.4** | **1.6** |
| **Magnesium** | EPA 6010A | 100 | **3300** | **1000** | **2300** | **1300** |
| **Manganese** | EPA 6010A | 1.5 | **29** | **23** | **47** | **22** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| **Nickel** | EPA 6010A | 4.0 | <20 | <20 | <20 | <20 |
| **Potassium** | EPA 6010A | 500 | <2500 | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **560** | **820** | **910** | **840** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Vanadium** | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **17** | **13** | **17** | **55** |
| Percent Solids | | | 71.3 | 66.3 | 69.0 | 66.9 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 09 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOCBBMS-SB05-0-2 | AOCBBMS-SB05-2-4 | AOCBBMS-SB06-0-2 | AOCBBMS-SB06-0-2D |
| | | Date Sampled | 03-30-95 | 03-30-95 | 03-30-95 | 03-30-95 |
| | | Date Digested | 04-04 to 04-10-95 | 04-04 to 04-10-95 | 04-04 to 04-10-95 | 04-04 to 04-10-95 |
| | | Date Analyzed | 04-04 to 04-14-95 | 04-04 to 04-14-95 | 04-04 to 04-14-95 | 04-04 to 04-14-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **3900** | **3200** | **2000** | **2900** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **1.2** | <1.0 | <1.0 | <1.0 |
| **Barium** | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **160000** | **130000** | **160000** | **160000** |
| **Chromium** | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **4400** | **3000** | **2200** | **2500** |
| **Lead** | EPA 7421 | 0.40 | **8.4** | **3.2** | **2.0** | **2.5** |
| **Magnesium** | EPA 6010A | 100 | **5200** | **1400** | **1200** | **1300** |
| **Manganese** | EPA 6010A | 1.5 | **100** | **34** | **23** | **27** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| **Nickel** | EPA 6010A | 4.0 | <20 | <20 | <20 | <20 |
| **Potassium** | EPA 6010A | 500 | <2500 | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **1300** | **820** | **660** | **610** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Vanadium** | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **96** | **48** | **13** | **17** |
| Percent Solids | | | 79.6 | 75.2 | 71.1 | 71.3 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | | | | | |
|---|---|---|---|---|---|---|
| GTEL Sample Number | | | 13 | | | |
| Client Identification | | | AOCBBMS-SB06-2-4 | | | |
| Date Sampled | | | 03-30-95 | | | |
| Date Digested | | | 04-04 to 04-10-95 | | | |
| Date Analyzed | | | 04-04 to 04-14-95 | | | |
| Dilution Factor Method 6010A | | | 5 | | | |
| Dilution Factor Method 7740 | | | 5 | | | |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **1800** | | | |
| Antimony | EPA 6010A | 20 | <100 | | | |
| **Arsenic** | EPA 7060 | 1.0 | <1.0 | | | |
| Barium | EPA 6010A | 20 | <100 | | | |
| Beryllium | EPA 6010A | 0.50 | <2.5 | | | |
| Cadmium | EPA 6010A | 2.0 | <10 | | | |
| **Calcium** | EPA 6010A | 100 | **120000** | | | |
| Chromium | EPA 6010A | 3.0 | <15 | | | |
| Cobalt | EPA 6010A | 5.0 | <25 | | | |
| Copper | EPA 6010A | 2.5 | <12 | | | |
| **Iron** | EPA 6010A | 10 | **1700** | | | |
| **Lead** | EPA 7421 | 0.40 | **2.2** | | | |
| **Magnesium** | EPA 6010A | 100 | **1000** | | | |
| **Manganese** | EPA 6010A | 1.5 | **18** | | | |
| Mercury | EPA 7471 | 0.25 | <0.25 | | | |
| Nickel | EPA 6010A | 4.0 | <20 | | | |
| Potassium | EPA 6010A | 500 | <2500 | | | |
| Selenium | EPA 7740 | 1.0 | <5.0 | | | |
| Silver | EPA 6010A | 2.0 | <10 | | | |
| **Sodium** | EPA 6010A | 100 | **910** | | | |
| Thallium | EPA 7841 | 1.0 | <1.0 | | | |
| **Vanadium** | EPA 6010A | 5.0 | <25 | | | |
| **Zinc** | EPA 6010A | 2.0 | **89** | | | |
| Percent Solids | | | 63.1 | | | |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

# QA NONCONFORMANCE SUMMARY
## Metals in Soil

1.0 Sample Handling

1.1 Sample handling and holding time criteria were not met for zero samples.

2.0 Initial Calibration Verification

2.1 The validity for the calibration verification was exceeded for zero samples as shown in Table 2.

3.0 Method Blanks

3.1 Zero target elements were found in the method blank as shown in Table 3.

4.0 Matrix Spike (MS) Accuracy

4.1 The recovery limits were exceeded in the matrix spike and matrix spike duplicate for six elements as shown in Table 4A and 4B.

4.2 Recovery limits were exceeded for matrix spike and/or matrix spike duplicate sample for aluminum, chromium, sodium due to sample heterogeneity.

4.3 Recovery limits were exceeded in the matrix spike and/or matrix spike duplicate sample for selenium and thallium due to matrix interference during digestion.

4.4 Recovery limits were exceeded in the matrix spike and matrix spike duplicate sample for antimony due to precipitation of the antimony spike in the presence of concentrated acid.

5.0 Sample Duplicate Precision

5.1 The maximum percent difference (RPD) was exceeded for four elements in the matrix spike and matrix spike duplicate samples as shown in Table 4A and 4B.

5.2 Maximum relative percent difference was exceeded in the matrix spike and/or matrix spike duplicate samples for calcium and chromium due to heterogeneity.

5.3 Maximum relative percent difference was exceeded in the matrix spike and/or matrix spike duplicate samples for selenium due to matrix interference during digestion.

5.4 Maximum relative percent difference was exceeded in the matrix and/or matrix duplicate samples for antimony due to precipitation of the antimony spike in the presence of concentrated acid.

6.0 Laboratory Control Sample

6.1 The recovery limits were not met for zero elements for the laboratory control samples as shown in Table 5A and 5B.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

**Table 2**

INITIAL CALIBRATION VERIFICATION QC CHECK SAMPLE REPORT

Metals in Soil

| Analyte | Expected Result, mg/L | Observed Result, mg/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 0.996 | 0.977 | 98.1 | 90-110 |
| Antimony | 1.00 | 1.03 | 103 | 90-110 |
| Arsenic | 0.0400 | 0.0400 | 100 | 90-110 |
| Barium | 1.02 | 1.03 | 101 | 90-110 |
| Beryllium | 0.401 | 0.411 | 103 | 90-110 |
| Cadmium | 0.498 | 0.488 | 97.8 | 90-110 |
| Calcium | 10.0 | 9.78 | 102 | 90-110 |
| Chromium | 1.00 | 1.02 | 102 | 90-110 |
| Cobalt | 1.02 | 1.04 | 102 | 90-110 |
| Copper | 1.01 | 1.01 | 100 | 90-110 |
| Iron | 1.00 | 1.05 | 105 | 90-110 |
| Lead | 0.0200 | 0.0214 | 107 | 90-110 |
| Magnesium | 10.0 | 9.96 | 99.6 | 90-110 |
| Manganese | 0.999 | 1.03 | 103 | 90-110 |
| Mercury | 0.00400 | 0.00388 | 97.0 | 90-110 |
| Nickel | 1.01 | 1.07 | 106 | 90-110 |
| Potassium | 20.0 | 18.5 | 92.5 | 90-110 |
| Selenium | 0.0400 | 0.0392 | 98.0 | 90-110 |
| Silver | 0.202 | 0.203 | 101 | 90-110 |
| Sodium | 10.0 | 9.65 | 96.5 | 90-110 |
| Thallium | 0.0200 | 0.0199 | 99.5 | 90-110 |
| Vanadium | 0.998 | 1.02 | 102 | 90-110 |
| Zinc | 0.996 | 0.982 | 98.6 | 90-110 |

a Acceptability limits as per EPA Contract Laboratory Program

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

**Table 3**

BLANK REPORT

Metals in Soil

| Analyte | Initial Calibration Blank, mg/L | Preparation Blank, mg/Kg |
|---|---|---|
| Aluminum | <0.20 | <20 |
| Antimony | <0.20 | <20 |
| Arsenic | <0.010 | <1.0 |
| Barium | <0.20 | <20 |
| Beryllium | <0.0050 | <0.50 |
| Cadmium | <0.020 | <2.0 |
| Calcium | <1.0 | <100 |
| Chromium | <0.030 | <3.0 |
| Cobalt | <0.050 | <5.0 |
| Copper | <0.025 | <2.5 |
| Iron | <0.10 | <10 |
| Lead | <0.0040 | <0.40 |
| Magnesium | <1.0 | <100 |
| Manganese | <0.015 | <1.5 |
| Mercury | <0.0025 | <0.25 |
| Nickel | <0.040 | <4.0 |
| Potassium | <5.0 | <500 |
| Selenium | <0.010 | <1.0 |
| Silver | <0.020 | <2.0 |
| Sodium | <1.0 | <100 |
| Thallium | <0.010 | <1.0 |
| Vanadium | <0.050 | <5.0 |
| Zinc | <0.020 | <2.0 |

<# Not detected at the indicated detection limit (#)

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

**Table 4A**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Soil

Sample Spiked for Method 6010A, 7060, 7421, 7740 and 7841: W5-03-0402-01
Sample Spiked for Method 7471: W5-03-0402-09

| Analyte | Spike Added, mg/Kg | Sample Concentration, mg/Kg | MS Concentration, mg/Kg | MS Percent Recovery | Acceptability Limits, %[a] |
|---|---|---|---|---|---|
| Alumimum | 840 | 2520 | 3390 | 104 | 80-120 |
| Antimony | 168 | <100 | 103 | 61.5[b] | 80-120 |
| Arsenic | 3.10 | 1.24 | 3.74 | 80.6 | 75-125 |
| Barium | 840 | <100 | 800 | 95.2 | 80-120 |
| Beryllium | 8.40 | <2.5 | 7.49 | 89.1 | 80-120 |
| Cadmium | 42.0 | <10 | 36.0 | 85.6 | 80-120 |
| Calcium | 840 | 219000 | 244000 | NA | 80-120 |
| Chromium | 16.8 | 10.2 | 22.9 | 75.5[b] | 80-120 |
| Cobalt | 168 | <25 | 153 | 90.8 | 80-120 |
| Copper | 168 | <12 | 154 | 91.6 | 80-120 |
| Iron | 840 | 3400 | 4650 | NA | 80-120 |
| Lead | 1.55 | 8.45 | 10.8 | NA | 75-125 |
| Magnesium | 840 | 3600 | 4990 | NA | 80-120 |
| Manganese | 420 | 121 | 500 | 90.3 | 80-120 |
| Mercury | .903 | <0.25 | 0.829 | 91.8 | 75-125 |
| Nickel | 420 | <20 | 380 | 90.5 | 80-120 |
| Potassium | 1680 | 598 | 2140 | 91.7 | 80-120 |
| Selenium | 3.10 | <5.0 | 0.415 | 13.4[b] | 75-125 |
| Silver | 16.8 | <10 | 14.9 | 88.6 | 80-120 |
| Sodium | 840 | 447 | 1200 | 143[b] | 80-120 |
| Thallium | 1.55 | <1.0 | 1.11 | 71.3[b] | 75-125 |
| Vanadium | 168 | 12.7 | 159 | 87.2 | 80-120 |
| Zinc | 422 | 19.2 | 388 | 87.3 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limits.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

**Table 4B**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Soil

| Analyte | Spike Added, mg/Kg | MSD Concentration, mg/Kg | MSD Percent Recovery | RPD % | Acceptability Limits, %[a] | |
|---|---|---|---|---|---|---|
| | | | | | RPD | % Recovery |
| Aluminum | 758 | 3460 | 124[b] | 17.6 | 20.0 | 80-120 |
| Antimony | 152 | 76.2 | 50.3[b] | 20.2[b] | 20.0 | 80-120 |
| Arsenic | 3.59 | 4.67 | 95.6 | 17.0 | 20.0 | 75-125 |
| Barium | 758 | 710 | 93.6 | 2.18 | 20.0 | 80-120 |
| Beryllium | 7.58 | 6.74 | 89.0 | 0.082 | 20.0 | 80-120 |
| Cadmium | 37.9 | 32.4 | 85.6 | 0.090 | 20.0 | 80-120 |
| Calcium | 758 | 186000 | NA | 27.0[b] | 20.0 | 80-120 |
| Chromium | 15.2 | 18.6 | 55.6 | 30.5[b] | 20.0 | 80-120 |
| Cobalt | 152 | 142 | 93.4 | 2.85 | 20.0 | 80-120 |
| Copper | 152 | 141 | 93.2 | 1.67 | 20.0 | 80-120 |
| Iron | 758 | 4620 | NA | 0.647 | 20.0 | 80-120 |
| Lead | 1.79 | 10.6 | NA | 1.87 | 20.0 | 75-125 |
| Magnesium | 758 | 4820 | NA | 3.47 | 20.0 | 80-120 |
| Manganese | 379 | 461 | 89.8 | 0.552 | 20.0 | 80-120 |
| Mercury | 1.04 | 0.955 | 92.0 | 0.250 | 20.0 | 75-125 |
| Nickel | 379 | 345 | 91.2 | 0.743 | 20.0 | 80-120 |
| Potassium | 1520 | 2040 | 95.4 | 3.93 | 20.0 | 80-120 |
| Selenium | 3.59 | 0.653 | 18.2[b] | 30.6[b] | 20.0 | 75-125 |
| Silver | 15.2 | 12.8 | 84.3 | 4.97 | 20.0 | 80-120 |
| Sodium | 758 | 1150 | 152[b] | 6.09 | 20.0 | 80-120 |
| Thallium | 1.79 | 1.41 | 78.4 | 9.51 | 20.0 | 75-125 |
| Vanadium | 152 | 147 | 88.8 | 1.93 | 20.0 | 80-120 |
| Zinc | 381 | 358 | 88.9 | 1.90 | 20.0 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limits.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0402
Date Reported: 04-14-95

**Table 5**

LABORATORY CONTROL SAMPLE RESULTS

Metals in Soil

| Analyte | Expected Result, mg/Kg | Observed Result, mg/Kg | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 1000 | 870 | 87.0 | 80-120 |
| Antimony | 200 | 167 | 83.7 | 80-120 |
| Arsenic | 4.00 | 3.53 | 88.2 | 75-125 |
| Barium | 1000 | 909 | 90.9 | 80-120 |
| Beryllium | 10 | 8.36 | 83.6 | 80-120 |
| Cadmium | 50 | 40.5 | 81.0 | 80-120 |
| Calcium | 1000 | 865 | 86.5 | 80-120 |
| Chromium | 20 | 19.0 | 95.0 | 80-120 |
| Cobalt | 200 | 187 | 93.5 | 80-120 |
| Copper | 200 | 179 | 89.5 | 80-120 |
| Iron | 1000 | 962 | 96.2 | 80-120 |
| Lead | 2.00 | 2.12 | 106 | 75-125 |
| Magnesium | 1000 | 865 | 86.5 | 80-120 |
| Manganese | 500 | 473 | 94.6 | 80-120 |
| Mercury | 1.00 | 0.970 | 97.0 | 75-125 |
| Nickel | 500 | 459 | 91.9 | 80-120 |
| Potassium | 2000 | 1640 | 82.0 | 80-120 |
| Selenium | 4.00 | 4.04 | 101 | 75-125 |
| Silver | 20 | 17.1 | 85.3 | 80-120 |
| Sodium | 1000 | 876 | 87.6 | 80-120 |
| Thallium | 2.00 | 2.26 | 113 | 75-125 |
| Vanadium | 200 | 186 | 93.0 | 80-120 |
| Zinc | 500 | 423 | 84.5 | 80-120 |

a Acceptability limits established by laboratory practice

AIRBORNE # 9158711896

**GTEL** ENVIRONMENTAL LABORATORIES INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PAGE 1 OF 2. 36910

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 842-3113
FAX #: (505) 242-1103
Company Address: 5501 Tale BLVD SE ALBUQUERQUE, NM
Site Location: Holloman AFB, New Mexico
Project Manager: S. Brothers / C. Schick
Client Project ID: (#) 830012201
(NAME) PA/SI @ HAFB
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): J. Molesworth

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL Metals | ~~TRH/SGC~~ | ~~HCS by 8270~~ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOCBBMS-SB01-02 | 01 | 1 | | X | | | | | | | | | X | | 3/29/95 | 1700 | | | | | | | | | | | | | | | | | | | | X | X | X |
| AOCBBMS-SB01-4-6 | 02 | 1 | | X | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| AOCBBMS-SB02-2-4 | 03 | 1 | | X | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| AOCBBMS-SB02-4-6 | 04 | 1 | | X | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| AOCBBMS-SB03-0-2 | 05 | 1 | | X | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| AOCBBMS-SB03-4-6 | 06 | 1 | | X | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| AOCBBMS-SB04-0-2 | 07 | 1 | | X | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| AOCBBMS-SB04-2-4 | 08 | 1 | | X | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| AOCBBMS-SB05-0-2 | 09 | 1 | | X | | | | | | | | | X | | 3/30/95 | 0830 | | | | | | | | | | | | | | | | | | | | X | | |
| AOCBBMS-SB05-2-4 | 10 | 1 | | X | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | X | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other Normal
Business Days ☐

**Special Handling**
GTEL Contact D. KENNEK
Quote/Contract #
Confirmation #
P.O. #

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ Project Spec

SPECIAL DETECTION LIMITS
Analyze per CDAP

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS: Use CDAP for PA/SI of SS06, SD15, AOC PR & AOC BBMS at Holloman AFB.

Lab Use Only Lot #: 2 [illegible]
Storage Location: [illegible]
Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| Sampler: [illegible] | 3/30/95 | 1300 | |
| Relinquished by: | Date | Time | Received by: |
| | | | |
| Relinquished by: | Date | Time | Received by Laboratory: [illegible] |
| | 3/[illegible]/96 | 0815 | Waybill # |

**GTEL** ENVIRONMENTAL LABORATORIES, INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PAGE 2 OF 2 36908

Company Name: GROUNDWATER TECHNOLOGY

Phone #: (505) 242-3113
FAX #: (505) 242-1103

Company Address:

Site Location:

Project Manager:

Client Project ID: (#)

(NAME)

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): J. Molesworth

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | HNO3 | H2SO4 | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL Metals | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOCBBMS-SB06-02 | | 1 | | X | | | | | | | | X | X | | 3/30/95 | 0836 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOCBBMS-SB06-02D | 12 | 1 | | X | | | | | | | | X | X | | 3/30/95 | 0830 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOCBBMS-SB06-2-4 | 13 | 1 | | X | | | | | | | | X | X | | 3/30/95 | 0830 | | | | | | | | | | | | | | | | | | | | X | | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other ____ Business Days ☐

**Special Handling**
GTEL Contact ____
Quote/Contract # ____
Confirmation # ____
P.O. # ____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ ____

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS

FAX ☐

REMARKS: Analyze per COAP

Lab Use Only Lot #: 90

Storage Location: Seal Pro

Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| [signature] | 3/30/95 | 1300 | |
| | | | |
| | 3-31-95 | 0815 | Received by Laboratory: Waybill # [illegible] |

# APPENDIX C-4

## Site SD-15

"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Test: | MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32 |
| Analysis Method: | DRO-8015/SW 846 (Modified Mobile Lab) |
| Extraction Method: | 3550/SW 846 (Modified Mobile Lab) |
| Matrix: | SOIL |
| QC Level: | N |

| | | | | |
|---|---|---|---|---|
| Lab Id: | 129 | | Sample Date/Time: | 27-MAR-95 1145 |
| Client Sample Id: | SD15-SB01-0-2 | | Received Date: | 27-MAR-95 |
| Batch: DRS003 | | | Extraction Date: | 27-MAR-95 |
| Blank: A | Dry Weight %: | N/A | Analysis Date: | 27-MAR-95 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 93 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 130
Client Sample Id: SD15-SB01-6-8

Sample Date/Time: 27-MAR-95 1145
Received Date: 27-MAR-95

Batch: DRS003
Blank: A Dry Weight %: N/A

Extraction Date: 27-MAR-95
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 108 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Test: | MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32 |
| Analysis Method: | DRO-8015/SW 846 (Modified Mobile Lab) |
| Extraction Method: | 3550/SW 846 (Modified Mobile Lab) |
| Matrix: | SOIL |
| QC Level: | N |

| | | | |
|---|---|---|---|
| Lab Id: | 131 | Sample Date/Time: | 27-MAR-95 1300 |
| Client Sample Id: | SD15-SB02-2-4 | Received Date: | 27-MAR-95 |
| Batch: DRS003 | | Extraction Date: | 27-MAR-95 |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 27-MAR-95 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 101 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 132
Client Sample Id: SD15-SB02-4-6

Sample Date/Time: 27-MAR-95 1300
Received Date: 27-MAR-95

Batch: DRS003
Blank: A Dry Weight %: N/A

Extraction Date: 27-MAR-95
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 117 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 503730 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201.03.050 |
| Project Name: | HOLLOMAN AFB, NM |
| Project Location: | ALAMOGORDO, NM |
| Test: | MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32 |
| Analysis Method: | DRO-8015/SW 846 (Modified Mobile Lab) |
| Extraction Method: | 3550/SW 846 (Modified Mobile Lab) |
| Matrix: | SOIL |
| QC Level: | N |

| | | | |
|---|---|---|---|
| Lab Id: | 133 | Sample Date/Time: | 27-MAR-95 1500 |
| Client Sample Id: | SD15-SB03-2-4 | Received Date: | 27-MAR-95 |
| Batch: DRS003 | | Extraction Date: | 27-MAR-95 |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 27-MAR-95 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 94 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 134 Sample Date/Time: 27-MAR-95 1500
Client Sample Id: SD15-SB03-2-4D Received Date: 27-MAR-95

Batch: DRS003 Extraction Date: 27-MAR-95
Blank: A Dry Weight %: N/A Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 115 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 135
Client Sample Id: SD15-SB03-4-6

Sample Date/Time: 27-MAR-95 1500
Received Date: 27-MAR-95

Batch: DRS003
Blank: A Dry Weight %: N/A

Extraction Date: 27-MAR-95
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 92 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 136
Client Sample Id: SD15-SB04-2-4

Sample Date/Time: 27-MAR-95 1625
Received Date: 27-MAR-95

Batch: DRS003
Blank: A Dry Weight %: N/A

Extraction Date: 27-MAR-95
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 113 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

Lab Id: 137
Client Sample Id: SD15-SB04-6-8
Sample Date/Time: 27-MAR-95 1625
Received Date: 27-MAR-95

Batch: DRS003
Blank: A
Dry Weight %: N/A
Extraction Date: 27-MAR-95
Analysis Date: 27-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 97 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 154
Client Sample Id: SD15-SB5-0-2

Sample Date/Time: 29-MAR-95 0900
Received Date: 29-MAR-95

Batch: DRS004
Blank: A Dry Weight %: N/A

Extraction Date: 30-MAR-95
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 83 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 155
Client Sample Id: SD15-SB5-4-6

Sample Date/Time: 29-MAR-95 0900
Received Date: 29-MAR-95

Batch: DRS004
Blank: A Dry Weight %: N/A

Extraction Date: 30-MAR-95
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 96 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 156
Client Sample Id: SD15-SB6-2-4

Sample Date/Time: 29-MAR-95 0930
Received Date: 29-MAR-95

Batch: DRS004
Blank: A Dry Weight %: N/A

Extraction Date: 30-MAR-95
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 89 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: MODIFIED TCO / PETRO. HYDROCARBON RANGE C10-C32
Analysis Method: DRO-8015/SW 846 (Modified Mobile Lab)
Extraction Method: 3550/SW 846 (Modified Mobile Lab)
Matrix: SOIL
QC Level: N

---

Lab Id: 157
Client Sample Id: SD15-SB6-4-6

Sample Date/Time: 29-MAR-95 0935
Received Date: 29-MAR-95

Batch: DRS004
Blank: A Dry Weight %: N/A

Extraction Date: 30-MAR-95
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBON | MG/KG | ND | 20 | |
| HYDROCARBONS QUANTITATED USING | N/A | N/A | | |
| ORTHO TER PHENYL | %REC/SURR | 97 | 50-150 | |
| ANALYST | INITIALS | KS | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 129
Client Sample Id: SD15-SB01-0-2
Sample Date/Time: 27-MAR-95 1145
Received Date: 27-MAR-95

Batch: BES010
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 95 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 104 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 93 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 130
Client Sample Id: SD15-SB01-6-8
Sample Date/Time: 27-MAR-95 1145
Received Date: 27-MAR-95

Batch: BES010
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 93 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 107 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 131
Client Sample Id: SD15-SB02-2-4
Sample Date/Time: 27-MAR-95 1300
Received Date: 27-MAR-95

Batch: BES010
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 97 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 101 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 95 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 132
Client Sample Id: SD15-SB02-4-6
Sample Date/Time: 27-MAR-95 1300
Received Date: 27-MAR-95

Batch: BES010
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 96 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 100 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 89 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 133
Client Sample Id: SD15-SB03-2-4
Sample Date/Time: 27-MAR-95 1500
Received Date: 27-MAR-95

Batch: BES010
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 94 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 100 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 134
Client Sample Id: SD15-SB03-2-4D
Sample Date/Time: 27-MAR-95 1500
Received Date: 27-MAR-95

Batch: BES010
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 101 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 96 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 135
Client Sample Id: SD15-SB03-4-6
Sample Date/Time: 27-MAR-95 1500
Received Date: 27-MAR-95

Batch: BES010
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 97 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 99 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 136
Client Sample Id: SD15-SB04-2-4
Sample Date/Time: 27-MAR-95 1625
Received Date: 27-MAR-95

Batch: BES010
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 98 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 83 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 137
Client Sample Id: SD15-SB04-6-8
Sample Date/Time: 27-MAR-95 1625
Received Date: 27-MAR-95

Batch: BES010
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 96 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 104 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 154
Client Sample Id: SD15-SB5-0-2
Sample Date/Time: 29-MAR-95 0900
Received Date: 29-MAR-95

Batch: BES007
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 116 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 112 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 113 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 155
Client Sample Id: SD15-SB5-4-6
Sample Date/Time: 29-MAR-95 0900
Received Date: 29-MAR-95

Batch: BES007
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 116 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 106 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 106 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 156
Client Sample Id: SD15-SB6-2-4
Sample Date/Time: 29-MAR-95 0930
Received Date: 29-MAR-95

Batch: BES007
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 114 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 107 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 110 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: SOIL
QC Level: N

Lab Id: 157
Client Sample Id: SD15-SB6-4-6
Sample Date/Time: 29-MAR-95 0935
Received Date: 29-MAR-95

Batch: BES007
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 30-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/KG | ND | 500 | |
| BENZENE | UG/KG | ND | 50 | |
| BROMODICHLOROMETHANE | UG/KG | ND | 50 | |
| BROMOFORM | UG/KG | ND | 500 | |
| BROMOMETHANE | UG/KG | ND | 500 | |
| 2-BUTANONE (MEK) | UG/KG | ND | 500 | |
| CARBON DISULFIDE | UG/KG | ND | 50 | |
| CARBON TETRACHLORIDE | UG/KG | ND | 50 | |
| CHLOROBENZENE | UG/KG | ND | 50 | |
| CHLOROETHANE | UG/KG | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/KG | ND | 500 | |
| CHLOROFORM | UG/KG | ND | 50 | |
| CHLOROMETHANE | UG/KG | ND | 500 | |
| DIBROMOMETHANE | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/KG | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/KG | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/KG | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/KG | ND | 50 | |
| ETHYL BENZENE | UG/KG | ND | 50 | |
| 2-HEXANONE | UG/KG | ND | 500 | |
| METHYLENE CHLORIDE | UG/KG | ND | 300 | |
| 4-METHYL-2-PENTANONE | UG/KG | ND | 500 | |
| STYRENE | UG/KG | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/KG | ND | 50 | |
| TETRACHLOROETHENE | UG/KG | ND | 50 | |
| TOLUENE | UG/KG | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/KG | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/KG | ND | 50 | |
| TRICHLOROETHENE | UG/KG | ND | 50 | |
| VINYL ACETATE | UG/KG | ND | 50 | |
| VINYL CHLORIDE | UG/KG | ND | 50 | |
| TOTAL XYLENES | UG/KG | ND | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 121 | 70-121 | |
| TOLUENE-D8 | %REC/SURR | 110 | 84-138 | |
| BROMOFLUOROBENZENE | %REC/SURR | 113 | 59-113 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 129 Sample Date/Time: 27-MAR-95 1145
Client Sample Id: SD15-SB01-0-2 Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 6.20 | NA | | PHS001 | KS |

Comments:
Analyzed: 27-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 130
Client Sample Id: SD15-SB01-6-8
Sample Date/Time: 27-MAR-95 1145
Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 5.75 | NA | | PHS001 | KS |

Comments:

Analyzed: 27-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 131
Client Sample Id: SD15-SB02-2-4
Sample Date/Time: 27-MAR-95 1300
Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 6.38 | NA | | PHS001 | KS |

Comments:

Analyzed: 27-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 132
Client Sample Id: SD15-SB02-4-6
Sample Date/Time: 27-MAR-95 1300
Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 6.74 | NA | | PHS001 | KS |

Comments:

Analyzed: 27-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 133
Client Sample Id: SD15-SB03-2-4
Sample Date/Time: 27-MAR-95 1500
Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.29 | NA | | PHS001 | KS |

Comments:

Analyzed: 27-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 134
Client Sample Id: SD15-SB03-2-4D
Sample Date/Time: 27-MAR-95 1500
Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.33 | NA | | PHS001 | KS |

Comments:

Analyzed: 27-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 135
Client Sample Id: SD15-SB03-4-6
Sample Date/Time: 27-MAR-95 1500
Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.41 | NA | | PHS001 | KS |

Comments:

Analyzed: 27-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 136
Client Sample Id: SD15-SB04-2-4
Sample Date/Time: 27-MAR-95 1625
Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.55 | NA | | PHS001 | KS |

Comments:

Analyzed: 27-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 137
Client Sample Id: SD15-SB04-6-8
Sample Date/Time: 27-MAR-95 1625
Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.53 | NA | | PHS001 | KS |

Comments:

Analyzed: 27-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 154
Client Sample Id: SD15-SB5-0-2
Sample Date/Time: 29-MAR-95 0900
Received Date: 29-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.91 | NA | | PHS002 | KS |

Comments:

Analyzed: 29-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 155
Client Sample Id: SD15-SB5-4-6
Sample Date/Time: 29-MAR-95 0900
Received Date: 29-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.70 | NA | | PHS002 | KS |

Comments:

Analyzed: 29-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 156
Client Sample Id: SD15-SB6-2-4
Sample Date/Time: 29-MAR-95 0930
Received Date: 29-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.53 | NA | | PHS002 | KS |

Comments:

Analyzed: 29-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 157
Client Sample Id: SD15-SB6-4-6
Sample Date/Time: 29-MAR-95 0935
Received Date: 29-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.58 | NA | | PHS002 | KS |

Comments:

Analyzed: 29-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 270
Client Sample Id: SD15-SB04-6-8 DUP
Sample Date/Time: 27-MAR-95 1625
Received Date: 27-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.55 | NA | | PHS001 | KS |

Comments:

Analyzed: 27-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: SOIL
QC Level: N

Lab ID: 271
Client Sample Id: SD15-SB6-4-6 DUP
Sample Date/Time: 29-MAR-95 0935
Received Date: 29-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (9045) | UNITS | 7.57 | NA | | PHS002 | KS |

Comments:
Analyzed: 29-MAR-95

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 25 | 26 | 27 | 28 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOCRR-SB06-2-4 | AOCRR-SB06-6-8 | SD15-SB01-0-2 | SD15-SB01-6-8 |
| | | Date Sampled | 03-27-95 | 03-27-95 | 03-27-95 | 03-27-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **7700** | **3200** | **5500** | **1900** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **2.0** | <1.0 | <1.0 | <1.0 |
| **Barium** | EPA 6010A | 20 | **280** | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **180000** | **190000** | **210000** | **180000** |
| Chromium | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **6700** | **3100** | **4800** | **1800** |
| **Lead** | EPA 7421 | 0.40 | **2.6** | **6.9** | **3.0** | **1.4** |
| **Magnesium** | EPA 6010A | 100 | **4200** | **2200** | **3200** | **1000** |
| **Manganese** | EPA 6010A | 1.5 | **72** | **56** | **81** | **25** |
| **Mercury** | EPA 7471 | 0.25 | <0.25 | <0.25 | **0.45** | <0.25 |
| Nickel | EPA 6010A | 4.0 | <20 | <20 | <20 | <20 |
| Potassium | EPA 6010A | 500 | <2500 | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **1600** | **1100** | **1100** | <500 |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Vanadium | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **26** | **60** | **57** | **18** |
| Percent Solids | | | 82.4 | 77.5 | 55.4 | 71.2 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 29 | 30 | 31 | 32 |
|---|---|---|---|---|---|---|
| | | Client Identification | SD15-SB02-2-4 | SD15-SB02-4-6 | SD15-SB03-2-4 | SD15-SB03-2-4D |
| | | Date Sampled | 03-27-95 | 03-27-95 | 03-27-95 | 03-27-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **2800** | **3900** | **390** | **1200** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | **1.3** | **1.8** | <1.0 | <1.0 |
| Barium | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **190000** | **180000** | **140000** | **150000** |
| Chromium | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **4800** | **4600** | **230** | **960** |
| **Lead** | EPA 7421 | 0.40 | **6.1** | **3.5** | **1.6** | **0.8** |
| **Magnesium** | EPA 6010A | 100 | **4200** | **3000** | **1600** | **1000** |
| **Manganese** | EPA 6010A | 1.5 | **110** | **88** | **12** | **22** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| Nickel | EPA 6010A | 4.0 | <20 | <20 | <20 | <20 |
| Potassium | EPA 6010A | 500 | <2500 | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | <500 | <500 | **970** | **580** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Vanadium | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **22** | **47** | **17** | <10 |
| Percent Solids | | | 82.1 | 78.0 | 68.8 | 88.7 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | GTEL Sample Number | 33 | 34 | 35 | 36 |
|---|---|---|---|---|---|---|
| | | Client Identification | SD15-SB03-4-6 | SD15-SB04-2-4 | SD15-SB04-6-8 | SD15-SB05-0-2 |
| | | Date Sampled | 03-27-95 | 03-27-95 | 03-27-95 | 03-29-95 |
| | | Date Digested | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 |
| | | Date Analyzed | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7740 | 5 | 5 | 5 | 5 |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **2000** | **3000** | **2400** | **4400** |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| **Arsenic** | EPA 7060 | 1.0 | <1.0 | **3.0** | <1.0 | <1.0 |
| Barium | EPA 6010A | 20 | <100 | <100 | <100 | <100 |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | <2.5 |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Calcium** | EPA 6010A | 100 | **170000** | **170000** | **160000** | **170000** |
| Chromium | EPA 6010A | 3.0 | <15 | <15 | <15 | <15 |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | <12 |
| **Iron** | EPA 6010A | 10 | **2200** | **6900** | **3000** | **3900** |
| **Lead** | EPA 7421 | 0.40 | **1.9** | **23** | **2.9** | **2.0** |
| **Magnesium** | EPA 6010A | 100 | **1600** | **5600** | **1300** | **2900** |
| **Manganese** | EPA 6010A | 1.5 | **43** | **200** | **38** | **60** |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| Nickel | EPA 6010A | 4.0 | <20 | <20 | <20 | <20 |
| Potassium | EPA 6010A | 500 | <2500 | <2500 | <2500 | <2500 |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | <10 |
| **Sodium** | EPA 6010A | 100 | **613** | <500 | **520** | **550** |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | <5 |
| Vanadium | EPA 6010A | 5.0 | <25 | <25 | <25 | <25 |
| **Zinc** | EPA 6010A | 2.0 | **21** | **44** | **71** | **38** |
| Percent Solids | | | 70.0 | 96.0 | 71.7 | 77.8 |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

ANALYTICAL RESULTS
Metals in Soil[a]

| | | | | | | |
|---|---|---|---|---|---|---|
| GTEL Sample Number | | | 37 | 38 | 39 | |
| Client Identification | | | SD15-SB05-4-6 | SD15-SB06-2-4 | SD15-SB06-4-6 | |
| Date Sampled | | | 03-29-95 | 03-29-95 | 03-29-95 | |
| Date Digested | | | 03-31 to 04-06-95 | 03-31 to 04-06-95 | 03-31 to 04-06-95 | |
| Date Analyzed | | | 04-04 to 04-11-95 | 04-04 to 04-11-95 | 04-04 to 04-11-95 | |
| Dilution Factor Method 6010A | | | 5 | 5 | 5 | |
| Dilution Factor Method 7740 | | | 5 | 5 | 5 | |
| Analyte | Method | QL* mg/Kg | Concentration, mg/Kg | | | |
| **Aluminum** | EPA 6010A | 20 | **1700** | **5600** | **3800** | |
| Antimony | EPA 6010A | 20 | <100 | <100 | <100 | |
| **Arsenic** | EPA 7060 | 1.0 | <1.0 | **1.7** | <1.0 | |
| Barium | EPA 6010A | 20 | <100 | <100 | <100 | |
| Beryllium | EPA 6010A | 0.50 | <2.5 | <2.5 | <2.5 | |
| Cadmium | EPA 6010A | 2.0 | <10 | <10 | <10 | |
| **Calcium** | EPA 6010A | 100 | **240000** | **140000** | **170000** | |
| Chromium | EPA 6010A | 3.0 | <15 | <15 | <15 | |
| Cobalt | EPA 6010A | 5.0 | <25 | <25 | <25 | |
| Copper | EPA 6010A | 2.5 | <12 | <12 | <12 | |
| **Iron** | EPA 6010A | 10 | **1500** | **5200** | **3500** | |
| **Lead** | EPA 7421 | 0.40 | **1.6** | **3.3** | **1.8** | |
| **Magnesium** | EPA 6010A | 100 | **3800** | **2500** | **1600** | |
| **Manganese** | EPA 6010A | 1.5 | **35** | **86** | **53** | |
| Mercury | EPA 7471 | 0.25 | <0.25 | <0.25 | <0.25 | |
| Nickel | EPA 6010A | 4.0 | <20 | <20 | <20 | |
| Potassium | EPA 6010A | 500 | <2500 | <2500 | <2500 | |
| Selenium | EPA 7740 | 1.0 | <5.0 | <5.0 | <5.0 | |
| Silver | EPA 6010A | 2.0 | <10 | <10 | <10 | |
| **Sodium** | EPA 6010A | 100 | **850** | **560** | **570** | |
| Thallium | EPA 7841 | 1.0 | <1.0 | <1.0 | <1.0 | |
| Vanadium | EPA 6010A | 5.0 | <25 | <25 | <25 | |
| **Zinc** | EPA 6010A | 2.0 | **80** | **33** | **18** | |
| Percent Solids | | | 68.5 | 77.7 | 76.6 | |

a EPA 6010A, EPA 7060, EPA 7421, EPA 7471, EPA 7740, EPA 7841: "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846". Third Edition, Revision 1, US EPA July 1992. Results calculated on a dry weight basis.

EPA 6010A, EPA 7060, EPA 7421, EPA 7740 and EPA 7841: Digestion by EPA Method 3050A.

* Quantitation Limit.

Note: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

# QA NONCONFORMANCE SUMMARY
## Metals in Soil

1.0 Sample Handling

1.1 Sample handling and holding time criteria were not met for zero samples.

2.0 Initial Calibration Verification

2.1 The validity for the calibration verification was exceeded for zero samples as shown in Table 2.

3.0 Method Blanks

3.1 Zero target elements were found in the method blank as shown in Table 3.

4.0 Matrix Spike (MS) Accuracy

4.1 The recovery limits were exceeded in the matrix spike and matrix spike duplicate for seven elements as shown in Table 4A, 4B, 4C and 4D.

4.2 Recovery limits were exceeded for barium, chromium, manganese, potassium, and sodium in the matrix spike and/or matrix spike duplicate sample(s) due to heterogeneity.

4.3 Recovery limits were exceeded in the matrix spike and/or matrix spike duplicate sample(s) for selenium due to matrix interference.

4.4 Recovery limits were exceeded for antimony in the matrix spike and/or matrix spike duplicate sample due to precipitation of the antimony spike in the presence of concentrated hydrochloric acid.

5.0 Sample Duplicate Precision

5.1 The maximum percent difference (RPD) was exceeded for eight elements in the matrix spike and matrix spike duplicate samples as shown in Table 4A, 4B, 4C and 4D.

5.2 Maximum relative percent difference was exceeded in the matrix spike and/or matrix spike duplicate samples for aluminum, barium, chromium, iron, magnesium, potassium, and sodium due to heterogeneity.

5.3 Maximum relative percent difference was exceeded in the matrix spike and/or matrix spike duplicate samples for antimony due to precipitation of the antimony spike in the presence of concentrated hydrochloric acid.

6.0 Laboratory Control Sample

6.1 The recovery limits were not met for zero elements for the laboratory control samples as shown in Table 5A and 5B.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

**Table 2**

INITIAL CALIBRATION VERIFICATION QC CHECK SAMPLE REPORT

Metals in Soil

| Analyte | Expected Result, mg/L | Observed Result, mg/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 0.996 | 0.977 | 98.1 | 90-110 |
| Antimony | 1.00 | 1.03 | 103 | 90-110 |
| Arsenic | 0.0400 | 0.0408 | 102 | 90-110 |
| Barium | 1.02 | 1.03 | 101 | 90-110 |
| Beryllium | 0.401 | 0.411 | 103 | 90-110 |
| Cadmium | 0.498 | 0.488 | 97.9 | 90-110 |
| Calcium | 10.0 | 9.78 | 97.8 | 90-110 |
| Chromium | 1.00 | 1.02 | 102 | 90-110 |
| Cobalt | 1.02 | 1.04 | 102 | 90-110 |
| Copper | 1.01 | 1.00 | 99.5 | 90-110 |
| Iron | 1.00 | 1.05 | 105 | 90-110 |
| Lead | 0.0200 | 0.0195 | 97.5 | 90-110 |
| Magnesium | 10.0 | 9.96 | 99.6 | 90-110 |
| Manganese | 0.999 | 1.03 | 103 | 90-110 |
| Mercury | 0.00400 | 0.00398 | 99.5 | 90-110 |
| Nickel | 1.01 | 1.07 | 106 | 90-110 |
| Potassium | 20.0 | 18.5 | 92.7 | 90-110 |
| Selenium | 0.0400 | 0.0396 | 99.0 | 90-110 |
| Silver | 0.202 | 0.203 | 100 | 90-110 |
| Sodium | 10.0 | 9.65 | 96.5 | 90-110 |
| Thallium | 0.020 | 0.0206 | 103 | 90-110 |
| Vanadium | 0.998 | 1.02 | 103 | 90-110 |
| Zinc | 0.996 | 0.982 | 98.6 | 90-110 |

a Acceptability limits as per EPA Contract Laboratory Program

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

**Table 3**

BLANK REPORT

Metals in Soil

| Analyte | Initial Calibration Blank, mg/L | Preparation Blank, mg/Kg | |
|---|---|---|---|
| Aluminum | <0.20 | <20 | <20 |
| Antimony | <0.20 | <20 | <20 |
| Arsenic | <0.010 | <1.0 | <1.0 |
| Barium | <0.20 | <20 | <20 |
| Beryllium | <0.0050 | <0.50 | <0.50 |
| Cadmium | <0.020 | <2.0 | <2.0 |
| Calcium | <1.0 | <100 | <100 |
| Chromium | <0.030 | <3.0 | <3.0 |
| Cobalt | <0.050 | <5.0 | <5.0 |
| Copper | <0.025 | <2.5 | <2.5 |
| Iron | <0.10 | <10 | <10 |
| Lead | <0.0040 | <0.40 | <0.40 |
| Magnesium | <1.0 | <100 | <100 |
| Manganese | <0.015 | <1.5 | <1.5 |
| Mercury | <0.0025 | <0.25 | <0.25 |
| Nickel | <0.040 | <4.0 | <4.0 |
| Potassium | <5.0 | <500 | <500 |
| Selenium | <0.010 | <1.0 | <1.0 |
| Silver | <0.020 | <2.0 | <2.0 |
| Sodium | <1.0 | <100 | <100 |
| Thallium | <0.010 | <1.0 | <1.0 |
| Vanadium | <0.050 | <5.0 | <5.0 |
| Zinc | <0.020 | <2.0 | <2.0 |

<# Not detected at the indicated detection limit (#)

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

**Table 4A**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Soil

Sample Spiked for Method 6010A and 7471: W5-03-0366-01
Sample Spiked for Method 7841, 7060, 7421 and 7740: W5-03-0366-05

| Analyte | Spike Added, mg/Kg | Sample Concentration, mg/Kg | MS Concentration, mg/Kg | MS Percent Recovery | Acceptability Limits, %[a] |
|---|---|---|---|---|---|
| Alumimum | 877 | 10400 | 129000 | NA | 80-120 |
| Antimony | 175 | <100 | 56.8 | 32.4[b] | 80-120 |
| Arsenic | 3.47 | 3.59 | 6.54 | 84.8 | 75-125 |
| Barium | 877 | <100 | 573 | 65.3[b] | 80-120 |
| Beryllium | 8.77 | <2.5 | 9.17 | 104 | 80-120 |
| Cadmium | 43.9 | <10 | 39.8 | 90.8 | 80-120 |
| Calcium | 877 | 160000 | 168000 | NA | 80-120 |
| Chromium | 17.5 | 14.1 | 32.5 | 105 | 80-120 |
| Cobalt | 175 | <25 | 174 | 99.4 | 80-120 |
| Copper | 175 | <12 | 172 | 98.3 | 80-120 |
| Iron | 877 | 10100 | 12300 | NA | 80-120 |
| Lead | 1.74 | 6.57 | 8.30 | 99.4 | 75-125 |
| Magnesium | 877 | 19400 | 22300 | NA | 80-120 |
| Manganese | 439 | 312 | 694 | 87.1 | 80-120 |
| Mercury | 1.07 | <0.25 | 1.06 | 98.2 | 75-125 |
| Nickel | 439 | 21.1 | 444 | 96.3 | 80-120 |
| Potassium | 1750 | 2450 | 4400 | 111 | 80-120 |
| Selenium | 3.47 | <5.0 | <5.0 | 0.0[b] | 75-125 |
| Silver | 17.5 | <10 | 17.1 | 97.6 | 80-120 |
| Sodium | 877 | 3220 | 4490 | 144[b] | 80-120 |
| Thallium | 1.74 | <1.0 | 1.52 | 87.3 | 75-125 |
| Vanadium | 175 | 27.9 | 197 | 96.4 | 80-120 |
| Zinc | 441 | 59.0 | 453 | 89.4 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limits.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

**Table 4B**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Soil

| Analyte | Spike Added, mg/Kg | MSD Concentration, mg/Kg | MSD Percent Recovery | RPD % | Acceptability Limits, %[a] | |
|---|---|---|---|---|---|---|
| | | | | | RPD | % Recovery |
| Aluminum | 870 | 9260 | NA | 32.8[b] | 20.0 | 80-120 |
| Antimony | 174 | 73.8 | 42.4[b] | 26.9[b] | 20.0 | 80-120 |
| Arsenic | 3.56 | 6.55 | 88.2 | 3.88 | 20.0 | 75-125 |
| Barium | 870 | 547 | 62.9[b] | 3.74 | 20.0 | 80-120 |
| Beryllium | 8.70 | 8.59 | 101 | 2.93 | 20.0 | 80-120 |
| Cadmium | 43.5 | 38.5 | 88.6 | 2.44 | 20.0 | 80-120 |
| Calcium | 870 | 170000 | NA | 1.18 | 20.0 | 80-120 |
| Chromium | 17.4 | 25.8 | 67.0[b] | 44.0[b] | 20.0 | 80-120 |
| Cobalt | 174 | 164 | 94.2 | 5.37 | 20.0 | 80-120 |
| Copper | 174 | 164 | 94.2 | 4.26 | 20.0 | 80-120 |
| Iron | 870 | 9020 | NA | 30.5[b] | 20.0 | 80-120 |
| Lead | 1.68 | 8.52 | 116 | 15.5 | 20.0 | 75-125 |
| Magnesium | 870 | 17400 | NA | 24.2[b] | 20.0 | 80-120 |
| Manganese | 435 | 643 | 76.1[b] | 13.5 | 20.0 | 80-120 |
| Mercury | 1.07 | 1.06 | 98.2 | 0.0 | 20.0 | 75-125 |
| Nickel | 435 | 416 | 90.8 | 5.93 | 20.0 | 80-120 |
| Potassium | 1740 | 3410 | 55.1[b] | 67.4[b] | 20.0 | 80-120 |
| Selenium | 3.56 | <5.0 | 0.0[b] | 0.0 | 20.0 | 75-125 |
| Silver | 17.4 | 15.4 | 88.9 | 9.42 | 20.0 | 80-120 |
| Sodium | 870 | 3920 | 79.8[b] | 57.5[b] | 20.0 | 80-120 |
| Thallium | 1.68 | 1.39 | 83.1 | 5.02 | 20.0 | 75-125 |
| Vanadium | 174 | 181 | 88.2 | 8.88 | 20.0 | 80-120 |
| Zinc | 437 | 428 | 84.5 | 5.56 | 20.0 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limits.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

**Table 4C**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Soil

Sample Spiked for Method 6010: W5-03-0366-25
Sample Spiked for Method 7471: W5-03-0366-21
Sample Spiked for Method 7841, 7060, 7421 and 7740: W5-03-0366-33

| Analyte | Spike Added, mg/Kg | Sample Concentration, mg/Kg | MS Concentration, mg/Kg | MS Percent Recovery | Acceptability Limits, %[a] |
|---|---|---|---|---|---|
| Alumimum | 926 | 7740 | 7330 | NA | 80-120 |
| Antimony | 185 | <100 | 93.1 | 50.3[b] | 80-120 |
| Arsenic | 5.24 | <1.0 | 5.53 | 105 | 75-125 |
| Barium | 926 | 278 | 681 | 43.5[b] | 80-120 |
| Beryllium | 9.26 | <2.5 | 9.34 | 101 | 80-120 |
| Cadmium | 46.3 | <10 | 39.6 | 85.5 | 80-120 |
| Calcium | 926 | 181000 | 183000 | NA | 80-120 |
| Chromium | 18.5 | 8.33 | 29.6 | 115 | 80-120 |
| Cobalt | 185 | <25 | 183 | 98.9 | 80-120 |
| Copper | 185 | <12 | 178 | 96.2 | 80-120 |
| Iron | 926 | 6720 | 6830 | NA | 80-120 |
| Lead | 2.62 | 1.91 | 4.71 | 107 | 75-125 |
| Magnesium | 926 | 4180 | 4650 | NA | 80-120 |
| Manganese | 463 | 72.1 | 521 | 97.0 | 75-125 |
| Mercury | 0.893 | <0.25 | 0.978 | 110 | 75-125 |
| Nickel | 463 | <20 | 462 | 99.8 | 80-120 |
| Potassium | 1850 | 1750 | 3240 | 80.5 | 80-120 |
| Selenium | 5.24 | <5.0 | 1.74 | 33.2[b] | 75-125 |
| Silver | 18.5 | <10 | 16.5 | 89.2 | 80-120 |
| Sodium | 926 | 1560 | 2940 | 149[b] | 80-120 |
| Thallium | 2.62 | <1.0 | 2.70 | 103 | 75-125 |
| Vanadium | 185 | 20.2 | 189 | 91.2 | 80-120 |
| Zinc | 465 | 26.5 | 483 | 98.2 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limits.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

**Table 4D**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Soil

| Analyte | Spike Added, mg/Kg | MSD Concentration, mg/Kg | MSD Percent Recovery | RPD % | Acceptability Limits, %[a] | |
|---|---|---|---|---|---|---|
| | | | | | RPD | % Recovery |
| Aluminum | 862 | 6940 | NA | 5.47 | 20.0 | 80-120 |
| Antimony | 172 | 67.6 | 39.3[b] | 24.6[b] | 20.0 | 80-120 |
| Arsenic | 5.66 | 6.28 | 111 | 5.21 | 20.0 | 75-125 |
| Barium | 862 | 563 | 33.6[b] | 25.7[b] | 20.0 | 80-120 |
| Beryllium | 8.62 | 8.18 | 94.9 | 6.23 | 20.0 | 80-120 |
| Cadmium | 43.1 | 34.7 | 80.5 | 6.02 | 20.0 | 80-120 |
| Calcium | 862 | 190000 | NA | 3.75 | 20.0 | 80-120 |
| Chromium | 17.2 | 22.9 | 84.7 | 30.3[b] | 20.0 | 80-120 |
| Cobalt | 172 | 163 | 94.7 | 4.34 | 20.0 | 80-120 |
| Copper | 172 | 164 | 95.3 | 0.94 | 20.0 | 80-120 |
| Iron | 862 | 6500 | NA | 3.33 | 20.0 | 80-120 |
| Lead | 2.83 | 4.97 | 108 | 1.16 | 20.0 | 75-125 |
| Magnesium | 862 | 4500 | NA | 7.37 | 20.0 | 80-120 |
| Manganese | 431 | 466 | 91.4 | 5.94 | 20.0 | 80-120 |
| Mercury | 0.794 | 0.836 | 105 | 4.00 | 20.0 | 75-125 |
| Nickel | 431 | 408 | 94.7 | 1.34 | 20.0 | 80-120 |
| Potassium | 1720 | 2970 | 70.9[b] | 12.7 | 20.0 | 80-120 |
| Selenium | 5.66 | 1.67 | 29.5[b] | 11.8 | 20.0 | 75-125 |
| Silver | 17.2 | 14.6 | 84.9 | 4.94 | 20.0 | 80-120 |
| Sodium | 862 | 2280 | 83.5 | 56.3[b] | 20.0 | 80-120 |
| Thallium | 2.83 | 2.71 | 95.9 | 7.09 | 20.0 | 75-125 |
| Vanadium | 172 | 173 | 88.8 | 2.67 | 20.0 | 80-120 |
| Zinc | 433 | 408 | 88.1 | 10.8 | 20.0 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limits.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

**Table 5A**

LABORATORY CONTROL SAMPLE RESULTS

Metals in Soil

| Analyte | Expected Result, mg/Kg | Observed Result, mg/Kg | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 1000 | 878 | 87.8 | 80-120 |
| Antimony | 200 | 172 | 86.1 | 80-120 |
| Arsenic | 4.00 | 3.38 | 84.5 | 75-125 |
| Barium | 1000 | 899 | 89.9 | 80-120 |
| Beryllium | 10 | 8.52 | 85.2 | 80-120 |
| Cadmium | 50 | 40.0 | 80.0 | 80-120 |
| Calcium | 1000 | 856 | 85.6 | 80-120 |
| Chromium | 20 | 19.2 | 95.8 | 80-120 |
| Cobalt | 200 | 186 | 92.8 | 80-120 |
| Copper | 200 | 182 | 91.1 | 80-120 |
| Iron | 1000 | 975 | 97.5 | 80-120 |
| Lead | 2.00 | 2.20 | 110 | 75-125 |
| Magnesium | 1000 | 863 | 86.3 | 80-120 |
| Manganese | 500 | 475 | 95.0 | 80-120 |
| Mercury | 1.00 | 0.910 | 91.0 | 75-125 |
| Nickel | 500 | 466 | 93.2 | 80-120 |
| Potassium | 2000 | 1660 | 83.0 | 80-120 |
| Selenium | 4.00 | 3.77 | 94.2 | 75-125 |
| Silver | 20 | 16.2 | 81.0 | 80-120 |
| Sodium | 1000 | 890 | 89.0 | 80-120 |
| Thallium | 2.00 | 1.87 | 93.5 | 75-125 |
| Vanadium | 2000 | 187 | 93.5 | 80-120 |
| Zinc | 500 | 420 | 83.9 | 80-120 |

a Acceptability limits established by laboratory practice

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-03-0366
Date Reported: 04-13-95

**Table 5B**

LABORATORY CONTROL SAMPLE RESULTS

Metals in Soil

| Analyte | Expected Result, mg/Kg | Observed Result, mg/Kg | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 1000 | 870 | 87.0 | 80-120 |
| Antimony | 200 | 167 | 83.7 | 80-120 |
| Arsenic | 4.00 | 3.33 | 83.2 | 75-125 |
| Barium | 1000 | 909 | 90.9 | 80-120 |
| Beryllium | 10 | 8.36 | 83.6 | 80-120 |
| Cadmium | 50 | 40.5 | 81.0 | 80-120 |
| Calcium | 1000 | 865 | 86.3 | 80-120 |
| Chromium | 20 | 19.0 | 95.1 | 80-120 |
| Cobalt | 200 | 187 | 93.0 | 80-120 |
| Copper | 200 | 179 | 89.5 | 80-120 |
| Iron | 1000 | 962 | 96.2 | 80-120 |
| Lead | 2.00 | 2.43 | 122 | 75-125 |
| Magnesium | 1000 | 865 | 86.5 | 80-120 |
| Manganese | 500 | 473 | 94.6 | 80-120 |
| Mercury | 1.00 | 1.01 | 101 | 75-125 |
| Nickel | 500 | 459 | 91.9 | 80-120 |
| Potassium | 2000 | 1640 | 81.7 | 80-120 |
| Selenium | 4.00 | 4.11 | 103 | 75-125 |
| Silver | 20 | 17.1 | 85.3 | 80-120 |
| Sodium | 1000 | 876 | 87.6 | 80-120 |
| Thallium | 2.00 | 1.92 | 96.0 | 75-125 |
| Vanadium | 2000 | 186 | 93.2 | 80-120 |
| Zinc | 500 | 423 | 84.5 | 80-120 |

a Acceptability limits established by laboratory practice

**GTEL** ENVIRONMENTAL LABORATORIES INC

1 of 2 Coolers

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

AIRBORNE #9198711793

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PAGE 1 OF 4

36916

Company Name: GROUNDWATER TECHNOLOGY

Phone #: (505) 242-3113

FAX #: (505) 242-1103

Company Address: 2501 YALE BLVD SE ALBUQUERQUE, NM

Site Location: HAFB/PASI

Project Manager: C. SCHICK / S. BROTHERS

Client Project ID: (#) PASI

(NAME) 830012201

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Chuck Schick

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL METALS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS06-SB01-4-6 | 01 | 1 | | X | | | | | | | | | X | | 3/25/95 | 0430 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB01-6-8 | 02 | 1 | | | | | | | | | | | | | 3/25 | 1050 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB02-0-2 | 03 | 1 | | | | | | | | | | | | | 3/25 | 1050 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB02-6-8 | 04 | 1 | | | | | | | | | | | | | 3/25 | 1050 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB03-2-4 | 05 | 1 | | | | | | | | | | | | | 3/25 | 1150 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB03-8-10 | 06 | 1 | | | | | | | | | | | | | 3/25 | 1150 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB03-8-10D | 07 | 1 | | | | | | | | | | | | | 3/25 | 1150 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB04-4-6 | 08 | 1 | | | | | | | | | | | | | 3/25 | 1355 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB04-8-10 | 09 | 1 | | | | | | | | | | | | | 3/25 | 1355 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB05-4-6 | 10 | 1 | | | | | | | | | | | | | 3/25 | 1600 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-SB05-10-12 | 11 | 1 | | | | | | | | | | | | | 3/25 | 1600 | | | | | | | | | | | | | | | | | | | | X | | | |

W503066

**TAT**
- Priority (24 hr) ☐
- Expedited (48 hr) ☐
- 7 Business Days ☐
- Other _____
- Business Days ☐

**Special Handling**
- GTEL Contact: Dr. RETISNER
- Quote/Contract # _____
- Confirmation # _____
- P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ PROJECT SPEC

SPECIAL DETECTION LIMITS: SEE PROJECT COAP PA/SI @ SS-06 - AOCRN, BBMS & SD-15

SPECIAL REPORTING REQUIREMENTS

FAX ☐

REMARKS:

Lab Use Only Lot #: Seals Intact

Storage Location: 3°C

Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| Sampler: [signature] | 3-29-95 | 1330 | |
| Relinquished by: | | | Received by: |
| Relinquished by: | 3/30/95 | 0815 | Received by Laboratory: Jammy [illegible] |

Waybill #

**GTEL** ENVIRONMENTAL LABORATORIES INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST



Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103
Company Address: 2501 Yale BLVD SE Albuquerque, NM 87106
Site Location: HAFB, NM
Project Manager: C. SCHICK / S. BROTHERS
Client Project ID: (#) PA/SI
(NAME) 83001
Sampler Name (Print):
I attest that the proper field sampling procedures were used during the collection of these samples.

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | TAL METALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS06-SB06-4-6 | 12 | 1 | | X | | | | | | | | | | | 3/25 | 0910 | X |
| SS06-SB06-8-10 | 13 | 1 | | | | | | | | | | | | | 3/25 | 0910 | X |
| AOCRR-SB01-6-8 | 14 | 1 | | | | | | | | | | | | | 3/25 | 1030 | |
| AOCRR-SB01-10-12 | 15 | 1 | | | | | | | | | | | | | 3/25 | 1030 | |
| AOCRR-SB02-2-4 | 16 | 1 | | | | | | | | | | | | | 3/25 | 1200 | |
| AOCRR-SB02-2-4D | 17 | 1 | | | | | | | | | | | | | 3/25 | 1200 | |
| AOCRR-SB02-8-10 | 18 | 1 | | | | | | | | | | | | | 3/25 | 1200 | |
| AOCRR-SB03-4-6 | 19 | 1 | | | | | | | | | | | | | 3/25 | 1345 | |
| AOCRR-SB03-8-10 | 20 | 1 | | | | | | | | | | | | | 3/25 | 1345 | |
| AOCRR-SB04-2-4 | 21 | | | | | | | | | | | | | | 3/25 | 1500 | |
| AOCRR-SB04-6-8 | 22 | | | | | | | | | | | | | | 3/25 | 1500 | |

ANALYSIS REQUEST: BTEX 602 ☐ 8020 ☐ with MTBE ☐; BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐; Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐; Hydrocarbon Profile (SIMDIS) ☐; Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐; TPH/IR 418.1 ☐ SM 503 ☐; EDB by 504 ☐ DBCP by 504 ☐; EPA 503.1 ☐ EPA 502.2 ☐; EPA 601 ☐ EPA 8010 ☐; EPA 602 ☐ EPA 8020 ☐; EPA 608 ☐ 8080 ☐ PCB only ☐; EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐; EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐; EPA 610 ☐ 8310 ☐; EP TOX Metals ☐ Pesticides ☐ Herbicides ☐; TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐; EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐; CAM Metals TTLC ☐ STLC ☐; Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐; Organic Lead ☐; Corrosivity ☐ Flash Point ☐ Reactivity ☐

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other ☐
Business Days ☐

**Special Handling**
GTEL Contact D. RETHER
Quote/Contract #
Confirmation #
P.O. #

**QA/QC Level**
Blue ☐ QLP ☐ Other ☐ PROJECT SPEC

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS:

Lab Use Only Lot #: Seals Intact
Storage Location: 3°C
Work Order #:

**CUSTODY RECORD**

| Relinquished by Sampler: | Date 3-29-95 | Time 1330 | Received by: |
|---|---|---|---|
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | Date 3 [illegible] 95 | Time 0815 | Received by Laboratory: Waybill # |

**GTEL** ENVIRONMENTAL LABORATORIES, INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST



Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103

Company Address: 2501 Yale BLVD SE ALBUQUERQUE
Site Location: HAFB PA/SI

Project Manager: C. Schick / S. Brothers
Client Project ID: (#) 830012201
(NAME) HAFB PA/SI

I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Chuck Schick

ANALYSIS REQUEST | OTHER

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | TAL METALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOCRR-SB05-6-8 | 23 | 1 | | X | | | | | | | | | | | 3-27-95 | 0900 | X |
| AOCRR-SB05-2-4 | 24 | 1 | | X | | | | | | | | | | | 3-27-95 | 0900 | X |
| AOCRR-SB06-2-4 | 25 | 1 | | X | | | | | | | | | | | 3-27-95 | 1020 | X |
| AOCRR-SB06-6-8 | 26 | 1 | | X | | | | | | | | | | | 3/27 | 1020 | X |
| SD15-SB01-0-2 | 27 | 1 | | X | | | | | | | | | | | 3/27 | 1320 | X |
| SD15-SB01-6-8 | 28 | 1 | | X | | | | | | | | | | | 3/27 | 1320 | X |
| SD15-SB02-2-4 | 29 | 1 | | X | | | | | | | | | | | 3/27 | 1510 | X |
| SD15-SB02-4-6 | 30 | 1 | | X | | | | | | | | | | | 3/27 | 1510 | X |
| SD15-SB03-2-4 | 31 | 1 | | X | | | | | | | | | | | 3/27 | 1600 | X |
| SD15-SB03-2-4D | 32 | 1 | | X | | | | | | | | | | | 3/27 | 1600 | X |
| SD15-SB03-4-6 | 33 | 1 | | X | | | | | | | | | | | 3/27 | 1600 | X |

Matrix columns: BTEX 602 ☐ 8020 ☐ with MTBE ☐; BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐; Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐; Hydrocarbon Profile (SIMDIS) ☐; Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐; TPH/IR 418.1 ☐ SM 503 ☐; EDB by 504 ☐ DBCP by 504 ☐; EPA 503.1 ☐ EPA 502.2 ☐; EPA 601 ☐ EPA 8010 ☐; EPA 602 ☐ EPA 8020 ☐; EPA 608 ☐ 8080 ☐ PCB only ☐; EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐; EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐; EPA 610 ☐ 8310 ☐; EP TOX Metals ☐ Pesticides ☐ Herbicides ☐; TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐; EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐; CAM Metals TTLC ☐ STLC ☐; Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐; Organic Lead ☐; Corrosivity ☐ Flash Point ☐ Reactivity ☐

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other Normal 10 Business Days ☐

**Special Handling**
GTEL Contact D. REBECK
Quote/Contract #
Confirmation #
P.O. #

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ PROJECT SPEC

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS:

Lab Use Only Lot #: Seals Intact
Storage Location: 3°C
Work Order #:

**CUSTODY RECORD**

| Relinquished by Sampler: | Date: 3-29-95 | Time: 1330 | Received by: |
|---|---|---|---|
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | Date: 3/30/95 | Time: 1781S | Received by Laboratory: Jammer Deebesch |

Waybill #

**GTEL** ENVIRONMENTAL LABORATORIES, INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PAGE 4 OF 4 36907.

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 842-3113
FAX #: (505) 842-1103

Company Address: 2501 Yale BLVD SE ALBUQUERQUE, NM 87106
Site Location: HAFB PA/SI

Project Manager: C. SCHICK / S. BROTHERS,
Client Project ID: (#) 830212201
(NAME) HAFB PA/SI

I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): 830212201 Chuck Schick

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | HNO3 | H2SO4 | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL - METALS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SD15-SB04-2-4 | 34 | 1 | | | | | | | | | | | | | 3/27 | 1650 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-SB04-6-8 | 35 | 1 | | | | | | | | | | | | | 3/27 | 1650 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-SB05-0-2 | 36 | 1 | | | | | | | | | | | | | 3/29 | 0900 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-SB05-4-6 | 37 | 1 | | | | | | | | | | | | | 3/29 | 0900 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-SB06-2-4 | 38 | 1 | | | | | | | | | | | | | 3/29 | 0930 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-SB06-4-6 | 39 | 1 | | | | | | | | | | | | | 3/29 | 0930 | | | | | | | | | | | | | | | | | | | | X | | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
Business Days ☐
Other
Business Days ☐

**Special Handling**
GTEL Contact
Quote/Contract #
Confirmation #
P.O. #

**QA/QC Level**
Blue ☐ QLP ☐ Other ☐

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS:

Lab Use Only Lot #: Seals Intact
Storage Location: 3°C
Work Order #:

## CUSTODY RECORD

| Relinquished by Sampler: | Date 3-29-95 | Time 1330 | Received by: |
|---|---|---|---|
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | Date 3/ 95 | Time 0815 | Received by Laboratory: Sammy [illegible] Waybill # |

# APPENDIX D

## Geotechnical Soil Analytical Results

PTS Laboratories, Inc.

Geotechnical Services

8100 Secura Way • Santa Fe Springs • CA 90670
Phone (310) 907-3607 • Fax (310) 907-3610

RECEIVED
SEP 15 1995

September 14, 1995

Kathy Gerber
Groundwater Technology, Inc.
2501 Yale Blvd SE, Ste. 204
Albuquerque, NM 87106

RE: Holloman AFB Data
PTS File: 25036

Dear Ms. Gerber:

Enclosed are revised particle size summary and USCS classification data per our discussion today.

The particle size summary table has been changed to include US Sieve ranges for the sand, silt and clay fractions and a column for percent passing the #200 sieve. These changes should allow for a direct comparison between the sieve plots and Atterberg Limits data. The Atterberg Limits data now includes a visual USCS classification for locations that were previously identified as "non-plastic".

We apologize for any inconvenience this has caused and will modify our QA/QC plan accordingly. Please do not hesitate to call in you have any questions or require additional information.

Sincerely,

PTS Laboratories, Inc.

Larry Kunkel
District Manager

LAK:lg
encl

# PTS Laboratories, Inc.

CLIENT: GROUNDWATER TECHNOLOGY, INC.

FILE NO: 25036
DATE: APRIL 1995
PROJ. NAME: HOLLOMAN AFB PA/SI
PROJ. NO: 830012201

## PHYSICAL PROPERTIES DATA

(METHODOLOGY: ASTM D2216, API RP40, EPA 9100)

| SAMPLE ID. | DEPTH, ft. | SAMPLE ORIENT. (1) | MOISTURE CONTENT, (% wt) | DENSITY BULK (g/cc) | DENSITY GRAIN (g/cc) | EFFECTIVE POROSITY, % Vb | PORE FLUID SATURATION, % Pv WATER (2) | PORE FLUID SATURATION, % Pv HYDROCARBON (3) | CONDUCTED AT 25.0 PSI CONFINING STRESS: NATIVE STATE EFFECTIVE PERMEABILITY TO AIR (millidarcy) | NATIVE STATE EFFECTIVE AIR CONDUCTIVITY (cm/s) | NATIVE STATE EFFECTIVE PERMEABILITY TO WATER (millidarcy) | NATIVE STATE EFFECTIVE HYDRAULIC CONDUCTIVITY (cm/s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS06-SB01-6-8 | 6-8 | | 42.9 | | | | | | | | | |
| SS06-SB02-6-8 | 6-8 | | 36.1 | | | | | | | | | |
| SS06-SB03-8-10 | 6-8 | | 33.5 | | | | | | | | | |
| SS06-SB04-8-10 | 8-10 | | 25.2 | | | | | | | | | |
| SS06-SB05-4-6 | 4-6 | | 19.8 | | | | | | | | | |
| SS06-SB06-8-10 | 8-10 | | 24.7 | | | | | | | | | |
| AOCRR-SB01-6-8 | 6-8 | | 23.9 | | | | | | | | | |
| AOCRR-SB02-8-10 | 8-10 | | 21.5 | | | | | | | | | |
| AOCRR-SB03-4-6 | 4-6 | | 20.8 | | | | | | | | | |
| AOCRR-SB04-2-4 | 2-4 | | 22.5 | | | | | | | | | |
| AOCRR-SB05-6-8 | 6-8 | | 35.2 | | | | | | | | | |
| AOCRR-SB06-6-8 | 6-8 | | 29.6 | | | | | | | | | |
| SD15-SB01-0-2 | 0-2 | | 25.0 | | | | | | | | | |
| SD15-SB02-2-4 | 2-4 | | 18.4 | | | | | | | | | |
| SD15-SB03-4-6 | 4-6 | | 38.1 | | | | | | | | | |
| SD15-SB04-2-4 | 2-4 | | 12.9 | | | | | | | | | |
| SD15-SB05-4-6 | 4-6 | | 45.4 | | | | | | | | | |
| SD15-SB06-4-6 | 4-6 | | 35.8 | | | | | | | | | |
| AOC-BBMS-SB1-0-2 | 0-2 | | 16.1 | | | | | | | | | |
| AOC-BBMS-SB2-4-6 | 4-6 | | 39.2 | | | | | | | | | |
| AOC-BBMS-SB3-0-2 | 0-2 | | 24.6 | | | | | | | | | |
| AOC-BBMS-SB4-2-4 | 2-4 | | 37.8 | | | | | | | | | |
| AOC-BBMS-SB5-2-4 | 2-4 | | 28.5 | | | | | | | | | |
| AOC-BBMS-SB6-2-4 | 2-4 | | 46.7 | | | | | | | | | |

(1) SAMPLE ORIENTATION:
H = HORIZ `\L V=VERTICAL

(2) 0.9986 gm/cc USED TO CALCULATE WATER SATURATION
(3) 0.7500 gm/cc USED TO CALCULATE HYDROCARBON SATURATION

ND = NOT DETECTED
Vb = BULK VOLUME, cc

Pv = PORE VOLUME, cc

# PTS Laboratories, Inc.

CLIENT: GROUNDWATER TECHNOLOGY, INC.

FILE NO: 25036
DATE: APRIL 1995
PROJ. NAME: HOLLOMAN AFB
PROJ. NO: 830012201

## ATTERBERG LIMITS

(METHODOLOGY: ASTM D4318)

| SAMPLE ID. | MOISTURE CONTENT | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | USCS INDENTIFICATION |
|---|---|---|---|---|---|
| SS06-SB01-6-8 | 40.8 | 42 | 38 | 4 | ML |
| SS06-SB02-6-8 | 36.1 | 48 | 39 | 9 | ML |
| SS06-SB03-8-10 | 34.4 | | | | (1) SM/SC |
| SS06-SB04-8-10 | 24.6 | 36 | 20 | 16 | SC |
| SS06-SB05-4-6 | 22.4 | 42 | 26 | 16 | CL |
| SS06-SB06-8-10 | 21.2 | 38 | 31 | 7 | ML |
| AOCRR-SB01-6-8 | 23.3 | 29 | 26 | 3 | ML |
| AOCRR-SB02-8-10 | 21.1 | | | | (1) SM/SC |
| AOCRR-SB03-4-6 | 22.1 | 32 | 25 | 7 | ML |
| AOCRR-SB04-2-4 | 20.9 | | | | (1) SM/SC |
| AOCRR-SB05-6-8 | 34.5 | 38 | 33 | 5 | ML |
| AOCRR-SB06-6-8 | 29.1 | 35 | 33 | 2 | ML |
| SD15-SB01-0-2 | 26.4 | | | | (1) SM/SC |
| SD15-SB02-2-4 | 24.6 | 30 | 26 | 4 | SM |
| SD15-SB03-4-6 | 43.9 | 45 | 41 | 4 | SM |
| SD15-SB04-2-4 | 16.3 | 26 | 21 | 5 | SC/SM |
| SD15-SB05-4-6 | 36.5 | 36 | 33 | 3 | ML |
| SD15-SB06-4-6 | 32.5 | 33 | 28 | 5 | ML |
| AOC-BBMS-SB1-0-2 | 15.4 | 30 | 26 | 4 | ML |
| AOC-BBMS-SB2-4-6 | 38.9 | | | | (1) SM |
| AOC-BBMS-SB3-0-2 | 25.7 | 33 | 26 | 7 | ML |
| AOC-BBMS-SB4-2-4 | 40.6 | | | | (1) SM |
| AOC-BBMS-SB5-2-4 | 29.9 | | | | (1) SM |
| AOC-BBMS-SB6-2-4 | 46.2 | | | | (1) SC |

(1) Non-Plastic: classification based on particle size plot, % pass #200, ASTM D2487 and ASTM D-2488

# PTS Laboratories, Inc.

CLIENT: GROUNDWATER TECHNOLOGY, INC.

FILE NO: 25036
DATE: MAY 1995
PROJECT: HOLLOMAN AFB PA/S'
PROJ. NO: 830012201

## PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D4464, D422)

| Sample ID | Median Grain Size, mm | Particle Size Distribution, % grain volume | | | | | | Percent Passing U.S. #200 |
|---|---|---|---|---|---|---|---|---|
| | | Sand Fraction | | | | | | |
| | | Coarse | Medium | Fine | V. Fine | Silt | Clay | |
| | | >US #45 | #40-60 | #70-120 | #140-230 | #270-4 micron | <4 micron | |
| SS06-SB01-6-8 | 0.0659 | 1.94 | 8.75 | 19.24 | 21.61 | 41.25 | 7.21 | 54 |
| SS06-SB02-6-8 | 0.0102 | 0.00 | 3.20 | 3.88 | 3.02 | 66.18 | 23.72 | 90 |
| SS06-SB03-8-10 | 0.0104 | 0.00 | 3.24 | 4.94 | 6.82 | 63.38 | 21.62 | 85 |
| SS06-SB04-8-10 | 0.0819 | 0.00 | 6.78 | 31.22 | 15.41 | 28.81 | 17.78 | 49 |
| SS06-SB05-4-6 | 0.0069 | 0.00 | 0.38 | 9.43 | 7.36 | 47.18 | 35.65 | 84 |
| SS06-SB06-8-10 | 0.0057 | 0.00 | 0.00 | 1.97 | 3.97 | 53.77 | 40.29 | 94 |
| AOCRR-SB01-6-8 | 0.0128 | 0.00 | 0.00 | 1.44 | 11.75 | 57.17 | 29.64 | 90 |
| AOCRR-SB02-8-10 | 0.0890 | 8.51 | 14.65 | 18.84 | 9.75 | 31.68 | 16.57 | 49 |
| AOCRR-SB03-4-6 | 0.0294 | 0.00 | 3.31 | 20.33 | 14.24 | 40.15 | 21.97 | 65 |
| AOCRR-SB04-2-4 | 0.0075 | 0.00 | 4.36 | 12.09 | 5.63 | 42.26 | 35.66 | 78 |
| AOCRR-SB05-6-8 | 0.0053 | 0.00 | 0.57 | 8.88 | 9.31 | 37.98 | 43.26 | 83 |
| AOCRR-SB06-6-8 | 0.0062 | 0.00 | 1.74 | 16.23 | 12.05 | 28.07 | 41.91 | 71 |
| SD15-SB01-0-2 | 0.0073 | 1.40 | 2.98 | 12.81 | 11.80 | 34.56 | 36.45 | 73 |
| SD15-SB02-2-4 | 0.7170 | 58.66 | 13.81 | 13.18 | 11.10 | 2.62 | 0.63 | 6.4 |
| SD15-SB03-4-6 | 0.1294 | 2.14 | 9.87 | 40.44 | 22.11 | 16.58 | 8.86 | 28 |
| SD15-SB04-2-4 | 0.5130 | 50.54 | 11.96 | 13.89 | 19.98 | 2.93 | 0.69 | 8.4 |
| SD15-SB05-4-6 | 0.0472 | 0.00 | 5.44 | 24.12 | 16.72 | 41.36 | 12.36 | 56 |
| SD15-SB06-4-6 | 0.0399 | 0.00 | 5.17 | 21.65 | 16.80 | 33.60 | 22.78 | 58 |
| AOC-BBMS-SB1-0-2 | 0.0187 | 0.55 | 7.92 | 17.12 | 10.38 | 35.38 | 28.65 | 64 |
| AOC-BBMS-SB2-4-6 | 0.0861 | 2.15 | 5.44 | 27.67 | 23.58 | 33.69 | 7.47 | 46 |
| AOC-BBMS-SB3-0-2 | 0.0532 | 1.71 | 6.50 | 20.73 | 17.68 | 39.90 | 13.48 | 57 |
| AOC-BBMS-SB4-2-4 | 0.0709 | 0.00 | 2.30 | 24.61 | 26.87 | 38.73 | 7.49 | 52 |
| AOC-BBMS-SB5-2-4 | 0.0883 | 1.85 | 9.59 | 27.38 | 17.77 | 31.14 | 12.27 | 47 |
| AOC-BBMS-SB6-2-4 | 0.1136 | 0.00 | 4.64 | 38.77 | 34.28 | 18.86 | 3.45 | 27 |
| Arithmetic Average: | 0.0923 | 5.39 | 5.53 | 17.95 | 14.58 | 36.13 | 20.41 | 59.0 |
| Median: | 0.0294 | 0.00 | 4.36 | 16.23 | 11.80 | 34.56 | 16.57 | 57.5 |

# PTS Laboratories, Inc.

CLIENT: GROUNDWATER TECHNOLOGY, INC.

FILE NO: 25036
DATE: APRIL 1995
PROJ. NAME: HOLLOMAN AFB
PROJ. NO: 830012201

## ATTERBERG LIMITS

(METHODOLOGY: ASTM D4318)

| SAMPLE ID. | MOISTURE CONTENT | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | USCS INDENTIFICATION |
|---|---|---|---|---|---|
| SS06-SB01-6-8 | 40.8 | 42 | 38 | 4 | ML |
| SS06-SB02-6-8 | 36.1 | 48 | 39 | 9 | ML |
| SS06-SB03-8-10 | 34.4 | | | | (1) SM/SC |
| SS06-SB04-8-10 | 24.6 | 36 | 20 | 16 | SC |
| SS06-SB05-4-6 | 22.4 | 42 | 26 | 16 | CL |
| SS06-SB06-8-10 | 21.2 | 38 | 31 | 7 | ML |
| AOCRR-SB01-6-8 | 23.3 | 29 | 26 | 3 | ML |
| AOCRR-SB02-8-10 | 21.1 | | | | (1) SM/SC |
| AOCRR-SB03-4-6 | 22.1 | 32 | 25 | 7 | ML |
| AOCRR-SB04-2-4 | 20.9 | | | | (1) SM/SC |
| AOCRR-SB05-6-8 | 34.5 | 38 | 33 | 5 | ML |
| AOCRR-SB06-6-8 | 29.1 | 35 | 33 | 2 | ML |
| SD15-SB01-0-2 | 26.4 | | | | (1) SM/SC |
| SD15-SB02-2-4 | 24.6 | 30 | 26 | 4 | SM |
| SD15-SB03-4-6 | 43.9 | 45 | 41 | 4 | SM |
| SD15-SB04-2-4 | 16.3 | 26 | 21 | 5 | SC/SM |
| SD15-SB05-4-6 | 36.5 | 36 | 33 | 3 | ML |
| SD15-SB06-4-6 | 32.5 | 33 | 28 | 5 | ML |
| AOC-BBMS-SB1-0-2 | 15.4 | 30 | 26 | 4 | ML |
| AOC-BBMS-SB2-4-6 | 38.9 | | | | (1) SM |
| AOC-BBMS-SB3-0-2 | 25.7 | 33 | 26 | 7 | ML |
| AOC-BBMS-SB4-2-4 | 40.6 | | | | (1) SM |
| AOC-BBMS-SB5-2-4 | 29.9 | | | | (1) SM |
| AOC-BBMS-SB6-2-4 | 46.2 | | | | (1) SC |

(1) Non-Plastic: classification based on particle size plot, % pass #200, ASTM D2487 and ASTM D-2488

# PTS Laboratories, Inc.

CLIENT: GROUNDWATER TECHNOLOGY, INC.

FILE NO: 25036
DATE: MAY 1995
PROJECT: HOLLOMAN AFB PA/S
PROJ. NO: 830012201

## PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D4464, D422)

| Sample ID | Median Grain Size, mm | Particle Size Distribution, % grain volume | | | | | | Percent Passing U.S. #200 |
|---|---|---|---|---|---|---|---|---|
| | | Sand Fraction | | | | | | |
| | | Coarse | Medium | Fine | V. Fine | Silt | Clay | |
| | | >US #45 | #40-60 | #70-120 | #140-230 | #270-4 micron | <4 micron | |
| SS06-SB01-6-8 | 0.0659 | 1.94 | 8.75 | 19.24 | 21.61 | 41.25 | 7.21 | 54 |
| SS06-SB02-6-8 | 0.0102 | 0.00 | 3.20 | 3.88 | 3.02 | 66.18 | 23.72 | 90 |
| SS06-SB03-8-10 | 0.0104 | 0.00 | 3.24 | 4.94 | 6.82 | 63.38 | 21.62 | 85 |
| SS06-SB04-8-10 | 0.0819 | 0.00 | 6.78 | 31.22 | 15.41 | 28.81 | 17.78 | 49 |
| SS06-SB05-4-6 | 0.0069 | 0.00 | 0.38 | 9.43 | 7.36 | 47.18 | 35.65 | 84 |
| SS06-SB06-8-10 | 0.0057 | 0.00 | 0.00 | 1.97 | 3.97 | 53.77 | 40.29 | 94 |
| AOCRR-SB01-6-8 | 0.0128 | 0.00 | 0.00 | 1.44 | 11.75 | 57.17 | 29.64 | 90 |
| AOCRR-SB02-8-10 | 0.0890 | 8.51 | 14.65 | 18.84 | 9.75 | 31.68 | 16.57 | 49 |
| AOCRR-SB03-4-6 | 0.0294 | 0.00 | 3.31 | 20.33 | 14.24 | 40.15 | 21.97 | 65 |
| AOCRR-SB04-2-4 | 0.0075 | 0.00 | 4.36 | 12.09 | 5.63 | 42.26 | 35.66 | 78 |
| AOCRR-SB05-6-8 | 0.0053 | 0.00 | 0.57 | 8.88 | 9.31 | 37.98 | 43.26 | 83 |
| AOCRR-SB06-6-8 | 0.0062 | 0.00 | 1.74 | 16.23 | 12.05 | 28.07 | 41.91 | 71 |
| SD15-SB01-0-2 | 0.0073 | 1.40 | 2.98 | 12.81 | 11.80 | 34.56 | 36.45 | 73 |
| SD15-SB02-2-4 | 0.7170 | 58.66 | 13.81 | 13.18 | 11.10 | 2.62 | 0.63 | 6.4 |
| SD15-SB03-4-6 | 0.1294 | 2.14 | 9.87 | 40.44 | 22.11 | 16.58 | 8.86 | 28 |
| SD15-SB04-2-4 | 0.5130 | 50.54 | 11.96 | 13.89 | 19.98 | 2.93 | 0.69 | 8.4 |
| SD15-SB05-4-6 | 0.0472 | 0.00 | 5.44 | 24.12 | 16.72 | 41.36 | 12.36 | 56 |
| SD15-SB06-4-6 | 0.0399 | 0.00 | 5.17 | 21.65 | 16.80 | 33.60 | 22.78 | 58 |
| AOC-BBMS-SB1-0-2 | 0.0187 | 0.55 | 7.92 | 17.12 | 10.38 | 35.38 | 28.65 | 64 |
| AOC-BBMS-SB2-4-6 | 0.0861 | 2.15 | 5.44 | 27.67 | 23.58 | 33.69 | 7.47 | 46 |
| AOC-BBMS-SB3-0-2 | 0.0532 | 1.71 | 6.50 | 20.73 | 17.68 | 39.90 | 13.48 | 57 |
| AOC-BBMS-SB4-2-4 | 0.0709 | 0.00 | 2.30 | 24.61 | 26.87 | 38.73 | 7.49 | 52 |
| AOC-BBMS-SB5-2-4 | 0.0883 | 1.85 | 9.59 | 27.38 | 17.77 | 31.14 | 12.27 | 47 |
| AOC-BBMS-SB6-2-4 | 0.1136 | 0.00 | 4.64 | 38.77 | 34.28 | 18.86 | 3.45 | 27 |
| Arithmetic Average: | 0.0923 | 5.39 | 5.53 | 17.95 | 14.58 | 36.13 | 20.41 | 59.0 |
| Median: | 0.0294 | 0.00 | 4.36 | 16.23 | 11.80 | 34.56 | 16.57 | 57.5 |

'TS Laboratories, Inc.

File No. : 25036 Page: 1
Date : May 08, 1995

Project No. : 830012201
Project Name: Holloman AFB PA/SI
Country : USA
Depth : 4.00 ft.
Sample I.D. : SB02-2-4
Location : N/A

:lient: Groundwater Technology

Table 1
**DRY SIEVE ANALYSIS**

| OPENING INCHES | OPENING MILLIMETERS | PHI OF SCREEN | U.S. NO. | SAMPLE WEIGHT | RETAINED WEIGHT % | CUMULATIVE WEIGHT % |
|---|---|---|---|---|---|---|
| 0.1873 | 4.757 | -2.25 | 4 | 2.83 | 25.54 | 25.54 |
| 0.1323 | 3.360 | -1.70 | 6 | 0.34 | 3.07 | 28.61 |
| 0.0787 | 2.000 | -1.00 | 10 | 0.56 | 5.05 | 33.66 |
| 0.0557 | 1.414 | -0.50 | 14 | 0.55 | 4.96 | 38.63 |
| 0.0394 | 1.000 | 0.00 | 18 | 0.56 | 5.05 | 43.68 |
| 0.0278 | 0.707 | 0.50 | 25 | 0.73 | 6.59 | 50.27 |
| 0.0197 | 0.500 | 1.00 | 35 | 0.93 | 8.39 | 58.66 |
| 0.0139 | 0.354 | 1.50 | 45 | 0.82 | 7.40 | 66.06 |
| 0.0098 | 0.250 | 2.00 | 60 | 0.71 | 6.41 | 72.47 |
| 0.0070 | 0.177 | 2.50 | 80 | 0.43 | 3.88 | 76.35 |
| 0.0049 | 0.125 | 3.00 | 120 | 1.03 | 9.30 | 85.65 |
| 0.0029 | 0.074 | 3.75 | 200 | 0.88 | 7.94 | 93.59 |
| 0.0025 | 0.063 | 4.00 | 230 | 0.35 | 3.16 | 96.75 |
| 0.0015 | 0.037 | 4.75 | 400 | 0.29 | 2.62 | 99.37 |
| | | | PAN | 0.07 | 0.63 | 100.00 |
| TOTALS | | | | 11.08 | 100.00 | 100.00 |

| CUM. WT% | PHI VALUES | INCHES | MILLIMETERS |
|---|---|---|---|
| 10.0 | -5.04 | 1.2913 | 32.80 |
| 40.0 | -0.36 | 0.0507 | 1.287 |
| 50.0 | 0.48 | 0.0282 | 0.717 |
| 90.0 | 3.41 | 0.0037 | 0.094 |

| MEASURE | TRASK (mm) | INMAN (phi) | FOLK and WARD (phi) | GRAIN SIZE DESCRIPTION* (Wentworth Scale) |
|---|---|---|---|---|
| MEDIAN | 0.717 | 0.48 | 0.48 | Coarse Sand |
| MEAN | 2.644 | -0.52 | -0.19 | Granules |
| SORTING | 0.039 | 3.44 | 3.20 | |
| SKEWNESS | 1.973 | -0.29 | -0.30 | |
| KURTOSIS | 0.075 | 0.42 | 0.86 | |

* Based on grain size determined by Trask method

PTS Laboratories, Inc.

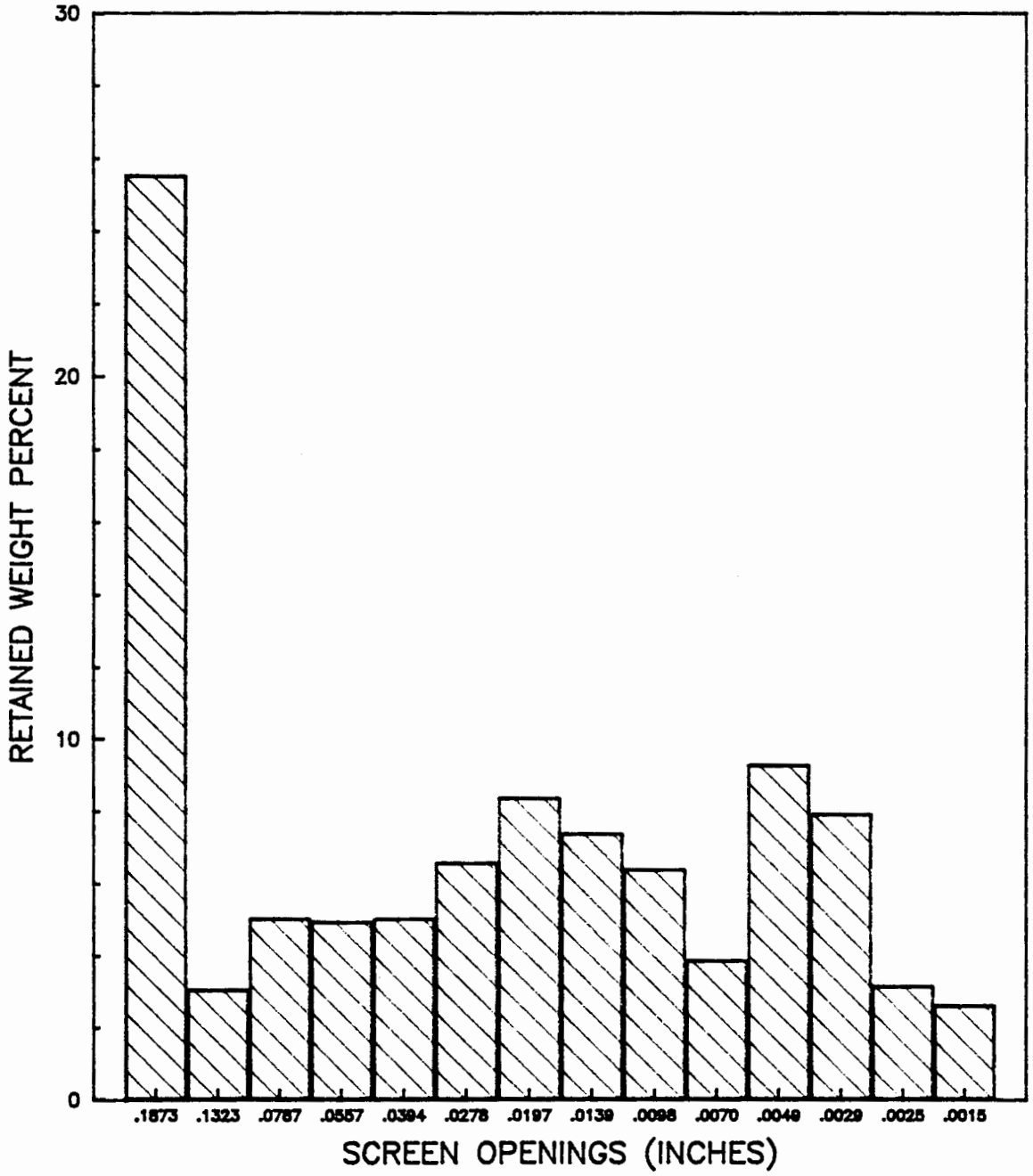
File No: 25036 Page: 2
Date: May 08, 1995

Project Name: Holloman AFB PA/SI
Project No.: 830012201
Country: USA
Sample ID: SB02-2-4
Location: N/A

CLIENT: Groundwater Technology

Figure 1

DRY SIEVE ANALYSIS
Histogram



'TS Laboratories, Inc.

File No. : 25036 Page: 1
Date : May 08, 1995

Project No. : 830012201
Project Name: Holloman AFB PA/SI
Country : USA
Depth : 4.00 ft.
Sample I.D. : SB04-2-4
Location : N/A

:lient: Groundwater Technology

Table 1
**DRY SIEVE ANALYSIS**

| OPENING INCHES | OPENING MILLIMETERS | PHI OF SCREEN | U.S. NO. | SAMPLE WEIGHT | RETAINED WEIGHT % | CUMULATIVE WEIGHT % |
|---|---|---|---|---|---|---|
| 0.1873 | 4.757 | -2.25 | 4 | 1.16 | 8.95 | 8.95 |
| 0.1323 | 3.360 | -1.70 | 6 | 0.76 | 5.86 | 14.81 |
| 0.0787 | 2.000 | -1.00 | 10 | 1.41 | 10.88 | 25.69 |
| 0.0557 | 1.414 | -0.50 | 14 | 0.59 | 4.55 | 30.25 |
| 0.0394 | 1.000 | 0.00 | 18 | 0.83 | 6.40 | 36.65 |
| 0.0278 | 0.707 | 0.50 | 25 | 0.85 | 6.56 | 43.21 |
| 0.0197 | 0.500 | 1.00 | 35 | 0.95 | 7.33 | 50.54 |
| 0.0139 | 0.354 | 1.50 | 45 | 0.82 | 6.33 | 56.87 |
| 0.0098 | 0.250 | 2.00 | 60 | 0.73 | 5.63 | 62.50 |
| 0.0070 | 0.177 | 2.50 | 80 | 0.54 | 4.17 | 66.67 |
| 0.0049 | 0.125 | 3.00 | 120 | 1.26 | 9.72 | 76.39 |
| 0.0029 | 0.074 | 3.75 | 200 | 1.97 | 15.20 | 91.59 |
| 0.0025 | 0.063 | 4.00 | 230 | 0.62 | 4.78 | 96.37 |
| 0.0015 | 0.037 | 4.75 | 400 | 0.38 | 2.93 | 99.31 |
| | | | PAN | 0.09 | 0.69 | 100.00 |
| TOTALS | | | | 12.96 | 100.00 | 100.00 |

| CUM. WT% | PHI VALUES | INCHES | MILLIMETERS |
|---|---|---|---|
| 10.0 | -2.15 | 0.1749 | 4.443 |
| 40.0 | 0.26 | 0.0330 | 0.838 |
| 50.0 | 0.96 | 0.0202 | 0.513 |
| 90.0 | 3.67 | 0.0031 | 0.078 |

| MEASURE | TRASK (mm) | INMAN (phi) | FOLK and WARD (phi) | GRAIN SIZE DESCRIPTION* (Wentworth Scale) |
|---|---|---|---|---|
| MEDIAN | 0.513 | 0.96 | 0.96 | Coarse Sand |
| MEAN | 1.097 | 0.88 | 0.90 | Very Coarse Sand |
| SORTING | 0.064 | 2.50 | 2.24 | |
| SKEWNESS | 1.030 | -0.03 | -0.06 | |
| KURTOSIS | 0.221 | 0.31 | 0.68 | |

* Based on grain size determined by Trask method

DATE PTS FILE # **CHAIN OF CUSTODY RECORD** PAGE 1 OF 2

**PTS Laboratories, Inc.**
8100 Secura Way
Santa Fe Springs, CA 90670
Ph: (310) 907-3607 • Fax: (310) 907-3610

COMPANY: GROUNDWATER TECHNOLOGY
PROJECT MANAGER: C. SCHKK or S. BROTHERS
PROJECT NAME: Holloman AFB PA/SI
FAX NUMBER: (505) 242-1103
PROJECT NUMBER: 830012201
PHONE NUMBER: (505) 242-3113
SITE LOCATION: Holloman AFB
ADDRESS: NEW MEXICO
SAMPLER SIGNATURE:

PO#

SPECIAL HANDLING: 24 HOURS / 72 HOURS / OTHER / 5 DAYS / NORMAL

SAMPLE CONDITIONS: RECEIVED ON ICE YES/NO; SEALED YES/NO; OTHER YES/NO

ANALYSIS REQUEST

| SAMPLE ID NUMBER | DATE | TIME | DEPTH, FT | PHYSICAL PROPERTIES PACKAGE, API RP40 | MOISTURE CONTENT, ASTM D2216 | POROSITY, API RP40 | GRAIN DENSITY, API RP40 | BULK DENSITY, API RP40 | AIR PERMEABILITIY, API RP40 | SPECIFIC RETENTION/YEILD ASTM D425 | CATION EXCHANGE CAPACITY, EPA 9080 | SOIL pH, EPA 9045 | GRAIN SIZE: DRY, 400 MESH | GRAIN SIZE: WET/DRY, 20 MICRON | GRAIN SIZE: LASER, 1 MICRON | HYDRAULIC CONDUCTIVITY, EPA 9100, API RP40 | TOC: EPA 9060 | Atterberg limits D4318-93 | Grain Size D421-85 & 422-63 | Moisture D2216-80 | | | | | NUMBER OF SAMPLES | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS06-SB01-6-8 | 3-24 | 0930 ~~1050~~ | 6 to 8 | | | | | | | | | | | | | | | X | X | X | | | | | 1 | |
| SS06-SB02-6-8 | 3-24-95 | 1050 | 6 to 8 | | | | | | | | | | | | | | | X | X | X | | | | | 1 | |
| SS06-SB03-8-10 | 3-24-95 | 1150 | 6 to 8 | | | | | | | | | | | | | | | X | X | X | | | | | 1 | |
| SS06-SB04-8-10 | 3-24-95 | 1355 | 8 to 10 | | | | | | | | | | | | | | | X | X | X | | | | | 1 | |
| SS06-SB05-4-6 | 3-24-95 | 1600 | 4 to 6 | | | | | | | | | | | | | | | X | X | X | | | | | 1 | |
| SS06-SB06-8-10 | 3-25-95 | 0910 | 8 to 10 | | | | | | | | | | | | | | | X | X | X | | | | | 1 | |
| AOCRR-SB01-6-8 | 3-25-95 | 1030 | 6 to 8 | | | | | | | | | | | | | | | X | X | X | | | | | 1 | |
| AOCRK-SB02-8-10 | 3-25-95 | 1200 | 8 to 10 | | | | | | | | | | | | | | | X | X | X | | | | | 1 | |
| AOCRR-SB03-4-6 | 3-25-95 | 1345 | 4 to 6 | | | | | | | | | | | | | | | X | X | X | | | | | 1 | |
| AOCRK-SB04-2-4 | 3-25-95 | 1500 | 2 to 4 | | | | | | | | | | | | | | | | | | | | | | | |

| 1. RELINQUISHED BY | 2. RECEIVED BY | 3. RELINQUISHED BY | 4. RECEIVED BY |
|---|---|---|---|
| | Kiss Fundes | | |
| COMPANY: GTI | COMPANY: PTS Laboratories | COMPANY | COMPANY |
| DATE: 3/29/95 TIME: 1300 | DATE: 3/30/95 TIME: 1000 pm | DATE TIME | DATE TIME |

DATE PTS FILE # **CHAIN OF CUSTODY RECORD** PAGE - OF 2

**PTS Laboratories, Inc.**
8100 Secura Way
Santa Fe Springs, CA 90670
Ph: (310) 907-3607 • Fax: (310) 907-3610

COMPANY: GROUNDWATER TECHNOLOGY
PROJECT MANAGER: C. SCHICK / S. BROTHERS
PROJECT NAME: HAFB PA/SI
FAX NUMBER: (505) 242-7103
PROJECT NUMBER: 830212201
PHONE NUMBER: (505) 242-3113
SITE LOCATION: Holloman AFB
ADDRESS: NEW MEXICO
SAMPLER SIGNATURE:

PO#

SPECIAL HANDLING: 24 HOURS / 72 HOURS / OTHER / 5 DAYS / NORMAL

SAMPLE CONDITIONS: RECEIVED ON ICE YES/NO; SEALED YES/NO; OTHER YES/NO

ANALYSIS REQUEST

| SAMPLE ID NUMBER | DATE | TIME | DEPTH, FT | PHYSICAL PROPERTIES PACKAGE, API RP40 | MOISTURE CONTENT, ASTM D2216 | POROSITY, API RP40 | GRAIN DENSITY, API RP40 | BULK DENSITY, API RP40 | AIR PERMEABILITY, API RP40 | SPECIFIC RETENTION/YEILD ASTM D425 | CATION EXCHANGE CAPACITY, EPA 9080 | SOIL pH, EPA 9045 | GRAIN SIZE: DRY; 400 MESH | GRAIN SIZE: WET/DRY, 20 MICRON | GRAIN SIZE: LASER; 1 MICRON | HYDRAULIC CONDUCTIVITY, EPA 9100, API RP40 | TOC: EPA 9060 | Atterberg Limits D4318-93 | Grain Size D421-85/D422-63 | Moisture D2216-80 | | | | | NUMBER OF SAMPLES | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | X | X | X | | | | | | |
| AOCRR-SB05-6-8 | 3/27/95 | | 6 to 8 | | | | | | | | | | | | | | | X | X | X | | | | | | |
| AOCRR-SB06-6-8 | 3/27/95 | | 6 to 8 | | | | | | | | | | | | | | | X | X | X | | | | | | |
| SD15-SB01-0-2 | 3/27/95 | | 0 to 2 | | | | | | | | | | | | | | | X | | | | | | | | |
| ✓ SD15-SB02-2-4 | 3/27/95 | | 2 to 4 | | | | | | | | | | | | | | | | | | | | | | | |
| SD15-SB03-4-6 | 3/27/95 | | 4 to 6 | | | | | | | | | | | | | | | | | | | | | | | |
| ✓ SD15-SB04-2-4 | 3/27/95 | | 2 to 4 | | | | | | | | | | | | | | | | | | | | | | | |
| SD15-SB05-4-6 | 3/29/95 | | 4 to 6 | | | | | | | | | | | | | | | | | | | | | | | |
| SD15-SB06-4-6 | 3/29/95 | | 4 to 6 | | | | | | | | | | | | | | | X | X | X | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 1. RELINQUISHED BY | 2. RECEIVED BY | 3. RELINQUISHED BY | 4. RECEIVED BY |
|---|---|---|---|
| COMPANY: GTI | COMPANY: PTS Laboratories | COMPANY: | COMPANY: |
| DATE: 3/29/95 TIME: 1300 | DATE: 3/30/95 TIME: 1:00 pm | DATE: TIME: | DATE: TIME: |

DATE PTS FILE # **CHAIN OF CUSTODY RECORD** PAGE 1 OF 1


**PTS Laboratories, Inc.**
8100 Secura Way
Santa Fe Springs, CA 90670
Ph: (310) 907-3607 • Fax: (310) 907-3610


COMPANY: GROUNDWATER TECHNOLOGY
PROJECT MANAGER: S. Brothers, C. SCHKIC
PROJECT NAME: Holloman AFB PA/SI
FAX NUMBER: (505) 242-1103
PROJECT NUMBER: 830012201
PHONE NUMBER: (505) 242-3113
SITE LOCATION: Holloman AFB, NM
ADDRESS:
SAMPLER SIGNATURE:

PO# ON FILE

SPECIAL HANDLING: 24 HOURS, 5 DAYS, 72 HOURS, NORMAL, OTHER

SAMPLE CONDITIONS: RECEIVED ON ICE YES/NO; SEALED YES/NO; OTHER YES/NO

ANALYSIS REQUEST

| SAMPLE ID NUMBER | DATE | TIME | DEPTH, FT | PHYSICAL PROPERTIES PACKAGE, API RP40 | MOISTURE CONTENT, ASTM D2216 | POROSITY, API RP40 | GRAIN DENSITY, API RP40 | BULK DENSITY, API RP40 | AIR PERMEABILITY, API RP40 | SPECIFIC RETENTION/YEILD ASTM D425 | CATION EXCHANGE CAPACITY, EPA 9080 | SOIL pH, EPA 9045 | GRAIN SIZE: DRY, 400 MESH | GRAIN SIZE: WET/DRY, 20 MICRON | GRAIN SIZE: LASER, 1 MICRON | HYDRAULIC CONDUCTIVITY, EPA 9100, API RP40 | TOC, EPA 9060 | Atterberg Limits D4318-93 | Grain Size D421-85 & D422-63 | Moisture Content D2216-80 | | | | | NUMBER OF SAMPLES | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-BBMS-SB1-0-2 | 3/29/95 | 1700 | 0 to 2 | | | | | | | | | | | | | | | X | X | X | | | | | | |
| AOC BBMS-SB2-4-6 | 3/29/95 | 1700 | 4 to 6 | | | | | | | | | | | | | | | X | X | X | | | | | | |
| AOC-BBMS-SB3-0-2 | 3/29/95 | 1700 | 0 to 2 | | | | | | | | | | | | | | | X | X | X | | | | | | |
| AOC BBMS-SB4-2-4 | 3/29/95 | 1700 | 2 to 4 | | | | | | | | | | | | | | | X | X | X | | | | | | |
| AOC BBMS-SB5-2-4 | 3/30/95 | 0830 | 2 to 4 | | | | | | | | | | | | | | | X | X | X | | | | | | |
| AOC BBMS-SB6-2-4 | 3/30/95 | 0830 | 2 to 4 | | | | | | | | | | | | | | | X | X | X | | | | | | |

| 1. RELINQUISHED BY | 2. RECEIVED BY | 3. RELINQUISHED BY | 4. RECEIVED BY |
|---|---|---|---|
| | Airborne #2345275240 | | |
| COMPANY: Groundwater Technology | COMPANY: | COMPANY: | COMPANY: |
| DATE: 3/30/95 TIME: 1300 | DATE: TIME: | DATE: TIME: | DATE: TIME: |

# APPENDIX D-1

## Site SS-06

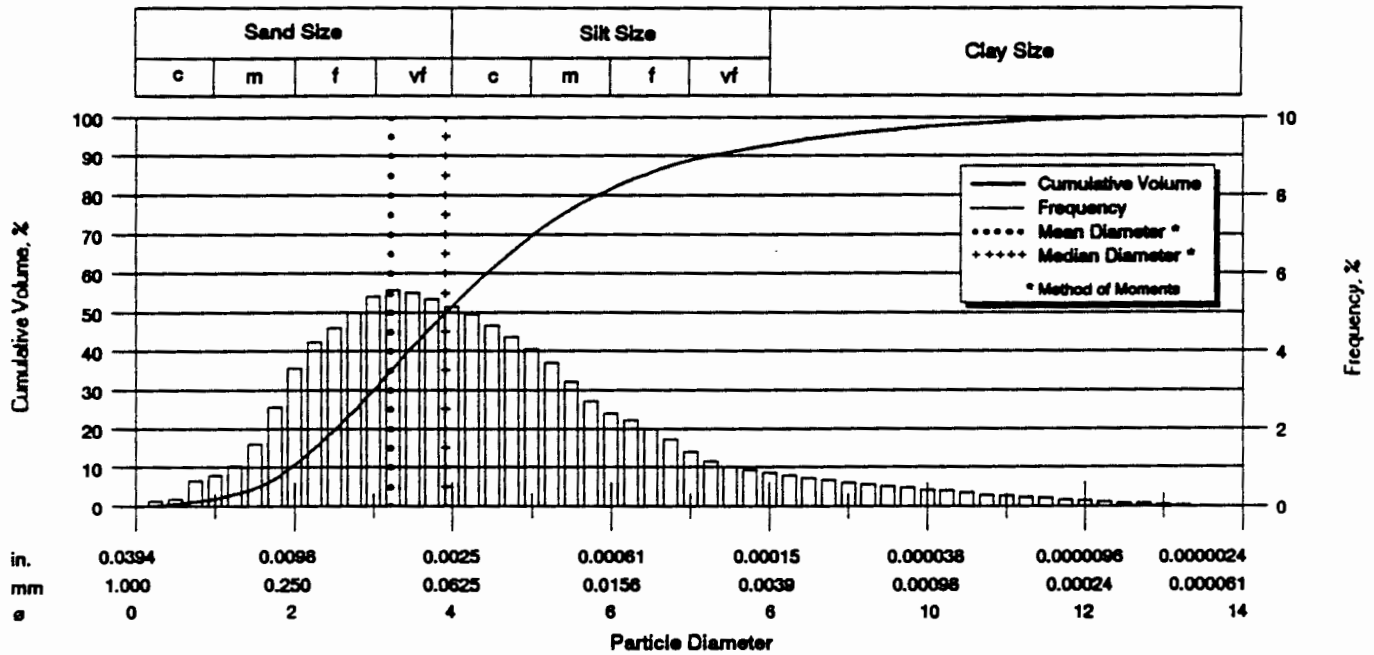
'TS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SS06-SB01-6-8

ient: Groundwater Technology

# Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.32 | 0.32 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.18 | 0.50 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.65 | 1.15 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.79 | 1.94 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 1.04 | 2.98 |
| | 45 | 0.0138 | 0.35 | 1.50 | 1.61 | 4.59 |
| | 50 | 0.0118 | 0.30 | 1.75 | 2.55 | 7.14 |
| | 60 | 0.0098 | 0.25 | 2.00 | 3.55 | 10.69 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 4.23 | 14.92 |
| | 80 | 0.0070 | 0.177 | 2.50 | 4.59 | 19.51 |
| | 100 | 0.0059 | 0.149 | 2.75 | 5.01 | 24.52 |
| | 120 | 0.0049 | 0.125 | 3.00 | 5.41 | 29.93 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 5.59 | 35.52 |
| | 170 | 0.0035 | 0.088 | 3.50 | 5.52 | 41.04 |
| | 200 | 0.0029 | 0.074 | 3.75 | 5.35 | 46.39 |
| | 230 | 0.0025 | 0.063 | 4.00 | 5.15 | 51.54 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 4.94 | 56.48 |
| | 325 | 0.0017 | 0.044 | 4.50 | 4.67 | 61.15 |
| | 400 | 0.0015 | 0.037 | 4.75 | 4.35 | 65.50 |
| | 450 | 0.0012 | 0.031 | 5.00 | 4.06 | 69.56 |
| | 500 | 0.0010 | 0.025 | 5.32 | 4.65 | 74.21 |
| | 635 | 0.0008 | 0.020 | 5.64 | 3.82 | 78.03 |
| | | 0.00061 | 0.0156 | 6.00 | 3.52 | 61.55 |
| | | 0.00031 | 0.0078 | 7.00 | 7.31 | 88.86 |
| | | 0.00015 | 0.0039 | 8.00 | 3.93 | 92.79 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 2.82 | 95.61 |
| | | 0.000039 | 0.00098 | 10.0 | 1.97 | 97.58 |
| | | 0.000019 | 0.00049 | 11.0 | 1.28 | 98.86 |
| | | 0.0000094 | 0.00024 | 12.0 | 0.76 | 99.62 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.34 | 99.96 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.04 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0042 | 0.0023 | 0.0020 | 0.0022 |
| Mean, mm | 0.1070 | 0.0592 | 0.0510 | 0.0555 |
| Mean, phi | 3.2243 | 4.0772 | 4.2941 | 4.1709 |
| Median, in | 0.0026 | 0.0026 | 0.0026 | 0.0026 |
| Median, mm | 0.0659 | 0.0659 | 0.0659 | 0.0659 |
| Median, phi | 3.9245 | 3.9246 | 3.9246 | 3.9246 |
| Std Deviation, in | 0.0048 | 0.0149 | 0.0098 | 0.0092 |
| Std Deviation, mm | 0.1227 | 0.3809 | 0.2526 | 0.2359 |
| Std Deviation, phi | 3.0268 | 1.3927 | 1.9853 | 2.0840 |
| Skewness | 2.3130 | 0.9690 | 0.6170 | 0.2631 |
| Kurtosis | 7.1630 | 0.2463 | 0.8141 | 1.1327 |
| Mode, mm | 0.1160 | | | |
| 95% Confidence | 0.0830 | | | |
| Limits, mm | 0.1310 | | | |
| Variance, mm2 | 0.0151 | | | |
| Coef. of Variance, % | 114.70 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0133 | 0.3420 | 1.5479 |
| 10 | 0.0101 | 0.2581 | 1.9540 |
| 16 | 0.0079 | 0.2018 | 2.3088 |
| 25 | 0.0057 | 0.1462 | 2.7741 |
| 50 | 0.0026 | 0.0659 | 3.9246 |
| 75 | 0.0009 | 0.0240 | 5.3803 |
| 84 | 0.0005 | 0.0129 | 6.2794 |
| 90 | 0.0003 | 0.0066 | 7.2455 |
| 95 | 0.0001 | 0.0023 | 8.7510 |

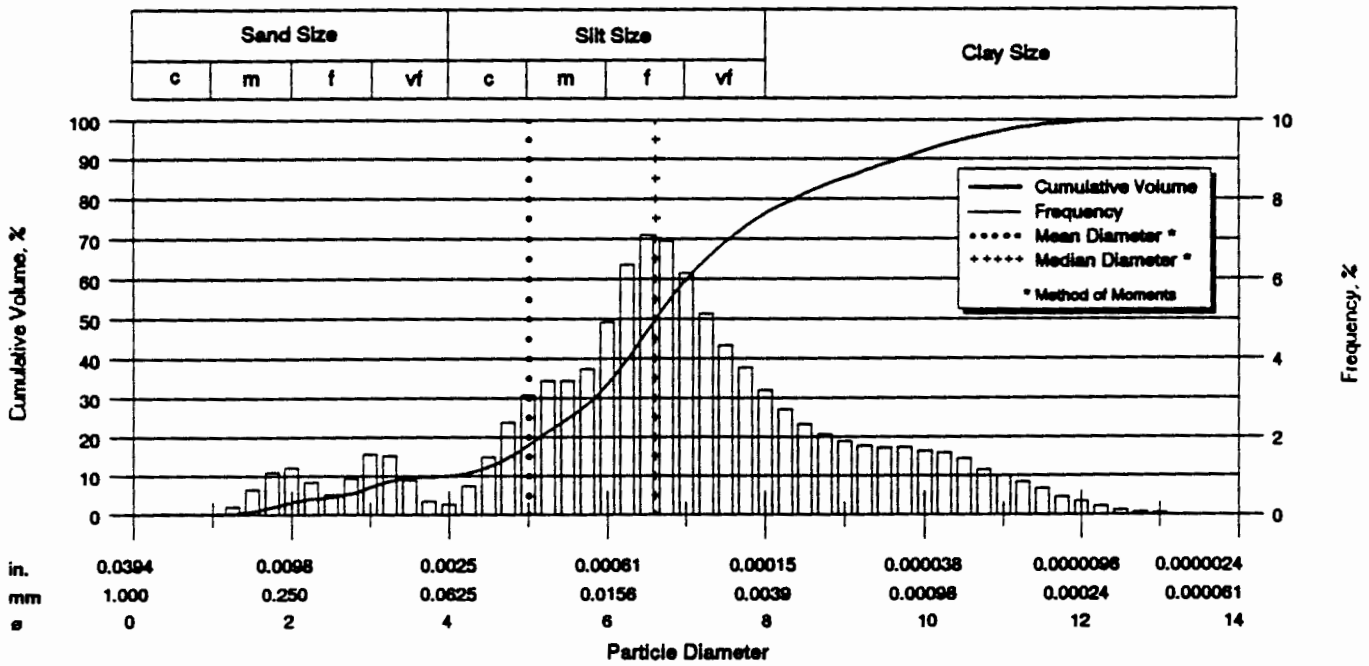
PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SS06-SB02-6-8

Client: Groundwater Technology

# Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.20 | 0.20 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.67 | 0.87 |
| | 50 | 0.0118 | 0.30 | 1.75 | 1.11 | 1.98 |
| | 60 | 0.0098 | 0.25 | 2.00 | 1.22 | 3.20 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 0.84 | 4.04 |
| | 80 | 0.0070 | 0.177 | 2.50 | 0.54 | 4.58 |
| | 100 | 0.0059 | 0.149 | 2.75 | 0.94 | 5.52 |
| | 120 | 0.0049 | 0.125 | 3.00 | 1.56 | 7.08 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 1.51 | 8.59 |
| | 170 | 0.0035 | 0.088 | 3.50 | 0.88 | 9.47 |
| | 200 | 0.0029 | 0.074 | 3.75 | 0.35 | 9.82 |
| | 230 | 0.0025 | 0.063 | 4.00 | 0.28 | 10.10 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 0.73 | 10.83 |
| | 325 | 0.0017 | 0.044 | 4.50 | 1.51 | 12.34 |
| | 400 | 0.0015 | 0.037 | 4.75 | 2.33 | 14.67 |
| | 450 | 0.0012 | 0.031 | 5.00 | 3.08 | 17.75 |
| | 500 | 0.0010 | 0.025 | 5.32 | 4.42 | 22.17 |
| | 635 | 0.0006 | 0.020 | 5.64 | 4.45 | 26.62 |
| | | 0.00061 | 0.0156 | 6.00 | 6.67 | 33.29 |
| | | 0.00031 | 0.0078 | 7.00 | 26.57 | 59.86 |
| | | 0.00015 | 0.0039 | 8.00 | 16.42 | 76.28 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 8.94 | 85.22 |
| | | 0.000039 | 0.00098 | 10.0 | 6.85 | 92.07 |
| | | 0.000019 | 0.00049 | 11.0 | 5.19 | 97.26 |
| | | 0.0000094 | 0.00024 | 12.0 | 2.31 | 99.57 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.43 | 100.00 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.00 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0012 | 0.0004 | 0.0003 | 0.0004 |
| Mean, mm | 0.0309 | 0.0095 | 0.0087 | 0.0092 |
| Mean, phi | 5.0148 | 6.7113 | 6.8493 | 6.7712 |
| Median, in | 0.0004 | 0.0004 | 0.0004 | 0.0004 |
| Median, mm | 0.0102 | 0.0102 | 0.0102 | 0.0102 |
| Median, phi | 6.6153 | 6.6150 | 6.6150 | 6.6150 |
| Std Deviation, in | 0.0025 | 0.0170 | 0.0098 | 0.0086 |
| Std Deviation, mm | 0.0651 | 0.4368 | 0.2524 | 0.2204 |
| Std Deviation, phi | 3.9405 | 1.1951 | 1.9862 | 2.1820 |
| Skewness | 3.6840 | 0.9973 | -0.0271 | 0.0521 |
| Kurtosis | 14.2200 | 0.2060 | 0.9752 | 1.3583 |
| Mode, mm | 0.0119 | | | |
| 95% Confidence | 0.0182 | | | |
| Limits, mm | 0.0437 | | | |
| Variance, mm2 | 0.0042 | | | |
| Coef. of Variance, % | 210.60 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0063 | 0.1606 | 2.6380 |
| 10 | 0.0025 | 0.0651 | 3.9403 |
| 16 | 0.0013 | 0.0344 | 4.8630 |
| 25 | 0.0008 | 0.0217 | 5.5276 |
| 50 | 0.0004 | 0.0102 | 6.6150 |
| 75 | 0.0002 | 0.0042 | 7.8951 |
| 84 | 0.0001 | 0.0022 | 8.8355 |
| 90 | 0.0000 | 0.0012 | 9.6860 |
| 95 | 0.0000 | 0.0007 | 10.4845 |

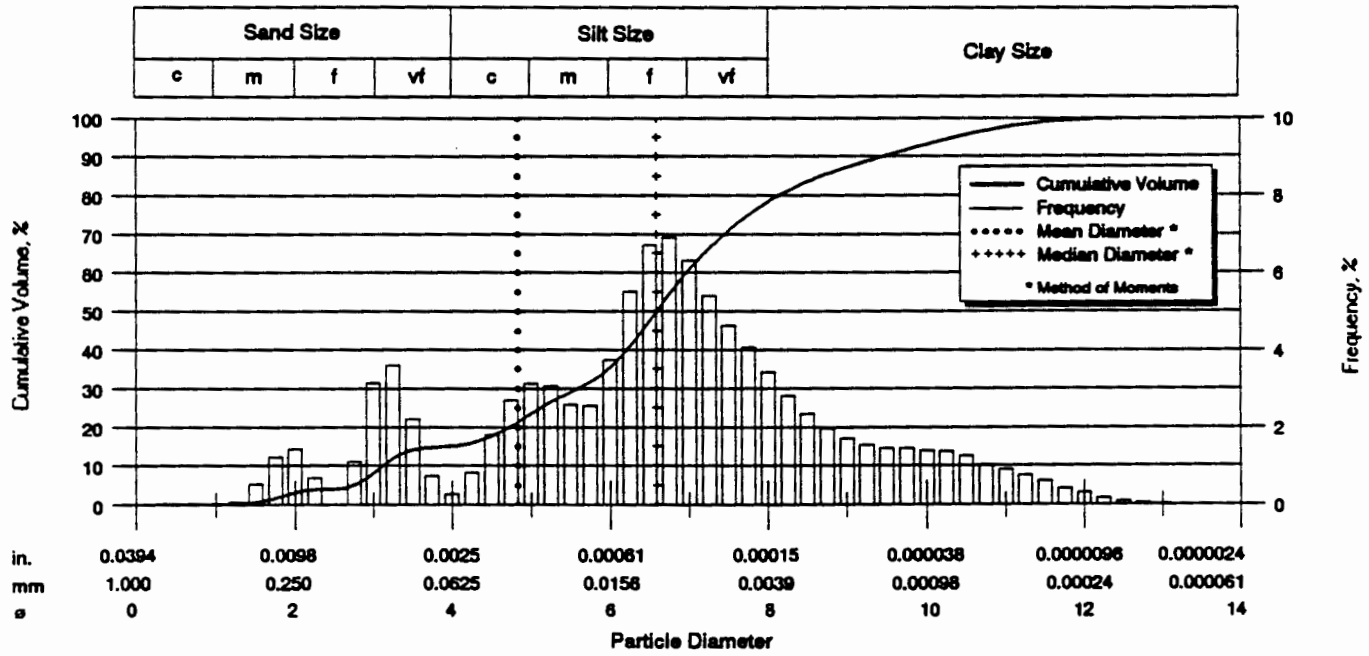
'TS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SS06-SB03-8-10

ient: Groundwater Technology

# Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | Diameter [U.S. Sieve] | [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.07 | 0.07 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.53 | 0.60 |
| | 50 | 0.0118 | 0.30 | 1.75 | 1.21 | 1.81 |
| | 60 | 0.0098 | 0.25 | 2.00 | 1.43 | 3.24 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 0.69 | 3.93 |
| | 80 | 0.0070 | 0.177 | 2.50 | 0.00 | 3.93 |
| | 100 | 0.0059 | 0.149 | 2.75 | 1.11 | 5.04 |
| | 120 | 0.0049 | 0.125 | 3.00 | 3.14 | 8.18 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 3.58 | 11.76 |
| | 170 | 0.0035 | 0.088 | 3.50 | 2.21 | 13.97 |
| | 200 | 0.0029 | 0.074 | 3.75 | 0.74 | 14.71 |
| | 230 | 0.0025 | 0.063 | 4.00 | 0.29 | 15.00 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 0.82 | 15.82 |
| | 325 | 0.0017 | 0.044 | 4.50 | 1.83 | 17.65 |
| | 400 | 0.0015 | 0.037 | 4.75 | 2.65 | 20.30 |
| | 450 | 0.0012 | 0.031 | 5.00 | 3.13 | 23.43 |
| | 500 | 0.0010 | 0.025 | 5.32 | 3.84 | 27.27 |
| | 635 | 0.0008 | 0.020 | 5.64 | 3.17 | 30.44 |
| | | 0.00061 | 0.0156 | 6.00 | 4.94 | 35.38 |
| | | 0.00031 | 0.0078 | 7.00 | 25.47 | 60.65 |
| | | 0.00015 | 0.0039 | 8.00 | 17.53 | 78.38 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 8.80 | 87.18 |
| | | 0.000039 | 0.00098 | 10.0 | 5.81 | 92.99 |
| | | 0.000019 | 0.00049 | 11.0 | 4.54 | 97.53 |
| | | 0.0000094 | 0.00024 | 12.0 | 2.10 | 99.63 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.37 | 100.00 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.00 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0014 | 0.0004 | 0.0005 | 0.0004 |
| Mean, mm | 0.0352 | 0.0115 | 0.0117 | 0.0112 |
| Mean, phi | 4.8295 | 6.4387 | 6.4179 | 6.4741 |
| Median, in | 0.0004 | 0.0004 | 0.0004 | 0.0004 |
| Median, mm | 0.0104 | 0.0104 | 0.0104 | 0.0104 |
| Median, phi | 6.5859 | 6.5864 | 6.5864 | 6.5864 |
| Std Deviation, in | 0.0025 | 0.0166 | 0.0089 | 0.0083 |
| Std Deviation, mm | 0.0649 | 0.4263 | 0.2272 | 0.2138 |
| Std Deviation, phi | 3.9461 | 1.2300 | 2.1381 | 2.2257 |
| Skewness | 3.1380 | 0.9158 | -0.0115 | -0.0426 |
| Kurtosis | 10.6000 | 0.2069 | 0.7853 | 1.1904 |
| Mode, mm | 0.0109 | | | |
| 95% Confidence | 0.0225 | | | |
| Limits, mm | 0.0479 | | | |
| Variance, mm2 | 0.0042 | | | |
| Coef. of Variance, % | 184.50 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0058 | 0.1492 | 2.7448 |
| 10 | 0.0045 | 0.1150 | 3.1209 |
| 16 | 0.0020 | 0.0515 | 4.2799 |
| 25 | 0.0011 | 0.0287 | 5.1245 |
| 50 | 0.0004 | 0.0104 | 6.5864 |
| 75 | 0.0002 | 0.0046 | 7.7529 |
| 84 | 0.0001 | 0.0027 | 8.5560 |
| 90 | 0.0001 | 0.0014 | 9.4732 |
| 95 | 0.0000 | 0.0008 | 10.3789 |

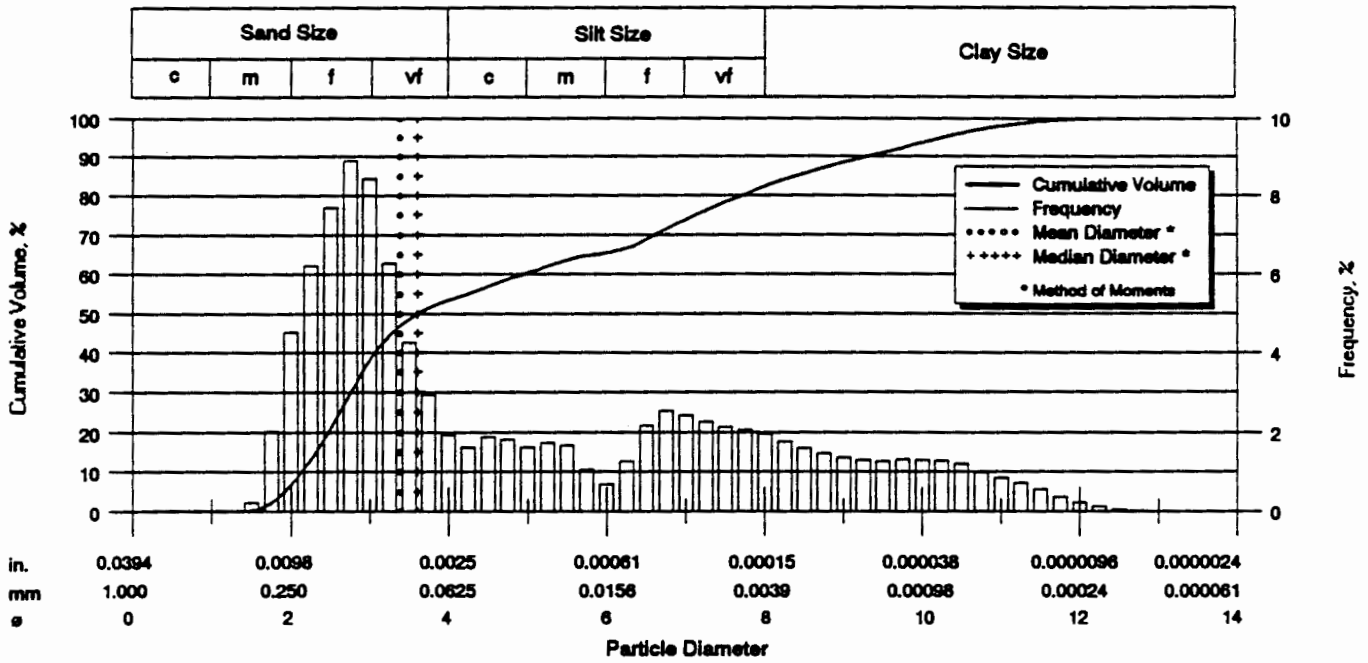
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SS06-SB04-8-10

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.23 | 0.23 |
| | 50 | 0.0116 | 0.30 | 1.75 | 2.02 | 2.25 |
| | 60 | 0.0098 | 0.25 | 2.00 | 4.53 | 6.78 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 6.23 | 13.01 |
| | 80 | 0.0070 | 0.177 | 2.50 | 7.68 | 20.69 |
| | 100 | 0.0059 | 0.149 | 2.75 | 8.89 | 29.58 |
| | 120 | 0.0049 | 0.125 | 3.00 | 8.42 | 38.00 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 6.29 | 44.29 |
| | 170 | 0.0035 | 0.088 | 3.50 | 4.27 | 48.56 |
| | 200 | 0.0029 | 0.074 | 3.75 | 2.93 | 51.49 |
| | 230 | 0.0025 | 0.063 | 4.00 | 1.92 | 53.41 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 1.61 | 55.02 |
| | 325 | 0.0017 | 0.044 | 4.50 | 1.88 | 56.90 |
| | 400 | 0.0015 | 0.037 | 4.75 | 1.81 | 58.71 |
| | 450 | 0.0012 | 0.031 | 5.00 | 1.62 | 60.33 |
| | 500 | 0.0010 | 0.025 | 5.32 | 2.23 | 62.56 |
| | 635 | 0.0008 | 0.020 | 5.64 | 1.83 | 64.39 |
| | | 0.00061 | 0.0156 | 6.00 | 1.07 | 65.46 |
| | | 0.00031 | 0.0078 | 7.00 | 8.37 | 73.83 |
| | | 0.00015 | 0.0039 | 8.00 | 8.39 | 82.22 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 6.21 | 88.43 |
| | | 0.000039 | 0.00098 | 10.0 | 5.17 | 93.60 |
| | | 0.000019 | 0.00049 | 11.0 | 4.35 | 97.95 |
| | | 0.0000094 | 0.00024 | 12.0 | 1.86 | 99.61 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.19 | 100.00 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.00 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0037 | 0.0013 | 0.0010 | 0.0015 |
| Mean, mm | 0.0956 | 0.0341 | 0.0254 | 0.0375 |
| Mean, phi | 3.3867 | 4.8757 | 5.3016 | 4.7377 |
| Median, in | 0.0032 | 0.0032 | 0.0032 | 0.0032 |
| Median, mm | 0.0819 | 0.0819 | 0.0819 | 0.0819 |
| Median, phi | 3.6100 | 3.6100 | 3.6100 | 3.6100 |
| Std Deviation, in | 0.0036 | 0.0124 | 0.0050 | 0.0058 |
| Std Deviation, mm | 0.0911 | 0.3190 | 0.1294 | 0.1495 |
| Std Deviation, phi | 3.4567 | 1.6483 | 2.9505 | 2.7420 |
| Skewness | 0.6400 | 1.4349 | 0.8416 | 0.5836 |
| Kurtosis | -0.6480 | 0.3143 | 0.4168 | 0.7607 |
| Mode, mm | 0.1525 | | | |
| 95% Confidence | 0.0778 | | | |
| Limits, mm | 0.1135 | | | |
| Variance, mm2 | 0.0083 | | | |
| Coef. of Variance, % | 95.27 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0104 | 0.2656 | 1.9128 |
| 10 | 0.0089 | 0.2275 | 2.1358 |
| 16 | 0.0076 | 0.1960 | 2.3510 |
| 25 | 0.0063 | 0.1623 | 2.6236 |
| 50 | 0.0032 | 0.0819 | 3.6100 |
| 75 | 0.0003 | 0.0072 | 7.1278 |
| 84 | 0.0001 | 0.0033 | 8.2521 |
| 90 | 0.0001 | 0.0016 | 9.3022 |
| 95 | 0.0000 | 0.0006 | 10.2734 |

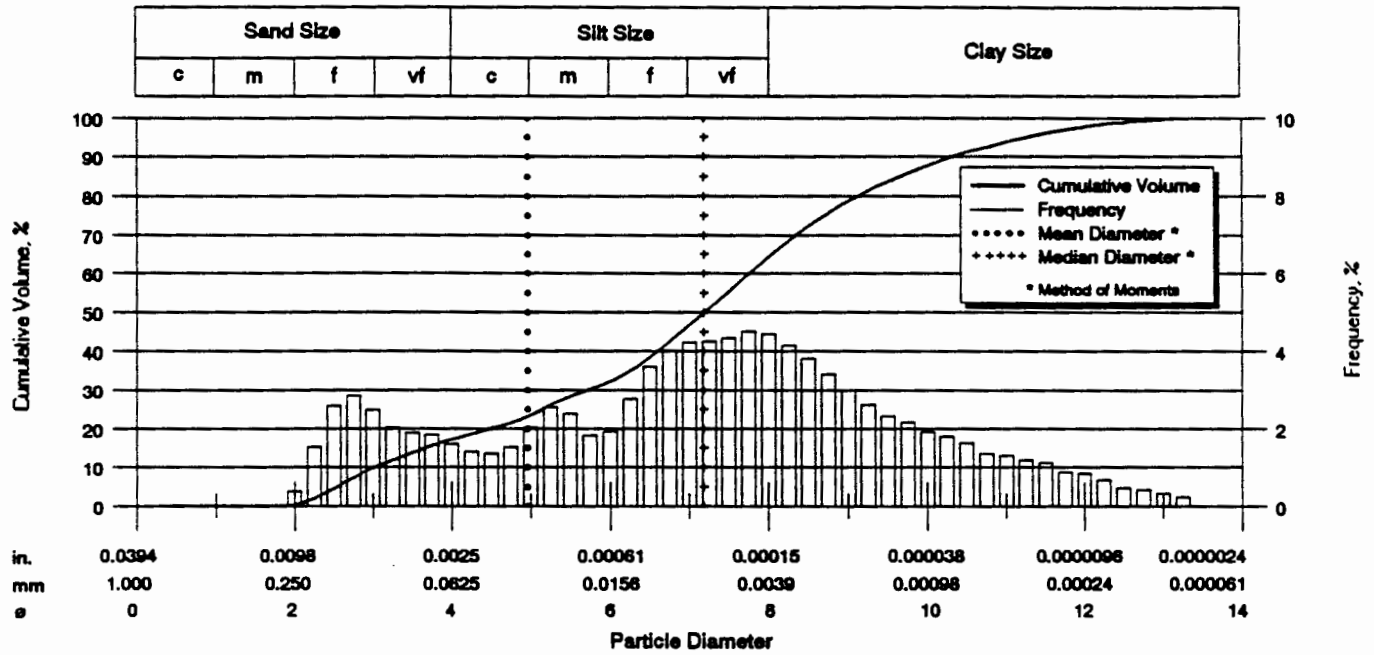
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SS06-SB05-4-6

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | Diameter [U.S. Sieve] | [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.00 | 0.00 |
| | 50 | 0.0118 | 0.30 | 1.75 | 0.00 | 0.00 |
| | 60 | 0.0098 | 0.25 | 2.00 | 0.38 | 0.38 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 1.51 | 1.89 |
| | 80 | 0.0070 | 0.177 | 2.50 | 2.60 | 4.49 |
| | 100 | 0.0059 | 0.149 | 2.75 | 2.84 | 7.33 |
| | 120 | 0.0049 | 0.125 | 3.00 | 2.48 | 9.81 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 2.03 | 11.84 |
| | 170 | 0.0035 | 0.088 | 3.50 | 1.89 | 13.73 |
| | 200 | 0.0029 | 0.074 | 3.75 | 1.84 | 15.57 |
| | 230 | 0.0025 | 0.063 | 4.00 | 1.60 | 17.17 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 1.41 | 18.58 |
| | 325 | 0.0017 | 0.044 | 4.50 | 1.36 | 19.94 |
| | 400 | 0.0015 | 0.037 | 4.75 | 1.50 | 21.44 |
| | 450 | 0.0012 | 0.031 | 5.00 | 2.03 | 23.47 |
| | 500 | 0.0010 | 0.025 | 5.32 | 3.26 | 26.73 |
| | 635 | 0.0008 | 0.020 | 5.64 | 2.75 | 29.48 |
| | | 0.00061 | 0.0156 | 6.00 | 2.69 | 32.17 |
| | | 0.00031 | 0.0078 | 7.00 | 14.62 | 46.79 |
| | | 0.00015 | 0.0039 | 8.00 | 17.56 | 64.35 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 14.37 | 78.72 |
| | | 0.000039 | 0.00098 | 10.0 | 8.99 | 87.71 |
| | | 0.000019 | 0.00049 | 11.0 | 6.09 | 93.60 |
| | | 0.0000094 | 0.00024 | 12.0 | 4.01 | 97.61 |
| | | 0.0000047 | 0.00012 | 13.0 | 1.95 | 99.76 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.24 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0013 | 0.0003 | 0.0004 | 0.0003 |
| Mean, mm | 0.0321 | 0.0082 | 0.0096 | 0.0087 |
| Mean, phi | 4.9599 | 6.9237 | 6.6762 | 6.8465 |
| Median, in | 0.0003 | 0.0003 | 0.0003 | 0.0003 |
| Median, mm | 0.0069 | 0.0069 | 0.0069 | 0.0069 |
| Median, phi | 7.1869 | 7.1872 | 7.1872 | 7.1872 |
| Std Deviation, in | 0.0021 | 0.0159 | 0.0054 | 0.0058 |
| Std Deviation, mm | 0.0551 | 0.4065 | 0.1375 | 0.1486 |
| Std Deviation, phi | 4.1829 | 1.2988 | 2.8630 | 2.7508 |
| Skewness | 2.1870 | 0.8674 | -0.1008 | -0.1224 |
| Kurtosis | 3.9400 | 0.2424 | 0.5206 | 1.0080 |
| Mode, mm | 0.0048 | | | |
| 95% Confidence | 0.0213 | | | |
| Limits, mm | 0.0429 | | | |
| Variance, mm2 | 0.0030 | | | |
| Coef. of Variance, % | 171.30 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0067 | 0.1713 | 2.5450 |
| 10 | 0.0048 | 0.1232 | 3.0212 |
| 16 | 0.0028 | 0.0711 | 3.8132 |
| 25 | 0.0011 | 0.0281 | 5.1536 |
| 50 | 0.0003 | 0.0069 | 7.1872 |
| 75 | 0.0001 | 0.0024 | 8.6938 |
| 84 | 0.0001 | 0.0013 | 9.5393 |
| 90 | 0.0000 | 0.0008 | 10.3242 |
| 95 | 0.0000 | 0.0004 | 11.2521 |

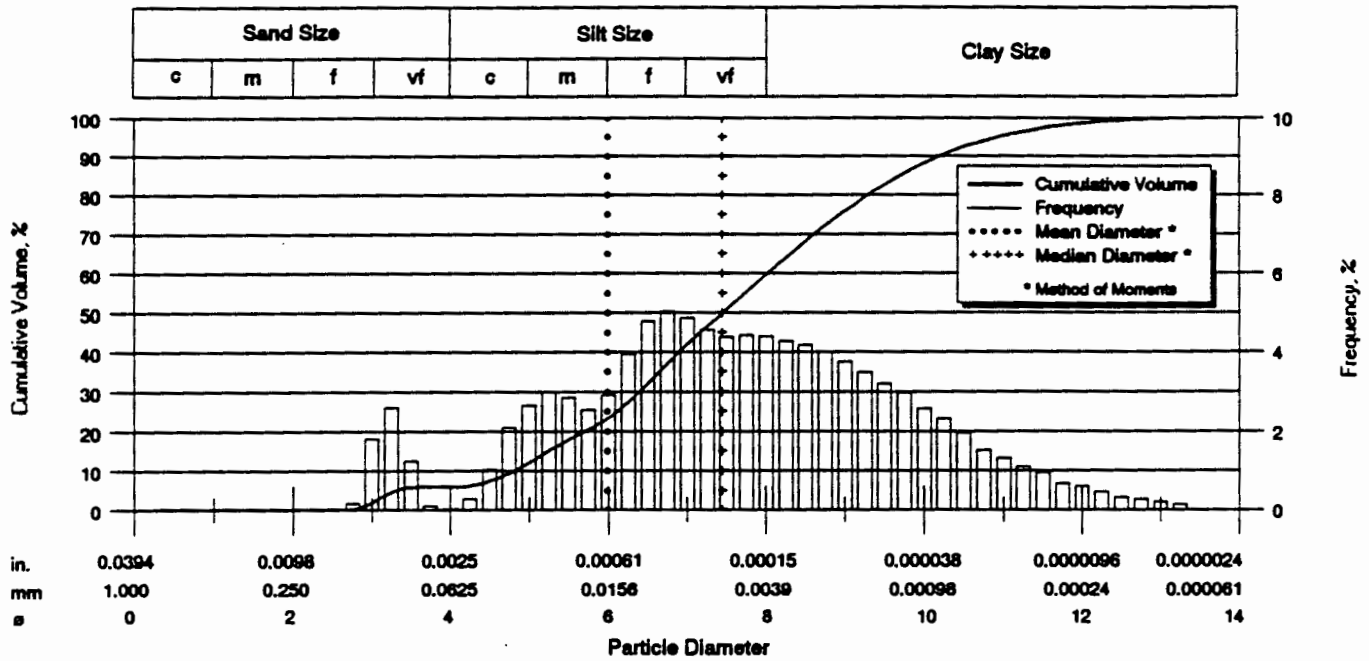
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SS06-SB06-8-10

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.00 | 0.00 |
| | 50 | 0.0118 | 0.30 | 1.75 | 0.00 | 0.00 |
| | 60 | 0.0098 | 0.25 | 2.00 | 0.00 | 0.00 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 0.00 | 0.00 |
| | 80 | 0.0070 | 0.177 | 2.50 | 0.00 | 0.00 |
| | 100 | 0.0059 | 0.149 | 2.75 | 0.17 | 0.17 |
| | 120 | 0.0049 | 0.125 | 3.00 | 1.80 | 1.97 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 2.61 | 4.58 |
| | 170 | 0.0035 | 0.088 | 3.50 | 1.25 | 5.83 |
| | 200 | 0.0029 | 0.074 | 3.75 | 0.10 | 5.93 |
| | 230 | 0.0025 | 0.063 | 4.00 | 0.01 | 5.94 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 0.28 | 6.22 |
| | 325 | 0.0017 | 0.044 | 4.50 | 1.07 | 7.29 |
| | 400 | 0.0015 | 0.037 | 4.75 | 2.05 | 9.34 |
| | 450 | 0.0012 | 0.031 | 5.00 | 2.65 | 11.99 |
| | 500 | 0.0010 | 0.025 | 5.32 | 3.84 | 15.83 |
| | 635 | 0.0008 | 0.020 | 5.64 | 3.44 | 19.27 |
| | | 0.00061 | 0.0156 | 6.00 | 4.02 | 23.29 |
| | | 0.00031 | 0.0078 | 7.00 | 18.66 | 41.95 |
| | | 0.00015 | 0.0039 | 8.00 | 17.76 | 59.71 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 16.21 | 75.92 |
| | | 0.000039 | 0.00098 | 10.0 | 12.23 | 88.15 |
| | | 0.000019 | 0.00049 | 11.0 | 7.13 | 95.28 |
| | | 0.0000094 | 0.00024 | 12.0 | 3.35 | 98.63 |
| | | 0.0000047 | 0.00012 | 13.0 | 1.24 | 99.87 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.13 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0006 | 0.0002 | 0.0002 | 0.0002 |
| Mean, mm | 0.0157 | 0.0054 | 0.0056 | 0.0057 |
| Mean, phi | 5.9913 | 7.5271 | 7.4750 | 7.4660 |
| Median, in | 0.0002 | 0.0002 | 0.0002 | 0.0002 |
| Median, mm | 0.0057 | 0.0057 | 0.0057 | 0.0057 |
| Median, phi | 7.4478 | 7.4480 | 7.4480 | 7.4480 |
| Std Deviation, in | 0.0011 | 0.0169 | 0.0088 | 0.0083 |
| Std Deviation, mm | 0.0279 | 0.4326 | 0.2268 | 0.2132 |
| Std Deviation, phi | 5.1620 | 1.2087 | 2.1402 | 2.2298 |
| Skewness | 3.0910 | 0.9855 | -0.1525 | -0.0363 |
| Kurtosis | 9.1820 | 0.2622 | 0.7880 | 1.1122 |
| Mode, mm | 0.0099 | | | |
| 95% Confidence | 0.0103 | | | |
| Limits, mm | 0.0212 | | | |
| Variance, mm2 | 0.0008 | | | |
| Coef. of Variance, % | 177.70 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0040 | 0.1019 | 3.2949 |
| 10 | 0.0014 | 0.0356 | 4.8138 |
| 16 | 0.0010 | 0.0248 | 5.3348 |
| 25 | 0.0008 | 0.0144 | 6.1170 |
| 50 | 0.0002 | 0.0057 | 7.4480 |
| 75 | 0.0001 | 0.0020 | 8.9372 |
| 84 | 0.0000 | 0.0013 | 9.6153 |
| 90 | 0.0000 | 0.0009 | 10.1918 |
| 95 | 0.0000 | 0.0005 | 10.9486 |

# APPENDIX D-2

## Site AOC-RR

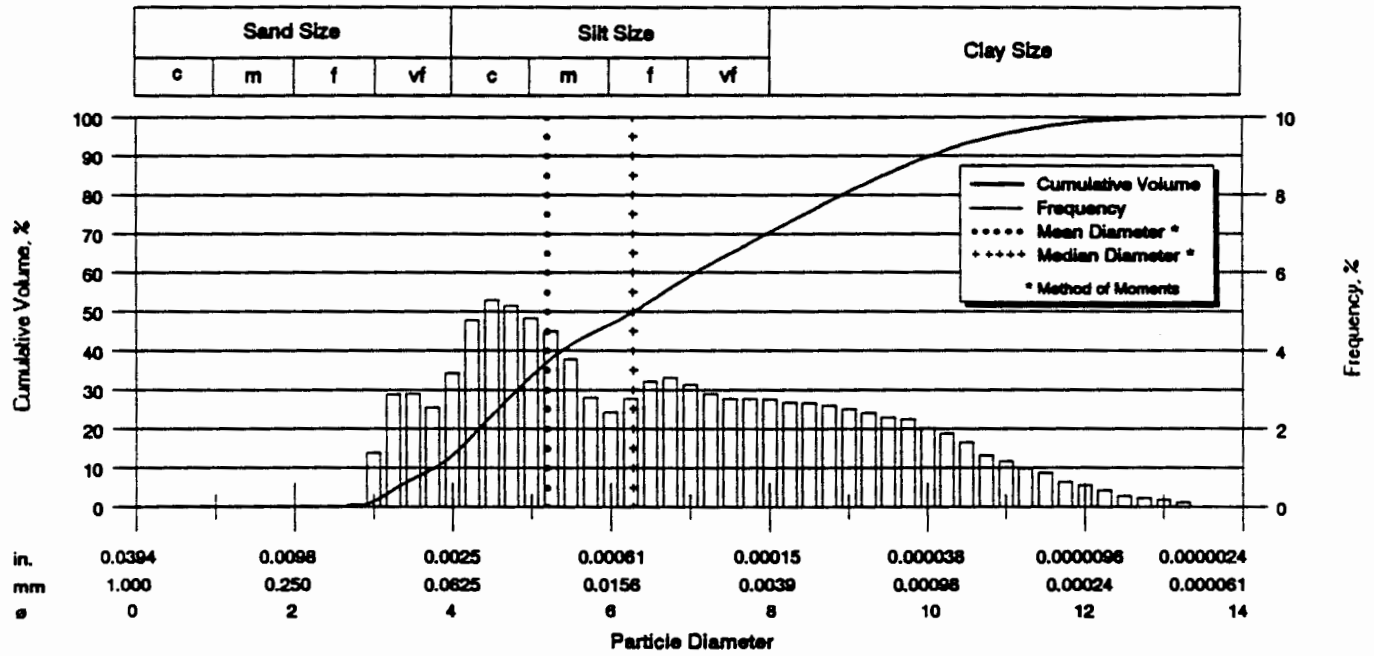
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOCRR-SB01-6-8

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.00 | 0.00 |
| | 50 | 0.0118 | 0.30 | 1.75 | 0.00 | 0.00 |
| | 60 | 0.0098 | 0.25 | 2.00 | 0.00 | 0.00 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 0.00 | 0.00 |
| | 80 | 0.0070 | 0.177 | 2.50 | 0.00 | 0.00 |
| | 100 | 0.0059 | 0.149 | 2.75 | 0.06 | 0.06 |
| | 120 | 0.0049 | 0.125 | 3.00 | 1.38 | 1.44 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 2.88 | 4.32 |
| | 170 | 0.0035 | 0.088 | 3.50 | 2.91 | 7.23 |
| | 200 | 0.0029 | 0.074 | 3.75 | 2.53 | 9.76 |
| | 230 | 0.0025 | 0.063 | 4.00 | 3.43 | 13.19 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 4.78 | 17.97 |
| | 325 | 0.0017 | 0.044 | 4.50 | 5.33 | 23.30 |
| | 400 | 0.0015 | 0.037 | 4.75 | 5.13 | 28.43 |
| | 450 | 0.0012 | 0.031 | 5.00 | 4.84 | 33.27 |
| | 500 | 0.0010 | 0.025 | 5.32 | 5.84 | 38.91 |
| | 635 | 0.0008 | 0.020 | 5.64 | 4.29 | 43.20 |
| | | 0.00081 | 0.0156 | 6.00 | 3.56 | 46.76 |
| | | 0.00031 | 0.0078 | 7.00 | 12.42 | 59.18 |
| | | 0.00015 | 0.0039 | 8.00 | 11.18 | 70.36 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 10.40 | 80.76 |
| | | 0.000039 | 0.00098 | 10.0 | 8.93 | 89.69 |
| | | 0.000019 | 0.00049 | 11.0 | 6.00 | 95.69 |
| | | 0.0000094 | 0.00024 | 12.0 | 3.06 | 98.75 |
| | | 0.0000047 | 0.00012 | 13.0 | 1.14 | 99.89 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.11 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0011 | 0.0004 | 0.0004 | 0.0004 |
| Mean, mm | 0.0271 | 0.0110 | 0.0093 | 0.0104 |
| Mean, phi | 5.2045 | 6.5090 | 6.7439 | 6.5921 |
| Median, in | 0.0005 | 0.0005 | 0.0005 | 0.0005 |
| Median, mm | 0.0128 | 0.0128 | 0.0128 | 0.0128 |
| Median, phi | 6.2888 | 6.2886 | 6.2886 | 6.2886 |
| Std Deviation, in | 0.0012 | 0.0152 | 0.0065 | 0.0072 |
| Std Deviation, mm | 0.0319 | 0.3903 | 0.1659 | 0.1843 |
| Std Deviation, phi | 4.9708 | 1.3573 | 2.5915 | 2.4398 |
| Skewness | 1.5000 | 0.9773 | 0.3041 | 0.1922 |
| Kurtosis | 1.6900 | 0.3078 | 0.4568 | 0.8022 |
| Mode, mm | 0.0467 | | | |
| 95% Confidence | 0.0209 | | | |
| Limits, mm | 0.0334 | | | |
| Variance, mm2 | 0.0010 | | | |
| Coef. of Variance, % | 117.60 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0040 | 0.1014 | 3.3015 |
| 10 | 0.0029 | 0.0732 | 3.7714 |
| 16 | 0.0022 | 0.0562 | 4.1524 |
| 25 | 0.0016 | 0.0418 | 4.5803 |
| 50 | 0.0005 | 0.0128 | 6.2886 |
| 75 | 0.0001 | 0.0029 | 6.4377 |
| 84 | 0.0001 | 0.0015 | 9.3354 |
| 90 | 0.0000 | 0.0010 | 10.0383 |
| 95 | 0.0000 | 0.0005 | 10.8521 |

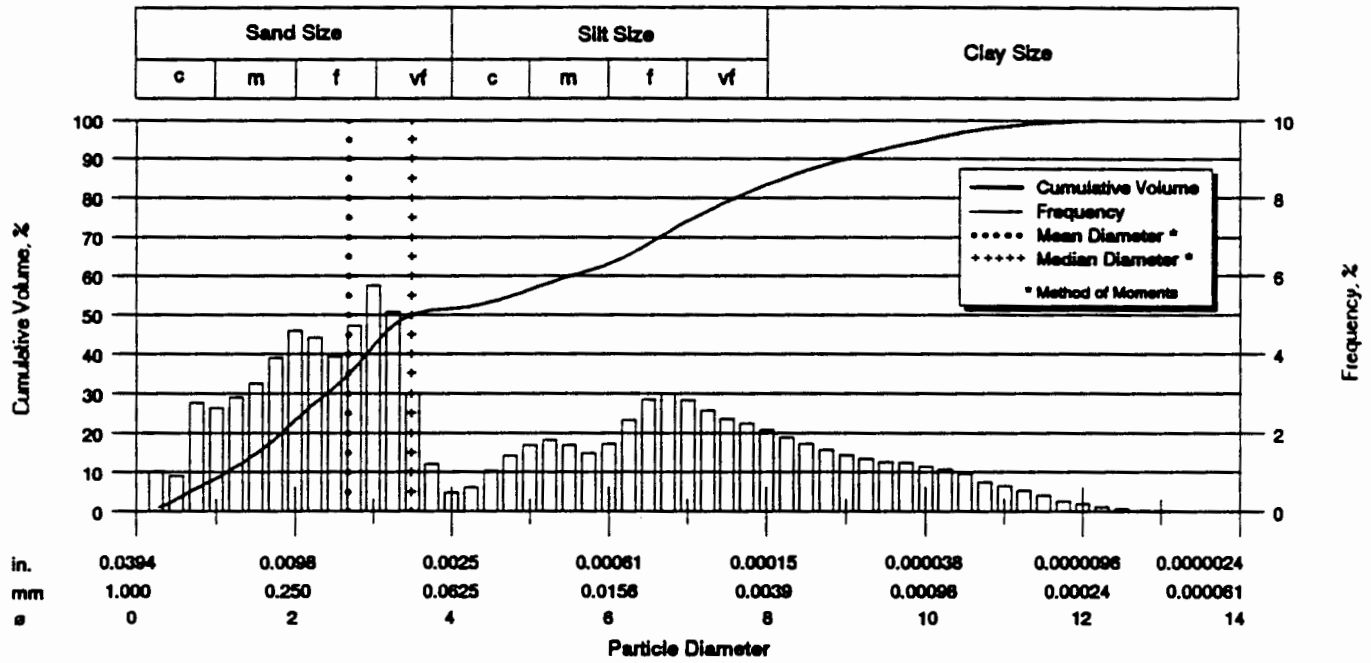
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOCRR-SB02-8-10

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | Diameter [U.S. Sieve] | [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 2.20 | 2.20 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.91 | 3.11 |
| | 30 | 0.0232 | 0.59 | 0.75 | 2.77 | 5.88 |
| | 35 | 0.0197 | 0.50 | 1.00 | 2.63 | 8.51 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 2.90 | 11.41 |
| | 45 | 0.0138 | 0.35 | 1.50 | 3.25 | 14.66 |
| | 50 | 0.0118 | 0.30 | 1.75 | 3.91 | 18.57 |
| | 60 | 0.0098 | 0.25 | 2.00 | 4.59 | 23.16 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 4.42 | 27.58 |
| | 80 | 0.0070 | 0.177 | 2.50 | 3.93 | 31.51 |
| | 100 | 0.0059 | 0.149 | 2.75 | 4.73 | 36.24 |
| | 120 | 0.0049 | 0.125 | 3.00 | 5.76 | 42.00 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 5.09 | 47.09 |
| | 170 | 0.0035 | 0.088 | 3.50 | 2.99 | 50.08 |
| | 200 | 0.0029 | 0.074 | 3.75 | 1.19 | 51.27 |
| | 230 | 0.0025 | 0.063 | 4.00 | 0.48 | 51.75 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 0.61 | 52.36 |
| | 325 | 0.0017 | 0.044 | 4.50 | 1.04 | 53.40 |
| | 400 | 0.0015 | 0.037 | 4.75 | 1.41 | 54.81 |
| | 450 | 0.0012 | 0.031 | 5.00 | 1.69 | 56.50 |
| | 500 | 0.0010 | 0.025 | 5.32 | 2.31 | 58.81 |
| | 635 | 0.0008 | 0.020 | 5.64 | 2.01 | 60.82 |
| | | 0.00061 | 0.0156 | 6.00 | 2.36 | 63.18 |
| | | 0.00031 | 0.0078 | 7.00 | 11.01 | 74.19 |
| | | 0.00015 | 0.0039 | 8.00 | 9.24 | 83.43 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 6.60 | 90.03 |
| | | 0.000039 | 0.00098 | 10.0 | 4.95 | 94.98 |
| | | 0.000019 | 0.00049 | 11.0 | 3.41 | 98.39 |
| | | 0.0000094 | 0.00024 | 12.0 | 1.40 | 99.79 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.21 | 100.00 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.00 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0061 | 0.0016 | 0.0014 | 0.0019 |
| Mean, mm | 0.1567 | 0.0416 | 0.0351 | 0.0478 |
| Mean, phi | 2.6739 | 4.5872 | 4.8340 | 4.3859 |
| Median, in | 0.0035 | 0.0035 | 0.0035 | 0.0035 |
| Median, mm | 0.0890 | 0.0890 | 0.0890 | 0.0890 |
| Median, phi | 3.4894 | 3.4897 | 3.4897 | 3.4897 |
| Std Deviation, in | 0.0078 | 0.0109 | 0.0041 | 0.0048 |
| Std Deviation, mm | 0.2008 | 0.2801 | 0.1058 | 0.1220 |
| Std Deviation, phi | 2.3162 | 1.8358 | 3.2400 | 3.0352 |
| Skewness | 1.6060 | 1.2196 | 0.5696 | 0.4050 |
| Kurtosis | 2.0280 | 0.3164 | 0.4414 | 0.7693 |
| Mode, mm | 0.1271 | | | |
| 95% Confidence | 0.1174 | | | |
| Limits, mm | 0.1961 | | | |
| Variance, mm2 | 0.0403 | | | |
| Coef. of Variance, % | 128.10 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0246 | 0.6306 | 0.6651 |
| 10 | 0.0178 | 0.4563 | 1.1318 |
| 16 | 0.0129 | 0.3312 | 1.5940 |
| 25 | 0.0091 | 0.2334 | 2.0993 |
| 50 | 0.0035 | 0.0890 | 3.4897 |
| 75 | 0.0003 | 0.0074 | 7.0751 |
| 84 | 0.0001 | 0.0037 | 8.0740 |
| 90 | 0.0001 | 0.0020 | 8.9949 |
| 95 | 0.0000 | 0.0010 | 10.0053 |

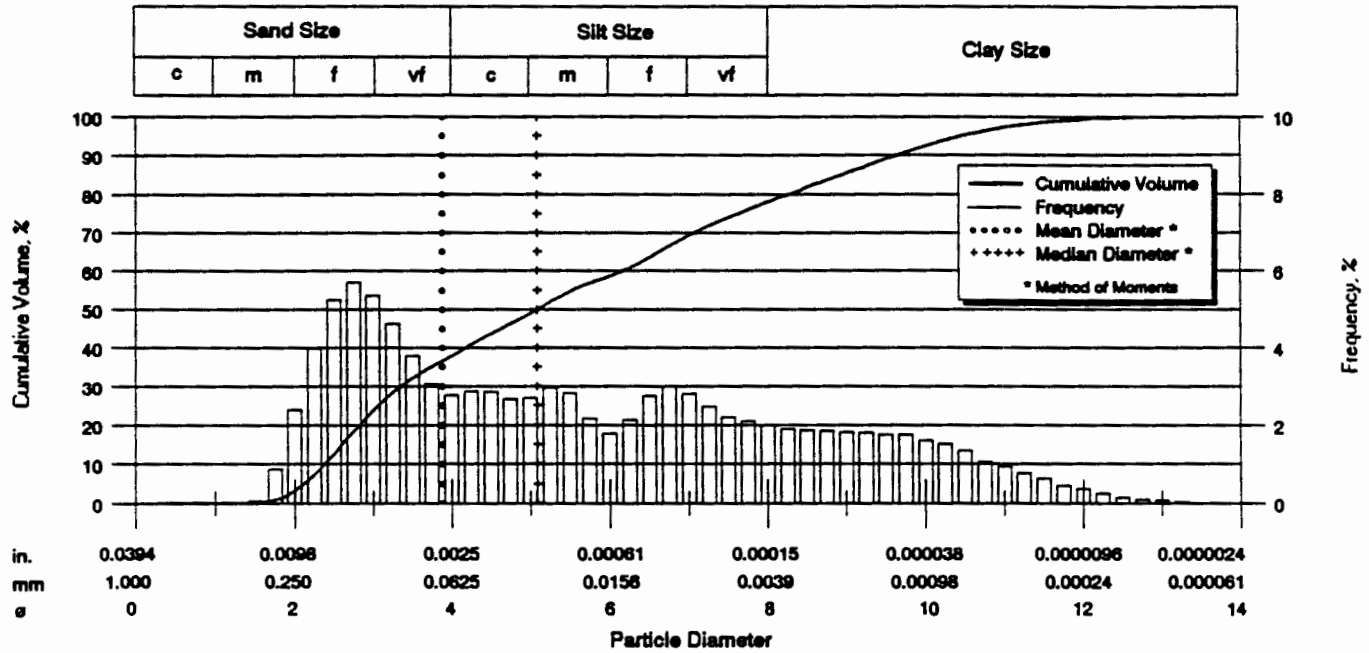
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOCRR-SB03-4-6

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | Diameter [U.S. Sieve] | [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.06 | 0.06 |
| | 50 | 0.0118 | 0.30 | 1.75 | 0.87 | 0.93 |
| | 60 | 0.0098 | 0.25 | 2.00 | 2.38 | 3.31 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 4.00 | 7.31 |
| | 80 | 0.0070 | 0.177 | 2.50 | 5.25 | 12.56 |
| | 100 | 0.0059 | 0.149 | 2.75 | 5.71 | 18.27 |
| | 120 | 0.0049 | 0.125 | 3.00 | 5.37 | 23.64 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 4.63 | 28.27 |
| | 170 | 0.0035 | 0.088 | 3.50 | 3.78 | 32.05 |
| | 200 | 0.0029 | 0.074 | 3.75 | 3.06 | 35.11 |
| | 230 | 0.0025 | 0.063 | 4.00 | 2.77 | 37.88 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 2.85 | 40.73 |
| | 325 | 0.0017 | 0.044 | 4.50 | 2.86 | 43.59 |
| | 400 | 0.0015 | 0.037 | 4.75 | 2.65 | 46.24 |
| | 450 | 0.0012 | 0.031 | 5.00 | 2.70 | 48.94 |
| | 500 | 0.0010 | 0.025 | 5.32 | 3.79 | 52.73 |
| | 635 | 0.0008 | 0.020 | 5.64 | 3.28 | 56.01 |
| | | 0.00081 | 0.0156 | 6.00 | 2.64 | 58.65 |
| | | 0.00031 | 0.0078 | 7.00 | 10.65 | 69.30 |
| | | 0.00015 | 0.0039 | 8.00 | 8.73 | 78.03 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 7.41 | 85.44 |
| | | 0.000039 | 0.00098 | 10.0 | 6.87 | 92.31 |
| | | 0.000019 | 0.00049 | 11.0 | 4.87 | 97.18 |
| | | 0.0000094 | 0.00024 | 12.0 | 2.22 | 99.40 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.57 | 99.97 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.03 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0026 | 0.0010 | 0.0007 | 0.0009 |
| Mean, mm | 0.0679 | 0.0246 | 0.0189 | 0.0219 |
| Mean, phi | 3.8804 | 5.3455 | 5.7264 | 5.5143 |
| Median, in | 0.0011 | 0.0011 | 0.0011 | 0.0011 |
| Median, mm | 0.0294 | 0.0294 | 0.0294 | 0.0294 |
| Median, phi | 5.0905 | 5.0901 | 5.0901 | 5.0901 |
| Std Deviation, in | 0.0031 | 0.0131 | 0.0046 | 0.0056 |
| Std Deviation, mm | 0.0790 | 0.3354 | 0.1186 | 0.1434 |
| Std Deviation, phi | 3.6624 | 1.5759 | 3.0752 | 2.8023 |
| Skewness | 1.1700 | 0.9029 | 0.3904 | 0.2473 |
| Kurtosis | 0.4010 | 0.3135 | 0.3571 | 0.7513 |
| Mode, mm | 0.1670 | | | |
| 95% Confidence | 0.0524 | | | |
| Limits, mm | 0.0834 | | | |
| Variance, mm2 | 0.0062 | | | |
| Coef. of Variance, % | 116.30 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0090 | 0.2305 | 2.1173 |
| 10 | 0.0075 | 0.1916 | 2.3836 |
| 16 | 0.0062 | 0.1592 | 2.6512 |
| 25 | 0.0046 | 0.1192 | 3.0690 |
| 50 | 0.0011 | 0.0294 | 5.0901 |
| 75 | 0.0002 | 0.0051 | 7.6221 |
| 84 | 0.0001 | 0.0022 | 8.8016 |
| 90 | 0.0000 | 0.0012 | 9.6482 |
| 95 | 0.0000 | 0.0007 | 10.4640 |

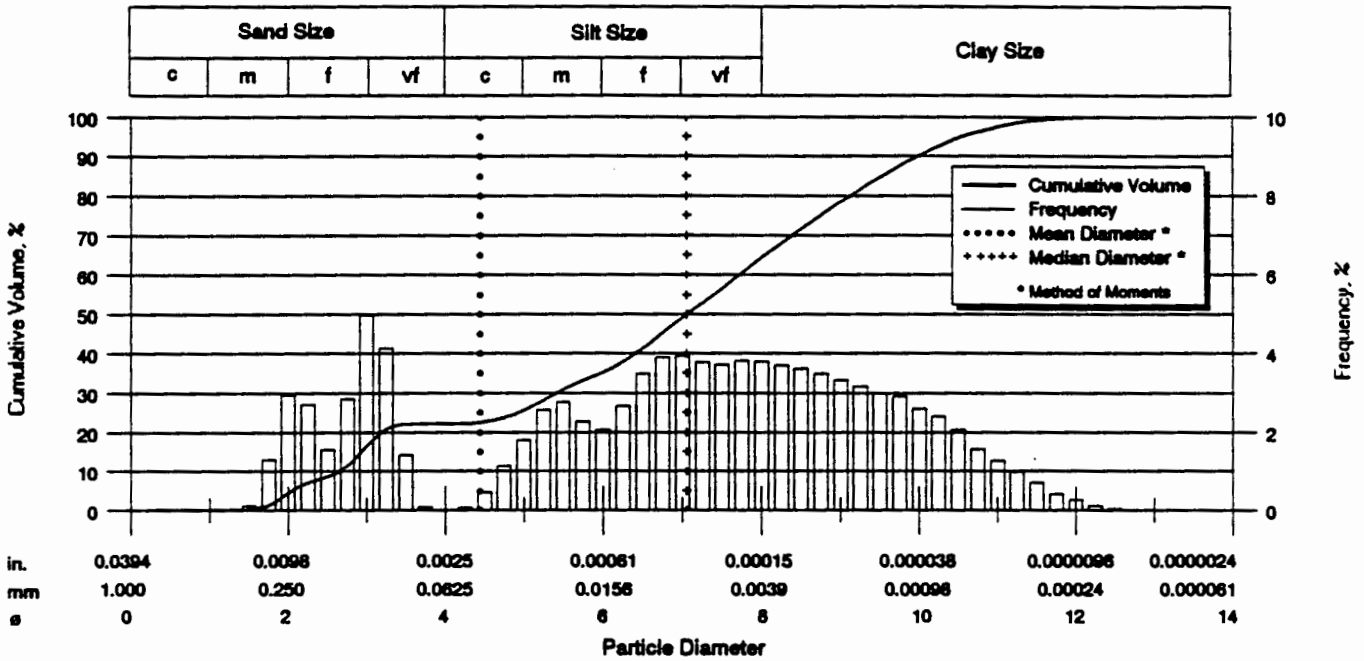
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOCRR-SB04-2-4

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.11 | 0.11 |
| | 50 | 0.0118 | 0.30 | 1.75 | 1.30 | 1.41 |
| | 60 | 0.0098 | 0.25 | 2.00 | 2.95 | 4.36 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 2.70 | 7.06 |
| | 80 | 0.0070 | 0.177 | 2.50 | 1.55 | 8.61 |
| | 100 | 0.0059 | 0.149 | 2.75 | 2.85 | 11.46 |
| | 120 | 0.0049 | 0.125 | 3.00 | 4.99 | 16.45 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 4.14 | 20.59 |
| | 170 | 0.0035 | 0.088 | 3.50 | 1.40 | 21.99 |
| | 200 | 0.0029 | 0.074 | 3.75 | 0.09 | 22.08 |
| | 230 | 0.0025 | 0.063 | 4.00 | 0.00 | 22.08 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 0.07 | 22.15 |
| | 325 | 0.0017 | 0.044 | 4.50 | 0.48 | 22.63 |
| | 400 | 0.0015 | 0.037 | 4.75 | 1.12 | 23.75 |
| | 450 | 0.0012 | 0.031 | 5.00 | 1.79 | 25.54 |
| | 500 | 0.0010 | 0.025 | 5.32 | 3.36 | 28.90 |
| | 635 | 0.0008 | 0.020 | 5.64 | 3.32 | 32.22 |
| | | 0.00061 | 0.0156 | 6.00 | 2.98 | 35.20 |
| | | 0.00031 | 0.0076 | 7.00 | 14.00 | 49.20 |
| | | 0.00015 | 0.0039 | 8.00 | 15.14 | 64.34 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 14.15 | 78.49 |
| | | 0.000039 | 0.00098 | 10.0 | 11.68 | 90.17 |
| | | 0.000019 | 0.00049 | 11.0 | 7.30 | 97.47 |
| | | 0.0000094 | 0.00024 | 12.0 | 2.37 | 99.84 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.16 | 100.00 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.00 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0018 | 0.0003 | 0.0005 | 0.0004 |
| Mean, mm | 0.0459 | 0.0088 | 0.0135 | 0.0111 |
| Mean, phi | 4.4447 | 6.8353 | 6.2108 | 6.4909 |
| Median, in | 0.0003 | 0.0003 | 0.0003 | 0.0003 |
| Median, mm | 0.0075 | 0.0075 | 0.0075 | 0.0075 |
| Median, phi | 7.0516 | 7.0512 | 7.0512 | 7.0512 |
| Std Deviation, in | 0.0030 | 0.0155 | 0.0042 | 0.0052 |
| Std Deviation, mm | 0.0777 | 0.3975 | 0.1064 | 0.1336 |
| Std Deviation, phi | 3.6865 | 1.3311 | 3.2319 | 2.9041 |
| Skewness | 1.9400 | 0.8668 | -0.2320 | -0.2182 |
| Kurtosis | 2.8110 | 0.2597 | 0.3152 | 0.9153 |
| Mode, mm | 0.1271 | | | |
| 95% Confidence | 0.0307 | | | |
| Limits, mm | 0.0611 | | | |
| Variance, mm2 | 0.0060 | | | |
| Coef. of Variance, % | 169.10 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0094 | 0.2414 | 2.0507 |
| 10 | 0.0062 | 0.1589 | 2.6536 |
| 16 | 0.0049 | 0.1268 | 2.9789 |
| 25 | 0.0013 | 0.0328 | 4.9319 |
| 50 | 0.0003 | 0.0075 | 7.0512 |
| 75 | 0.0001 | 0.0023 | 6.7387 |
| 84 | 0.0001 | 0.0014 | 9.4427 |
| 90 | 0.0000 | 0.0010 | 9.9817 |
| 95 | 0.0000 | 0.0007 | 10.5522 |

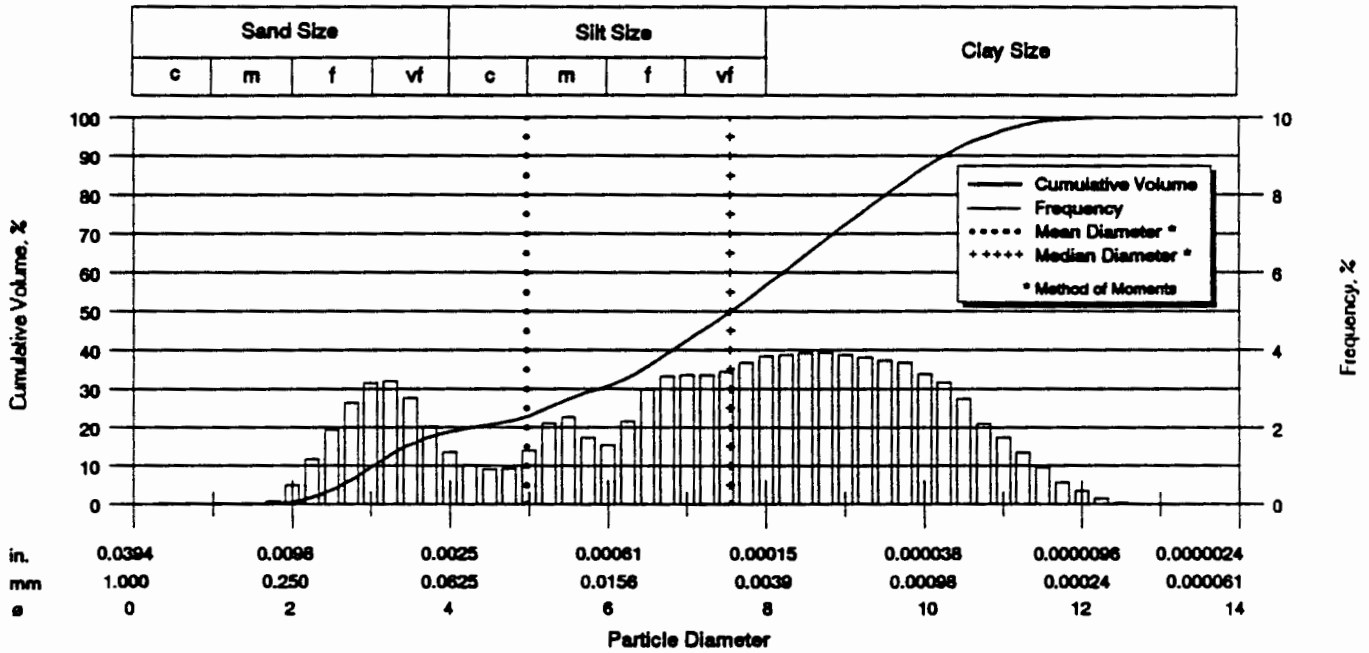
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOCRR-SB05-6-8

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.00 | 0.00 |
| | 50 | 0.0118 | 0.30 | 1.75 | 0.08 | 0.08 |
| | 60 | 0.0098 | 0.25 | 2.00 | 0.49 | 0.57 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 1.17 | 1.74 |
| | 80 | 0.0070 | 0.177 | 2.50 | 1.93 | 3.67 |
| | 100 | 0.0059 | 0.149 | 2.75 | 2.64 | 6.31 |
| | 120 | 0.0049 | 0.125 | 3.00 | 3.14 | 9.45 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 3.19 | 12.64 |
| | 170 | 0.0035 | 0.088 | 3.50 | 2.77 | 15.41 |
| | 200 | 0.0029 | 0.074 | 3.75 | 2.01 | 17.42 |
| | 230 | 0.0025 | 0.063 | 4.00 | 1.34 | 18.76 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 1.02 | 19.78 |
| | 325 | 0.0017 | 0.044 | 4.50 | 0.92 | 20.70 |
| | 400 | 0.0015 | 0.037 | 4.75 | 0.92 | 21.62 |
| | 450 | 0.0012 | 0.031 | 5.00 | 1.39 | 23.01 |
| | 500 | 0.0010 | 0.025 | 5.32 | 2.76 | 25.77 |
| | 635 | 0.0008 | 0.020 | 5.84 | 2.65 | 28.42 |
| | | 0.00061 | 0.0156 | 6.00 | 2.21 | 30.63 |
| | | 0.00031 | 0.0078 | 7.00 | 11.82 | 42.45 |
| | | 0.00015 | 0.0039 | 8.00 | 14.29 | 56.74 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 15.59 | 72.33 |
| | | 0.000039 | 0.00098 | 10.0 | 14.57 | 86.90 |
| | | 0.000019 | 0.00049 | 11.0 | 9.71 | 96.61 |
| | | 0.0000094 | 0.00024 | 12.0 | 3.20 | 99.81 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.19 | 100.00 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.00 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0012 | 0.0003 | 0.0004 | 0.0003 |
| Mean, mm | 0.0318 | 0.0068 | 0.0098 | 0.0080 |
| Mean, phi | 4.9739 | 7.2071 | 6.6724 | 6.9654 |
| Median, in | 0.0002 | 0.0002 | 0.0002 | 0.0002 |
| Median, mm | 0.0053 | 0.0053 | 0.0053 | 0.0053 |
| Median, phi | 7.5514 | 7.5514 | 7.5514 | 7.5514 |
| Std Deviation, in | 0.0021 | 0.0156 | 0.0045 | 0.0057 |
| Std Deviation, mm | 0.0551 | 0.3995 | 0.1159 | 0.1449 |
| Std Deviation, phi | 4.1813 | 1.3237 | 3.1094 | 2.7869 |
| Skewness | 2.1430 | 0.8429 | -0.2736 | -0.2460 |
| Kurtosis | 4.0120 | 0.2735 | 0.3077 | 0.8461 |
| Mode, mm | 0.0028 | | | |
| 95% Confidence | 0.0210 | | | |
| Limits, mm | 0.0426 | | | |
| Variance, mm2 | 0.0030 | | | |
| Coef. of Variance, % | 173.20 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0063 | 0.1611 | 2.6343 |
| 10 | 0.0047 | 0.1212 | 3.0440 |
| 16 | 0.0033 | 0.0846 | 3.5629 |
| 25 | 0.0010 | 0.0265 | 5.2375 |
| 50 | 0.0002 | 0.0053 | 7.5514 |
| 75 | 0.0001 | 0.0017 | 9.1767 |
| 84 | 0.0000 | 0.0011 | 9.7818 |
| 90 | 0.0000 | 0.0008 | 10.2451 |
| 95 | 0.0000 | 0.0008 | 10.7667 |

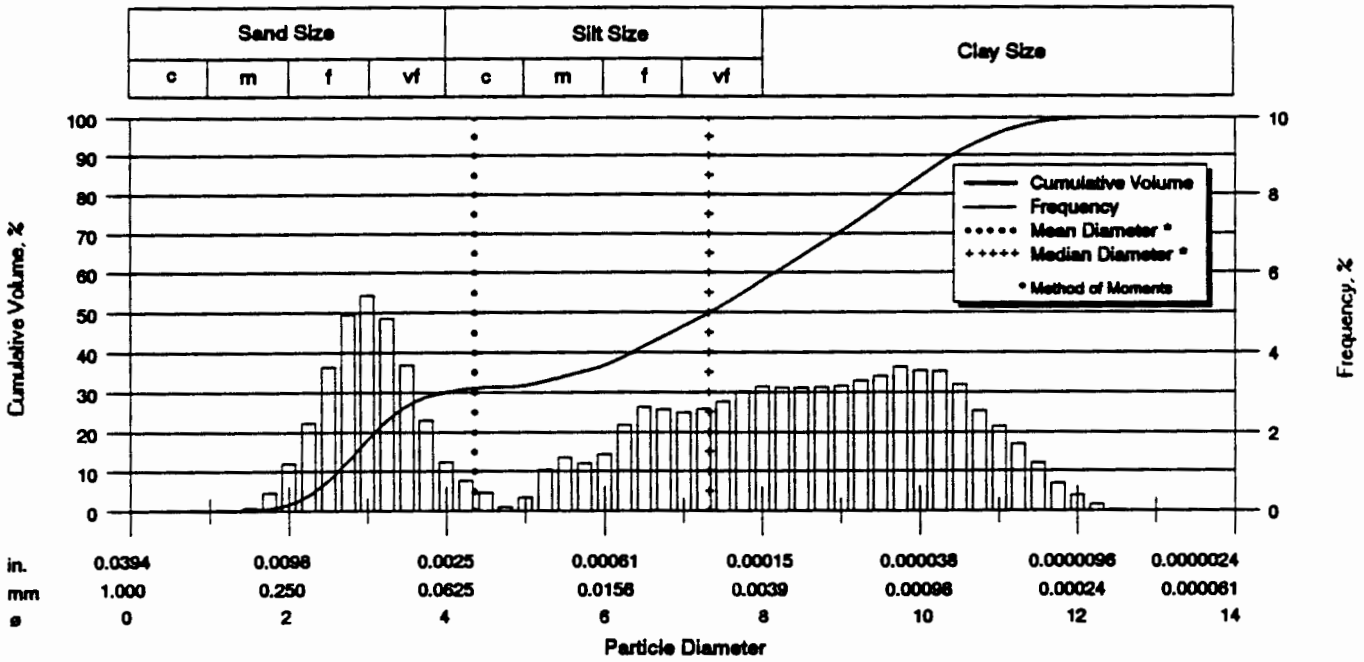
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOCRR-SB06-6-8

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.08 | 0.08 |
| | 50 | 0.0118 | 0.30 | 1.75 | 0.46 | 0.54 |
| | 60 | 0.0098 | 0.25 | 2.00 | 1.20 | 1.74 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 2.21 | 3.95 |
| | 80 | 0.0070 | 0.177 | 2.50 | 3.64 | 7.59 |
| | 100 | 0.0059 | 0.149 | 2.75 | 4.96 | 12.55 |
| | 120 | 0.0049 | 0.125 | 3.00 | 5.42 | 17.97 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 4.85 | 22.82 |
| | 170 | 0.0035 | 0.088 | 3.50 | 3.68 | 26.50 |
| | 200 | 0.0029 | 0.074 | 3.75 | 2.29 | 28.79 |
| | 230 | 0.0025 | 0.063 | 4.00 | 1.23 | 30.02 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 0.77 | 30.79 |
| | 325 | 0.0017 | 0.044 | 4.50 | 0.45 | 31.24 |
| | 400 | 0.0015 | 0.037 | 4.75 | 0.11 | 31.35 |
| | 450 | 0.0012 | 0.031 | 5.00 | 0.35 | 31.70 |
| | 500 | 0.0010 | 0.025 | 5.32 | 1.41 | 33.11 |
| | 635 | 0.0008 | 0.020 | 5.64 | 1.65 | 34.76 |
| | | 0.00061 | 0.0156 | 6.00 | 1.97 | 36.73 |
| | | 0.00031 | 0.0078 | 7.00 | 9.87 | 46.60 |
| | | 0.00015 | 0.0039 | 8.00 | 11.49 | 58.09 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 12.50 | 70.59 |
| | | 0.000039 | 0.00098 | 10.0 | 13.87 | 84.46 |
| | | 0.000019 | 0.00049 | 11.0 | 11.38 | 95.84 |
| | | 0.0000094 | 0.00024 | 12.0 | 3.97 | 99.81 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.19 | 100.00 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.00 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0019 | 0.0005 | 0.0005 | 0.0004 |
| Mean, mm | 0.0486 | 0.0122 | 0.0115 | 0.0094 |
| Mean, phi | 4.3623 | 6.3578 | 6.4367 | 6.7323 |
| Median, in | 0.0002 | 0.0002 | 0.0002 | 0.0002 |
| Median, mm | 0.0062 | 0.0062 | 0.0062 | 0.0062 |
| Median, phi | 7.3238 | 7.3235 | 7.3235 | 7.3235 |
| Std Deviation, in | 0.0028 | 0.0123 | 0.0034 | 0.0047 |
| Std Deviation, mm | 0.0720 | 0.3164 | 0.0867 | 0.1197 |
| Std Deviation, phi | 3.7967 | 1.6600 | 3.5276 | 3.0625 |
| Skewness | 1.4890 | 0.5890 | -0.2008 | -0.2083 |
| Kurtosis | 1.3500 | 0.3820 | 0.2149 | 0.5910 |
| Mode, mm | 0.1392 | | | |
| 95% Confidence | 0.0345 | | | |
| Limits, mm | 0.0627 | | | |
| Variance, mm2 | 0.0052 | | | |
| Coef. of Variance, % | 148.00 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0078 | 0.1990 | 2.3294 |
| 10 | 0.0063 | 0.1618 | 2.6276 |
| 16 | 0.0052 | 0.1331 | 2.9091 |
| 25 | 0.0037 | 0.0957 | 3.3859 |
| 50 | 0.0002 | 0.0062 | 7.3235 |
| 75 | 0.0001 | 0.0016 | 9.3298 |
| 84 | 0.0000 | 0.0010 | 9.9643 |
| 90 | 0.0000 | 0.0007 | 10.4080 |
| 95 | 0.0000 | 0.0005 | 10.9009 |

# APPENDIX D-3

## Site AOC-BBMS

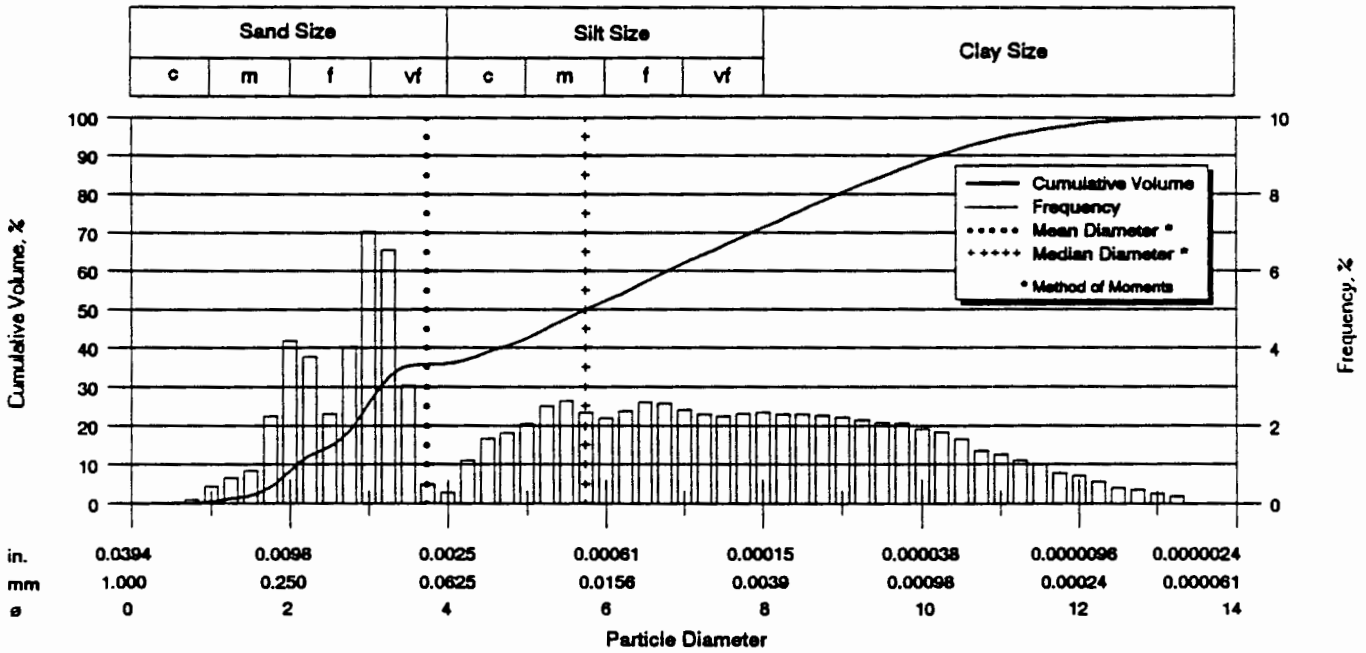
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOC-BBMS-SB1-0-2

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.10 | 0.10 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.45 | 0.55 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.66 | 1.21 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.84 | 2.05 |
| | 50 | 0.0118 | 0.30 | 1.75 | 2.24 | 4.29 |
| | 60 | 0.0098 | 0.25 | 2.00 | 4.18 | 8.47 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 3.77 | 12.24 |
| | 80 | 0.0070 | 0.177 | 2.50 | 2.30 | 14.54 |
| | 100 | 0.0059 | 0.149 | 2.75 | 4.02 | 18.56 |
| | 120 | 0.0049 | 0.125 | 3.00 | 7.03 | 25.59 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 6.56 | 32.15 |
| | 170 | 0.0035 | 0.088 | 3.50 | 3.03 | 35.18 |
| | 200 | 0.0029 | 0.074 | 3.75 | 0.50 | 35.68 |
| | 230 | 0.0025 | 0.063 | 4.00 | 0.29 | 35.97 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 1.11 | 37.08 |
| | 325 | 0.0017 | 0.044 | 4.50 | 1.68 | 38.76 |
| | 400 | 0.0015 | 0.037 | 4.75 | 1.79 | 40.55 |
| | 450 | 0.0012 | 0.031 | 5.00 | 2.04 | 42.59 |
| | 500 | 0.0010 | 0.025 | 5.32 | 3.25 | 45.84 |
| | 635 | 0.0008 | 0.020 | 5.64 | 3.24 | 49.08 |
| | | 0.00081 | 0.0156 | 6.00 | 3.17 | 52.25 |
| | | 0.00031 | 0.0078 | 7.00 | 9.94 | 62.19 |
| | | 0.00015 | 0.0039 | 8.00 | 9.16 | 71.35 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 9.03 | 80.38 |
| | | 0.000039 | 0.00098 | 10.0 | 8.18 | 88.56 |
| | | 0.000019 | 0.00049 | 11.0 | 6.10 | 94.66 |
| | | 0.0000094 | 0.00024 | 12.0 | 3.59 | 98.25 |
| | | 0.0000047 | 0.00012 | 13.0 | 1.57 | 99.82 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.18 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0029 | 0.0008 | 0.0008 | 0.0008 |
| Mean, mm | 0.0752 | 0.0194 | 0.0154 | 0.0164 |
| Mean, phi | 3.7333 | 5.6902 | 6.0202 | 5.9275 |
| Median, in | 0.0007 | 0.0007 | 0.0007 | 0.0007 |
| Median, mm | 0.0187 | 0.0187 | 0.0187 | 0.0187 |
| Median, phi | 5.7416 | 5.7421 | 5.7421 | 5.7421 |
| Std Deviation, in | 0.0040 | 0.0122 | 0.0037 | 0.0045 |
| Std Deviation, mm | 0.1031 | 0.3124 | 0.0944 | 0.1161 |
| Std Deviation, phi | 3.2779 | 1.6787 | 3.4046 | 3.1071 |
| Skewness | 1.7400 | 0.7593 | 0.2025 | 0.1152 |
| Kurtosis | 3.1780 | 0.3344 | 0.3616 | 0.7012 |
| Mode, mm | 0.1271 | | | |
| 95% Confidence | 0.0550 | | | |
| Limits, mm | 0.0954 | | | |
| Variance, mm2 | 0.0106 | | | |
| Coef. of Variance, % | 137.20 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0112 | 0.2880 | 1.7958 |
| 10 | 0.0092 | 0.2350 | 2.0894 |
| 16 | 0.0064 | 0.1632 | 2.6156 |
| 25 | 0.0049 | 0.1267 | 2.9807 |
| 50 | 0.0007 | 0.0187 | 5.7421 |
| 75 | 0.0001 | 0.0030 | 8.3997 |
| 84 | 0.0001 | 0.0015 | 9.4248 |
| 90 | 0.0000 | 0.0009 | 10.1918 |
| 95 | 0.0000 | 0.0005 | 11.0674 |

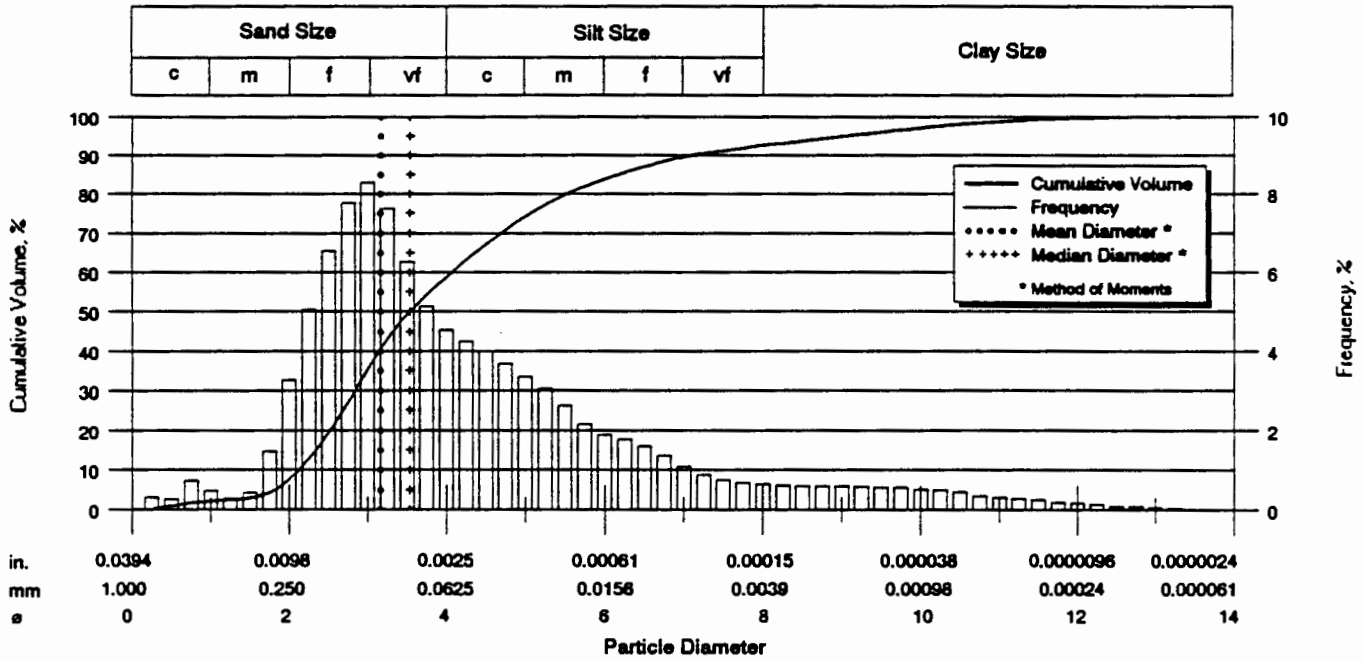
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOC-BBMS-SB2-4-6

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | Diameter [U.S. Sieve] | [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.68 | 0.68 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.26 | 0.94 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.73 | 1.67 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.48 | 2.15 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.28 | 2.43 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.44 | 2.87 |
| | 50 | 0.0118 | 0.30 | 1.75 | 1.47 | 4.34 |
| | 60 | 0.0098 | 0.25 | 2.00 | 3.25 | 7.59 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 5.05 | 12.64 |
| | 80 | 0.0070 | 0.177 | 2.50 | 6.55 | 19.19 |
| | 100 | 0.0059 | 0.149 | 2.75 | 7.78 | 26.97 |
| | 120 | 0.0049 | 0.125 | 3.00 | 8.29 | 35.26 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 7.63 | 42.89 |
| | 170 | 0.0035 | 0.086 | 3.50 | 6.28 | 49.17 |
| | 200 | 0.0029 | 0.074 | 3.75 | 5.14 | 54.31 |
| | 230 | 0.0025 | 0.063 | 4.00 | 4.53 | 58.84 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 4.25 | 63.09 |
| | 325 | 0.0017 | 0.044 | 4.50 | 4.02 | 67.11 |
| | 400 | 0.0015 | 0.037 | 4.75 | 3.65 | 70.76 |
| | 450 | 0.0012 | 0.031 | 5.00 | 3.34 | 74.10 |
| | 500 | 0.0010 | 0.025 | 5.32 | 3.82 | 77.92 |
| | 635 | 0.0006 | 0.020 | 5.64 | 3.09 | 81.01 |
| | | 0.00061 | 0.0156 | 6.00 | 2.79 | 83.80 |
| | | 0.00031 | 0.0078 | 7.00 | 5.81 | 89.61 |
| | | 0.00015 | 0.0039 | 8.00 | 2.92 | 92.53 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 2.39 | 94.92 |
| | | 0.000039 | 0.00098 | 10.0 | 2.22 | 97.14 |
| | | 0.000019 | 0.00049 | 11.0 | 1.60 | 98.74 |
| | | 0.0000094 | 0.00024 | 12.0 | 0.87 | 99.61 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.35 | 99.96 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.04 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0044 | 0.0026 | 0.0021 | 0.0025 |
| Mean, mm | 0.1117 | 0.0679 | 0.0541 | 0.0632 |
| Mean, phi | 3.1623 | 3.8800 | 4.2070 | 3.9838 |
| Median, in | 0.0034 | 0.0034 | 0.0034 | 0.0034 |
| Median, mm | 0.0861 | 0.0861 | 0.0861 | 0.0861 |
| Median, phi | 3.5375 | 3.5373 | 3.5373 | 3.5373 |
| Std Deviation, in | 0.0047 | 0.0151 | 0.0110 | 0.0097 |
| Std Deviation, mm | 0.1199 | 0.3860 | 0.2829 | 0.2491 |
| Std Deviation, phi | 3.0601 | 1.3731 | 1.8215 | 2.0054 |
| Skewness | 2.8460 | 1.0898 | 1.0360 | 0.4450 |
| Kurtosis | 11.9400 | 0.2393 | 0.9832 | 1.2433 |
| Mode, mm | 0.1392 | | | |
| 95% Confidence | 0.0882 | | | |
| Limits, mm | 0.1352 | | | |
| Variance, mm2 | 0.0144 | | | |
| Coef. of Variance, % | 107.30 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0111 | 0.2848 | 1.8120 |
| 10 | 0.0089 | 0.2286 | 2.1289 |
| 16 | 0.0075 | 0.1914 | 2.3855 |
| 25 | 0.0060 | 0.1550 | 2.6893 |
| 50 | 0.0034 | 0.0861 | 3.5373 |
| 75 | 0.0012 | 0.0298 | 5.0707 |
| 84 | 0.0006 | 0.0153 | 6.0265 |
| 90 | 0.0003 | 0.0073 | 7.1054 |
| 95 | 0.0001 | 0.0019 | 9.0368 |

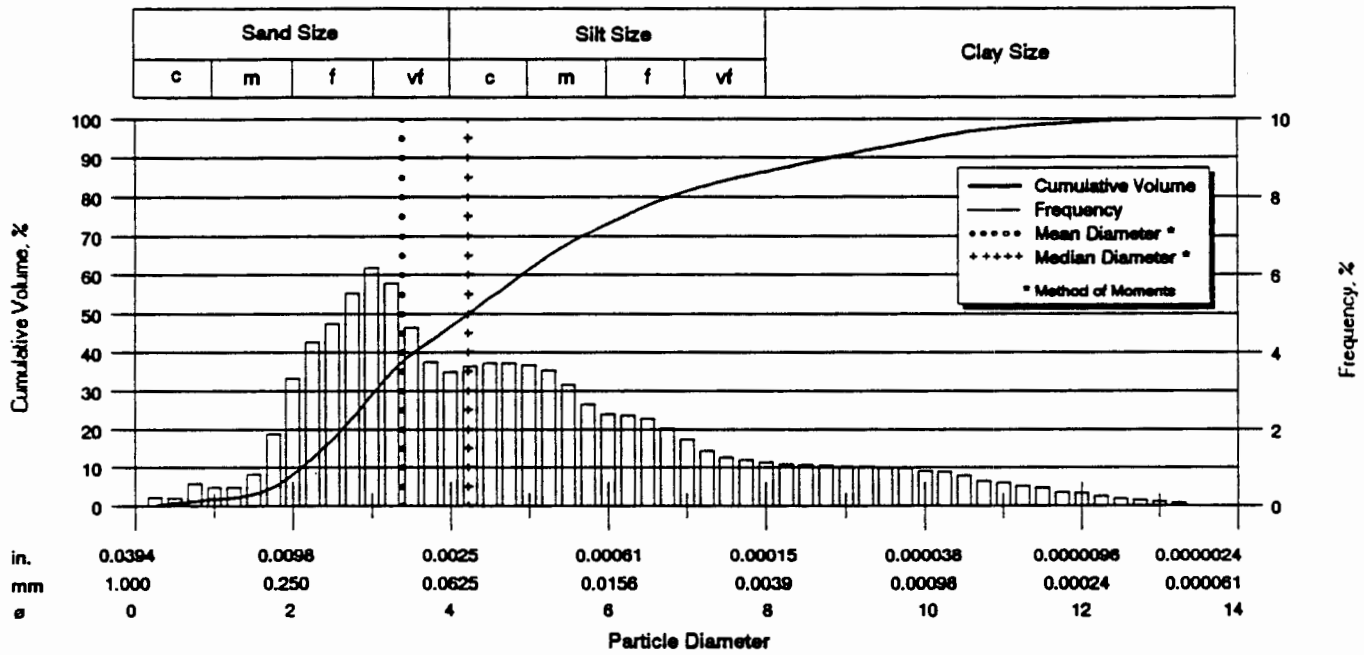
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOC-BBMS-SB3-0-2

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | Diameter [U.S. Sieve] | [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.46 | 0.46 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.20 | 0.66 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.57 | 1.23 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.48 | 1.71 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.47 | 2.18 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.83 | 3.01 |
| | 50 | 0.0118 | 0.30 | 1.75 | 1.87 | 4.88 |
| | 60 | 0.0098 | 0.25 | 2.00 | 3.33 | 8.21 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 4.27 | 12.48 |
| | 80 | 0.0070 | 0.177 | 2.50 | 4.74 | 17.22 |
| | 100 | 0.0059 | 0.149 | 2.75 | 5.53 | 22.75 |
| | 120 | 0.0049 | 0.125 | 3.00 | 6.19 | 28.94 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 5.79 | 34.73 |
| | 170 | 0.0035 | 0.088 | 3.50 | 4.64 | 39.37 |
| | 200 | 0.0029 | 0.074 | 3.75 | 3.75 | 43.12 |
| | 230 | 0.0025 | 0.063 | 4.00 | 3.50 | 46.62 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 3.63 | 50.25 |
| | 325 | 0.0017 | 0.044 | 4.50 | 3.74 | 53.99 |
| | 400 | 0.0015 | 0.037 | 4.75 | 3.69 | 57.68 |
| | 450 | 0.0012 | 0.031 | 5.00 | 3.68 | 61.36 |
| | 500 | 0.0010 | 0.025 | 5.32 | 4.47 | 65.83 |
| | 635 | 0.0008 | 0.020 | 5.64 | 3.76 | 69.59 |
| | | 0.00061 | 0.0156 | 6.00 | 3.51 | 73.10 |
| | | 0.00031 | 0.0078 | 7.00 | 8.38 | 81.48 |
| | | 0.00015 | 0.0039 | 8.00 | 5.04 | 86.52 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 4.23 | 90.75 |
| | | 0.000039 | 0.00098 | 10.0 | 3.91 | 94.66 |
| | | 0.000019 | 0.00049 | 11.0 | 2.90 | 97.56 |
| | | 0.0000094 | 0.00024 | 12.0 | 1.66 | 99.22 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.70 | 99.92 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.08 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0037 | 0.0017 | 0.0013 | 0.0015 |
| Mean, mm | 0.0956 | 0.0435 | 0.0324 | 0.0382 |
| Mean, phi | 3.3871 | 4.5224 | 4.9486 | 4.7103 |
| Median, in | 0.0021 | 0.0021 | 0.0021 | 0.0021 |
| Median, mm | 0.0532 | 0.0532 | 0.0532 | 0.0532 |
| Median, phi | 4.2338 | 4.2337 | 4.2337 | 4.2337 |
| Std Deviation, in | 0.0046 | 0.0140 | 0.0068 | 0.0068 |
| Std Deviation, mm | 0.1185 | 0.3591 | 0.1753 | 0.1746 |
| Std Deviation, phi | 3.0770 | 1.4774 | 2.5118 | 2.5182 |
| Skewness | 2.6460 | 0.9834 | 0.6735 | 0.3454 |
| Kurtosis | 10.2300 | 0.2504 | 0.6584 | 1.0158 |
| Mode, mm | 0.1271 | | | |
| 95% Confidence | 0.0724 | | | |
| Limits, mm | 0.1188 | | | |
| Variance, mm2 | 0.0140 | | | |
| Coef. of Variance, % | 124.00 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0115 | 0.2953 | 1.7598 |
| 10 | 0.0090 | 0.2320 | 2.1079 |
| 16 | 0.0072 | 0.1847 | 2.4368 |
| 25 | 0.0054 | 0.1395 | 2.8417 |
| 50 | 0.0021 | 0.0532 | 4.2337 |
| 75 | 0.0005 | 0.0136 | 6.2030 |
| 84 | 0.0002 | 0.0057 | 7.4604 |
| 90 | 0.0001 | 0.0022 | 8.6191 |
| 95 | 0.0000 | 0.0009 | 10.0908 |

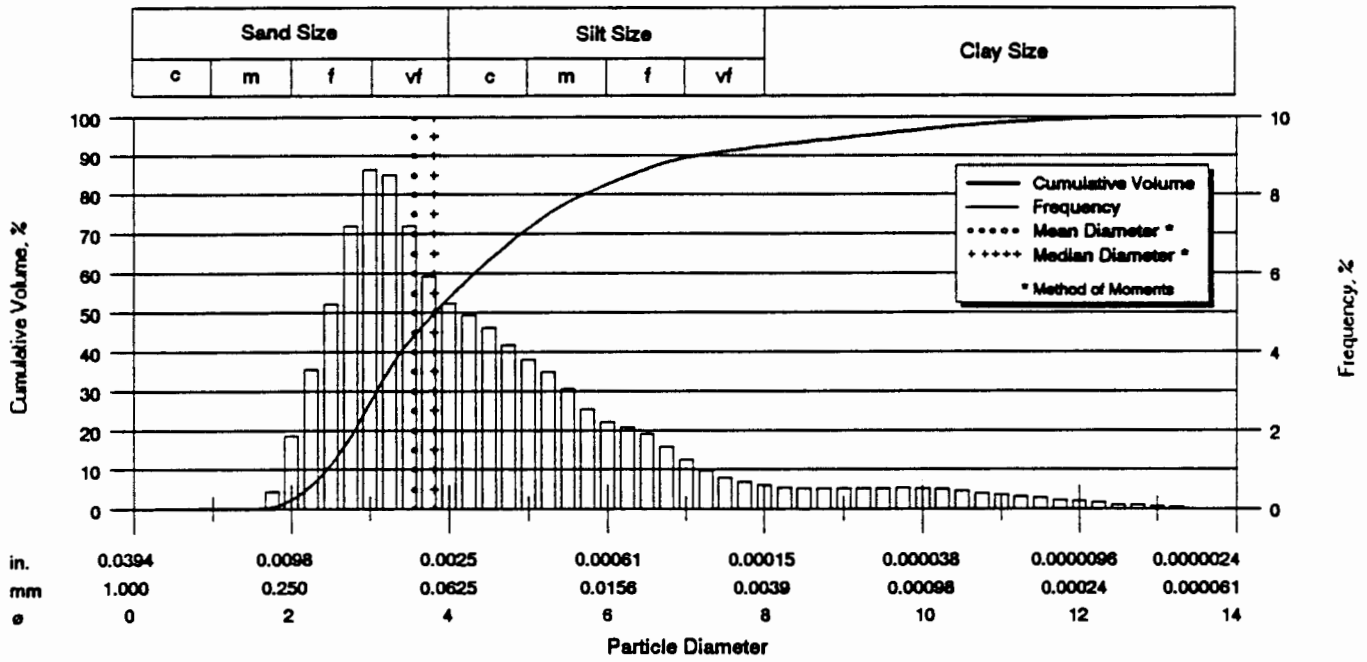
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOC-BBMS-SB4-2-4

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.00 | 0.00 |
| | 50 | 0.0118 | 0.30 | 1.75 | 0.44 | 0.44 |
| | 60 | 0.0098 | 0.25 | 2.00 | 1.86 | 2.30 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 3.55 | 5.85 |
| | 80 | 0.0070 | 0.177 | 2.50 | 5.23 | 11.08 |
| | 100 | 0.0059 | 0.149 | 2.75 | 7.19 | 18.27 |
| | 120 | 0.0049 | 0.125 | 3.00 | 8.64 | 26.91 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 8.51 | 35.42 |
| | 170 | 0.0035 | 0.088 | 3.50 | 7.20 | 42.62 |
| | 200 | 0.0029 | 0.074 | 3.75 | 5.92 | 48.54 |
| | 230 | 0.0025 | 0.063 | 4.00 | 5.24 | 53.78 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 4.94 | 58.72 |
| | 325 | 0.0017 | 0.044 | 4.50 | 4.64 | 63.36 |
| | 400 | 0.0015 | 0.037 | 4.75 | 4.17 | 67.53 |
| | 450 | 0.0012 | 0.031 | 5.00 | 3.81 | 71.34 |
| | 500 | 0.0010 | 0.025 | 5.32 | 4.40 | 75.74 |
| | 635 | 0.0008 | 0.020 | 5.64 | 3.63 | 79.37 |
| | | 0.00061 | 0.0156 | 6.00 | 3.26 | 82.63 |
| | | 0.00031 | 0.0078 | 7.00 | 6.82 | 89.45 |
| | | 0.00015 | 0.0039 | 8.00 | 3.06 | 92.51 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 2.12 | 94.63 |
| | | 0.000039 | 0.00098 | 10.0 | 2.14 | 96.77 |
| | | 0.000019 | 0.00049 | 11.0 | 1.73 | 98.50 |
| | | 0.0000094 | 0.00024 | 12.0 | 1.02 | 99.52 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.43 | 99.95 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.05 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0033 | 0.0023 | 0.0018 | 0.0021 |
| Mean, mm | 0.0848 | 0.0581 | 0.0467 | 0.0537 |
| Mean, phi | 3.5595 | 4.1045 | 4.4209 | 4.2199 |
| Median, in | 0.0028 | 0.0028 | 0.0028 | 0.0028 |
| Median, mm | 0.0709 | 0.0709 | 0.0709 | 0.0709 |
| Median, phi | 3.8181 | 3.8179 | 3.8179 | 3.8179 |
| Std Deviation, in | 0.0027 | 0.0154 | 0.0117 | 0.0102 |
| Std Deviation, mm | 0.0689 | 0.3960 | 0.2988 | 0.2626 |
| Std Deviation, phi | 3.8585 | 1.3364 | 1.7429 | 1.9290 |
| Skewness | 0.8130 | 1.0637 | 1.0709 | 0.4404 |
| Kurtosis | 0.0510 | 0.2473 | 1.0022 | 1.2350 |
| Mode, mm | 0.1271 | | | |
| 95% Confidence | 0.0713 | | | |
| Limits, mm | 0.0983 | | | |
| Variance, mm2 | 0.0048 | | | |
| Coef. of Variance, % | 81.28 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0085 | 0.2184 | 2.1948 |
| 10 | 0.0071 | 0.1827 | 2.4523 |
| 16 | 0.0061 | 0.1563 | 2.6779 |
| 25 | 0.0051 | 0.1297 | 2.9464 |
| 50 | 0.0028 | 0.0709 | 3.8179 |
| 75 | 0.0010 | 0.0261 | 5.2625 |
| 84 | 0.0005 | 0.0139 | 6.1638 |
| 90 | 0.0003 | 0.0071 | 7.1349 |
| 95 | 0.0001 | 0.0017 | 9.1742 |

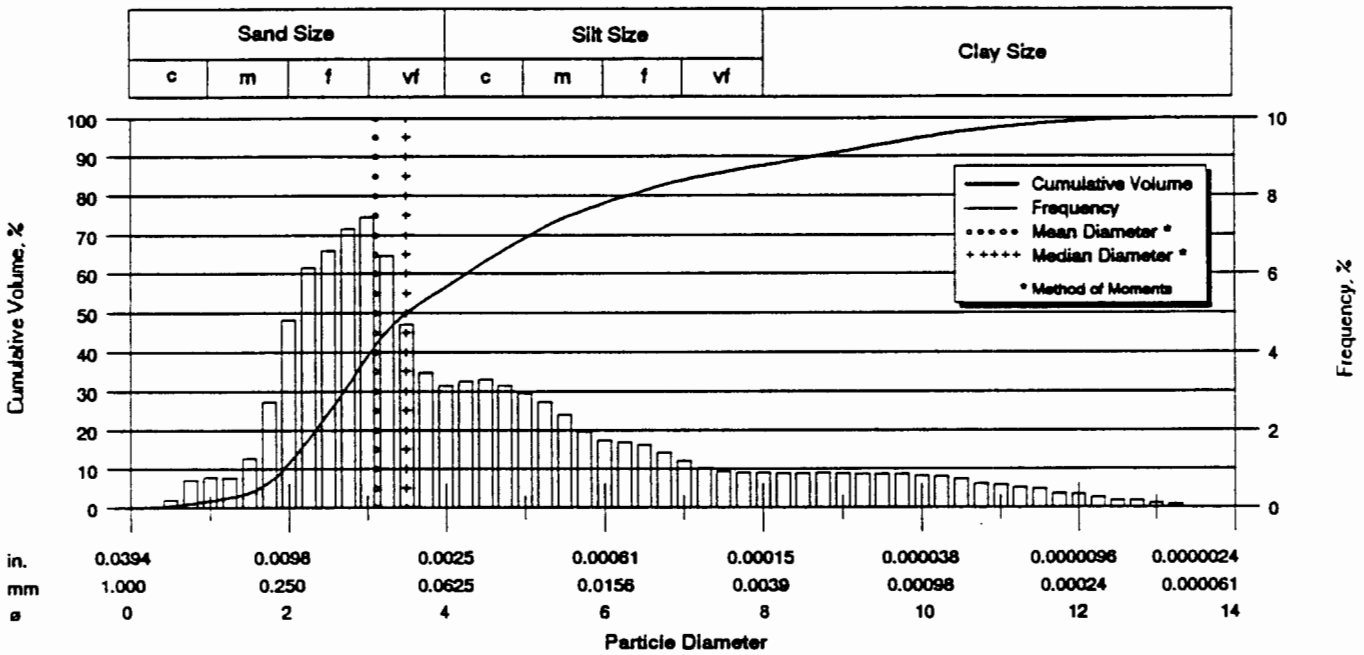
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOC-BBMS-SB5-2-4

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.16 | 0.16 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.19 | 0.35 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.71 | 1.06 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.79 | 1.85 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.78 | 2.63 |
| | 45 | 0.0138 | 0.35 | 1.50 | 1.26 | 3.89 |
| | 50 | 0.0118 | 0.30 | 1.75 | 2.73 | 6.62 |
| | 60 | 0.0098 | 0.25 | 2.00 | 4.82 | 11.44 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 6.16 | 17.60 |
| | 80 | 0.0070 | 0.177 | 2.50 | 6.61 | 24.21 |
| | 100 | 0.0059 | 0.149 | 2.75 | 7.15 | 31.36 |
| | 120 | 0.0049 | 0.125 | 3.00 | 7.46 | 38.82 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 6.46 | 45.28 |
| | 170 | 0.0035 | 0.088 | 3.50 | 4.70 | 49.98 |
| | 200 | 0.0029 | 0.074 | 3.75 | 3.47 | 53.45 |
| | 230 | 0.0025 | 0.063 | 4.00 | 3.14 | 56.59 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 3.26 | 59.85 |
| | 325 | 0.0017 | 0.044 | 4.50 | 3.32 | 63.17 |
| | 400 | 0.0015 | 0.037 | 4.75 | 3.13 | 66.30 |
| | 450 | 0.0012 | 0.031 | 5.00 | 2.95 | 69.25 |
| | 500 | 0.0010 | 0.025 | 5.32 | 3.44 | 72.69 |
| | 635 | 0.0008 | 0.020 | 5.64 | 2.81 | 75.50 |
| | | 0.00061 | 0.0156 | 6.00 | 2.54 | 78.04 |
| | | 0.00031 | 0.0078 | 7.00 | 5.90 | 83.94 |
| | | 0.00015 | 0.0039 | 8.00 | 3.79 | 87.73 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 3.56 | 91.29 |
| | | 0.000039 | 0.00098 | 10.0 | 3.44 | 94.73 |
| | | 0.000019 | 0.00049 | 11.0 | 2.72 | 97.45 |
| | | 0.0000094 | 0.00024 | 12.0 | 1.70 | 99.15 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.76 | 99.91 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.09 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0045 | 0.0023 | 0.0016 | 0.0021 |
| Mean, mm | 0.1162 | 0.0602 | 0.0413 | 0.0532 |
| Mean, phi | 3.1053 | 4.0530 | 4.5994 | 4.2333 |
| Median, in | 0.0034 | 0.0034 | 0.0034 | 0.0034 |
| Median, mm | 0.0883 | 0.0883 | 0.0883 | 0.0883 |
| Median, phi | 3.5011 | 3.5011 | 3.5011 | 3.5011 |
| Std Deviation, in | 0.0047 | 0.0139 | 0.0073 | 0.0070 |
| Std Deviation, mm | 0.1210 | 0.3573 | 0.1877 | 0.1783 |
| Std Deviation, phi | 3.0469 | 1.4849 | 2.4138 | 2.4880 |
| Skewness | 1.8580 | 1.1507 | 0.9741 | 0.5056 |
| Kurtosis | 5.1450 | 0.2273 | 0.7514 | 1.1370 |
| Mode, mm | 0.1392 | | | |
| 95% Confidence | 0.0925 | | | |
| Limits, mm | 0.1399 | | | |
| Variance, mm2 | 0.0146 | | | |
| Coef. of Variance, % | 104.20 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0126 | 0.3242 | 1.6248 |
| 10 | 0.0102 | 0.2621 | 1.9317 |
| 16 | 0.0086 | 0.2198 | 2.1856 |
| 25 | 0.0068 | 0.1732 | 2.5291 |
| 50 | 0.0034 | 0.0883 | 3.5011 |
| 75 | 0.0008 | 0.0210 | 5.5768 |
| 84 | 0.0003 | 0.0077 | 7.0133 |
| 90 | 0.0001 | 0.0025 | 8.6364 |
| 95 | 0.0000 | 0.0009 | 10.0798 |

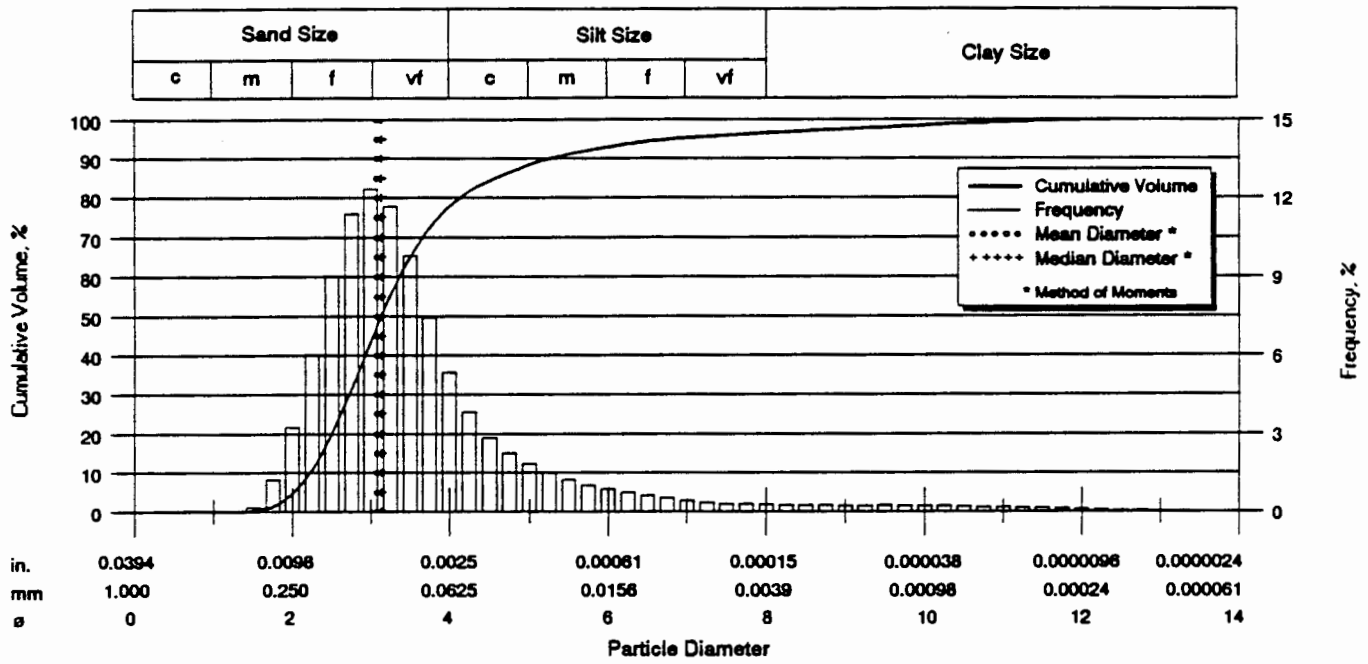
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: AOC-BBMS-SB6-2-4

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.18 | 0.18 |
| | 50 | 0.0118 | 0.30 | 1.75 | 1.23 | 1.41 |
| | 60 | 0.0098 | 0.25 | 2.00 | 3.23 | 4.64 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 6.01 | 10.65 |
| | 80 | 0.0070 | 0.177 | 2.50 | 9.05 | 19.70 |
| | 100 | 0.0059 | 0.149 | 2.75 | 11.38 | 31.08 |
| | 120 | 0.0049 | 0.125 | 3.00 | 12.33 | 43.41 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 11.66 | 55.07 |
| | 170 | 0.0035 | 0.088 | 3.50 | 9.81 | 64.88 |
| | 200 | 0.0029 | 0.074 | 3.75 | 7.47 | 72.35 |
| | 230 | 0.0025 | 0.063 | 4.00 | 5.34 | 77.69 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 3.79 | 81.48 |
| | 325 | 0.0017 | 0.044 | 4.50 | 2.84 | 84.32 |
| | 400 | 0.0015 | 0.037 | 4.75 | 2.25 | 86.57 |
| | 450 | 0.0012 | 0.031 | 5.00 | 1.85 | 88.42 |
| | 500 | 0.0010 | 0.025 | 5.32 | 1.88 | 90.30 |
| | 635 | 0.0008 | 0.020 | 5.64 | 1.44 | 91.74 |
| | | 0.00061 | 0.0156 | 6.00 | 1.28 | 93.02 |
| | | 0.00031 | 0.0078 | 7.00 | 2.33 | 95.35 |
| | | 0.00015 | 0.0039 | 8.00 | 1.20 | 96.55 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 0.97 | 97.52 |
| | | 0.000039 | 0.00098 | 10.0 | 0.93 | 98.45 |
| | | 0.000019 | 0.00049 | 11.0 | 0.78 | 99.23 |
| | | 0.0000094 | 0.00024 | 12.0 | 0.51 | 99.74 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.23 | 99.97 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.03 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0046 | 0.0041 | 0.0036 | 0.0039 |
| Mean, mm | 0.1188 | 0.1057 | 0.0923 | 0.0989 |
| Mean, phi | 3.0734 | 3.2420 | 3.4372 | 3.3373 |
| Median, in | 0.0044 | 0.0044 | 0.0044 | 0.0044 |
| Median, mm | 0.1136 | 0.1136 | 0.1136 | 0.1136 |
| Median, phi | 3.1380 | 3.1376 | 3.1376 | 3.1376 |
| Std Deviation, in | 0.0028 | 0.0188 | 0.0191 | 0.0165 |
| Std Deviation, mm | 0.0706 | 0.4311 | 0.4893 | 0.4235 |
| Std Deviation, phi | 3.8240 | 1.2140 | 1.0313 | 1.2396 |
| Skewness | 0.4950 | 1.0285 | 1.2298 | 0.4107 |
| Kurtosis | 0.0550 | 0.2043 | 1.3165 | 1.5770 |
| Mode, mm | 0.1392 | | | |
| 95% Confidence | 0.1050 | | | |
| Limits, mm | 0.1327 | | | |
| Variance, mm2 | 0.0050 | | | |
| Coef. of Variance, % | 59.42 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0096 | 0.2471 | 2.0169 |
| 10 | 0.0083 | 0.2139 | 2.2251 |
| 16 | 0.0074 | 0.1887 | 2.4059 |
| 25 | 0.0063 | 0.1625 | 2.6211 |
| 50 | 0.0044 | 0.1136 | 3.1376 |
| 75 | 0.0027 | 0.0687 | 3.8629 |
| 84 | 0.0018 | 0.0452 | 4.4685 |
| 90 | 0.0010 | 0.0260 | 5.2637 |
| 95 | 0.0004 | 0.0090 | 6.7949 |

# APPENDIX D-4

## Site SD-15

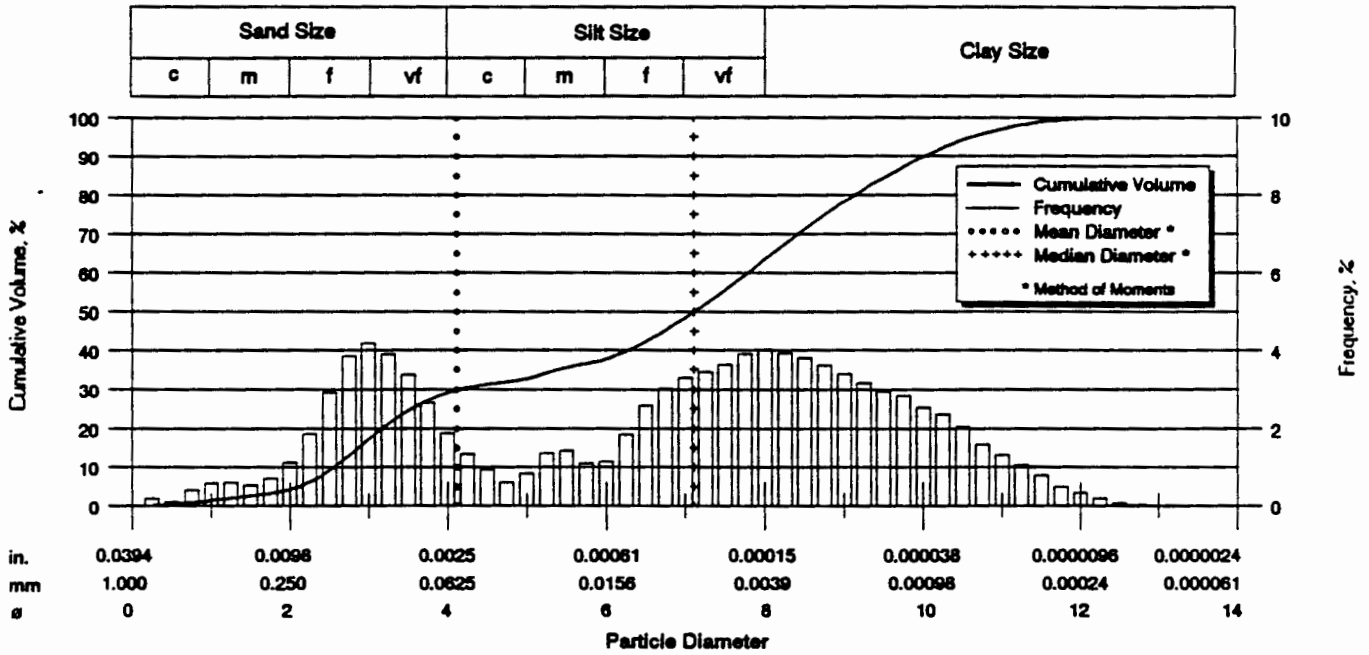
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SD15-SB01-0-2

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




### Particle Size Distribution

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.31 | 0.31 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.09 | 0.40 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.41 | 0.81 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.59 | 1.40 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.61 | 2.01 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.54 | 2.55 |
| | 50 | 0.0118 | 0.30 | 1.75 | 0.71 | 3.26 |
| | 60 | 0.0098 | 0.25 | 2.00 | 1.12 | 4.38 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 1.86 | 6.24 |
| | 80 | 0.0070 | 0.177 | 2.50 | 2.92 | 9.18 |
| | 100 | 0.0059 | 0.149 | 2.75 | 3.85 | 13.01 |
| | 120 | 0.0049 | 0.125 | 3.00 | 4.18 | 17.19 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 3.90 | 21.09 |
| | 170 | 0.0035 | 0.088 | 3.50 | 3.36 | 24.47 |
| | 200 | 0.0029 | 0.074 | 3.75 | 2.65 | 27.12 |
| | 230 | 0.0025 | 0.063 | 4.00 | 1.87 | 28.99 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 1.36 | 30.35 |
| | 325 | 0.0017 | 0.044 | 4.50 | 0.94 | 31.29 |
| | 400 | 0.0015 | 0.037 | 4.75 | 0.62 | 31.91 |
| | 450 | 0.0012 | 0.031 | 5.00 | 0.84 | 32.75 |
| | 500 | 0.0010 | 0.025 | 5.32 | 1.78 | 34.53 |
| | 635 | 0.0008 | 0.020 | 5.64 | 1.67 | 36.20 |
| | | 0.00061 | 0.0156 | 6.00 | 1.61 | 37.81 |
| | | 0.00031 | 0.0078 | 7.00 | 10.74 | 48.55 |
| | | 0.00015 | 0.0039 | 8.00 | 15.00 | 63.55 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 14.75 | 78.30 |
| | | 0.000039 | 0.00098 | 10.0 | 11.46 | 89.76 |
| | | 0.000019 | 0.00049 | 11.0 | 7.29 | 97.05 |
| | | 0.0000094 | 0.00024 | 12.0 | 2.68 | 99.73 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.27 | 100.00 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.00 | 100.00 |

### Sorting Statistics

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0023 | 0.0005 | 0.0005 | 0.0004 |
| Mean, mm | 0.0578 | 0.0141 | 0.0136 | 0.0110 |
| Mean, phi | 4.1128 | 6.1505 | 6.1968 | 6.4999 |
| Median, in | 0.0003 | 0.0003 | 0.0003 | 0.0003 |
| Median, mm | 0.0073 | 0.0073 | 0.0073 | 0.0073 |
| Median, phi | 7.1062 | 7.1062 | 7.1062 | 7.1062 |
| Std Deviation, in | 0.0042 | 0.0131 | 0.0040 | 0.0051 |
| Std Deviation, mm | 0.1069 | 0.3364 | 0.1038 | 0.1316 |
| Std Deviation, phi | 3.2257 | 1.5718 | 3.2682 | 2.9262 |
| Skewness | 3.4190 | 0.6146 | -0.2286 | -0.2267 |
| Kurtosis | 15.6200 | 0.3490 | 0.3047 | 0.6705 |
| Mode, mm | 0.1392 | | | |
| 95% Confidence | 0.0369 | | | |
| Limits, mm | 0.0788 | | | |
| Variance, mm2 | 0.0114 | | | |
| Coef. of Variance, % | 185.00 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0091 | 0.2340 | 2.0951 |
| 10 | 0.0068 | 0.1698 | 2.5578 |
| 16 | 0.0051 | 0.1313 | 2.9285 |
| 25 | 0.0033 | 0.0857 | 3.5443 |
| 50 | 0.0003 | 0.0073 | 7.1062 |
| 75 | 0.0001 | 0.0023 | 8.7568 |
| 84 | 0.0001 | 0.0014 | 9.4650 |
| 90 | 0.0000 | 0.0010 | 10.0247 |
| 95 | 0.0000 | 0.0008 | 10.6232 |

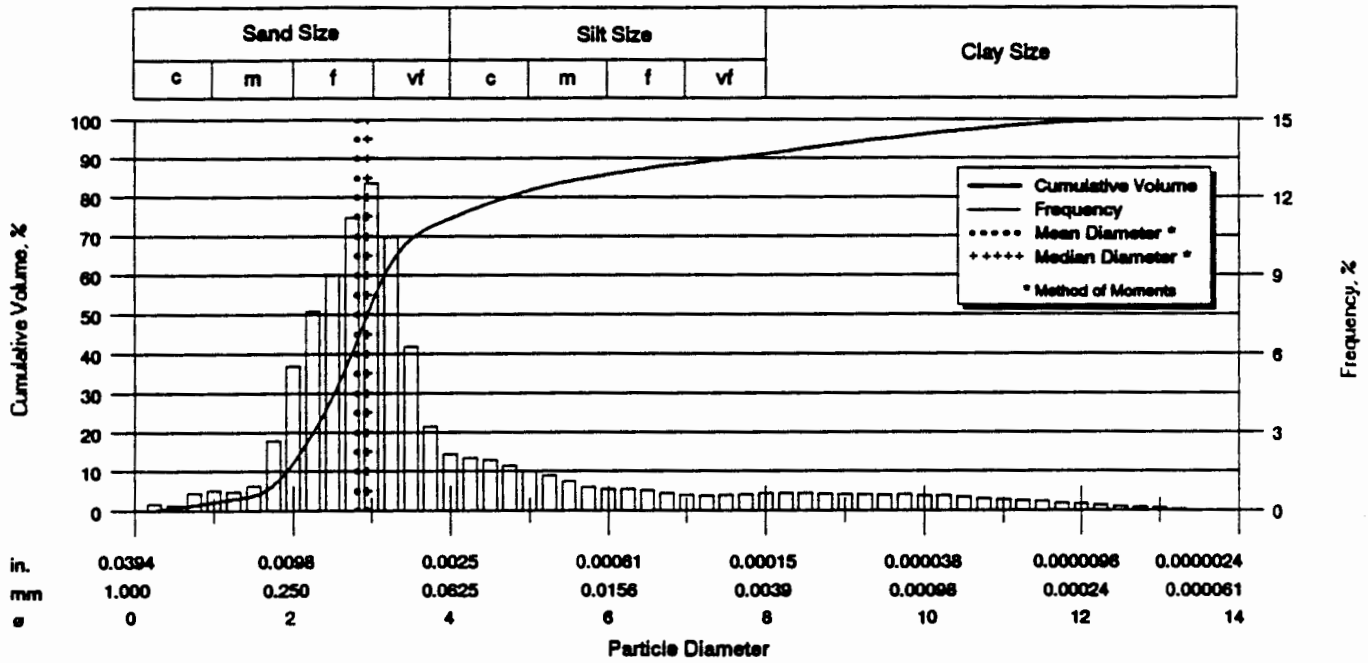
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SD15-SB03-4-6

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.50 | 0.50 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.20 | 0.70 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.68 | 1.38 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.76 | 2.14 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.73 | 2.87 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.93 | 3.80 |
| | 50 | 0.0118 | 0.30 | 1.75 | 2.67 | 6.47 |
| | 60 | 0.0098 | 0.25 | 2.00 | 5.54 | 12.01 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 7.64 | 19.65 |
| | 80 | 0.0070 | 0.177 | 2.50 | 9.04 | 28.69 |
| | 100 | 0.0059 | 0.149 | 2.75 | 11.22 | 39.91 |
| | 120 | 0.0049 | 0.125 | 3.00 | 12.54 | 52.45 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 10.47 | 62.92 |
| | 170 | 0.0035 | 0.088 | 3.50 | 6.28 | 69.20 |
| | 200 | 0.0029 | 0.074 | 3.75 | 3.21 | 72.41 |
| | 230 | 0.0025 | 0.063 | 4.00 | 2.15 | 74.56 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 2.00 | 76.56 |
| | 325 | 0.0017 | 0.044 | 4.50 | 1.94 | 78.50 |
| | 400 | 0.0015 | 0.037 | 4.75 | 1.69 | 80.19 |
| | 450 | 0.0012 | 0.031 | 5.00 | 1.50 | 81.69 |
| | 500 | 0.0010 | 0.025 | 5.32 | 1.67 | 83.36 |
| | 635 | 0.0008 | 0.020 | 5.64 | 1.30 | 84.66 |
| | | 0.00061 | 0.0156 | 6.00 | 1.19 | 85.85 |
| | | 0.00031 | 0.0078 | 7.00 | 2.85 | 88.70 |
| | | 0.00015 | 0.0039 | 8.00 | 2.44 | 91.14 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 2.60 | 93.74 |
| | | 0.000039 | 0.00098 | 10.0 | 2.40 | 96.14 |
| | | 0.000019 | 0.00049 | 11.0 | 1.97 | 98.11 |
| | | 0.0000094 | 0.00024 | 12.0 | 1.27 | 99.38 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.56 | 99.94 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.06 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0055 | 0.0042 | 0.0028 | 0.0034 |
| Mean, mm | 0.1418 | 0.1067 | 0.0718 | 0.0873 |
| Mean, phi | 2.8181 | 3.2288 | 3.8006 | 3.5172 |
| Median, in | 0.0050 | 0.0050 | 0.0050 | 0.0050 |
| Median, mm | 0.1294 | 0.1294 | 0.1294 | 0.1294 |
| Median, phi | 2.9501 | 2.9506 | 2.9506 | 2.9506 |
| Std Deviation, in | 0.0047 | 0.0159 | 0.0123 | 0.0096 |
| Std Deviation, mm | 0.1195 | 0.4064 | 0.3153 | 0.2455 |
| Std Deviation, phi | 3.0649 | 1.2990 | 1.6650 | 2.0259 |
| Skewness | 2.0870 | 1.1192 | 1.5784 | 0.5889 |
| Kurtosis | 7.8340 | 0.1464 | 1.3654 | 1.9546 |
| Mode, mm | 0.1392 | | | |
| 95% Confidence | 0.1184 | | | |
| Limits, mm | 0.1652 | | | |
| Variance, mm2 | 0.0143 | | | |
| Coef. of Variance, % | 84.29 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0125 | 0.3208 | 1.6402 |
| 10 | 0.0103 | 0.2644 | 1.9190 |
| 16 | 0.0089 | 0.2276 | 2.1356 |
| 25 | 0.0074 | 0.1891 | 2.4031 |
| 50 | 0.0050 | 0.1294 | 2.9506 |
| 75 | 0.0023 | 0.0602 | 4.0546 |
| 84 | 0.0009 | 0.0226 | 5.4656 |
| 90 | 0.0002 | 0.0053 | 7.5601 |
| 95 | 0.0001 | 0.0014 | 9.5169 |

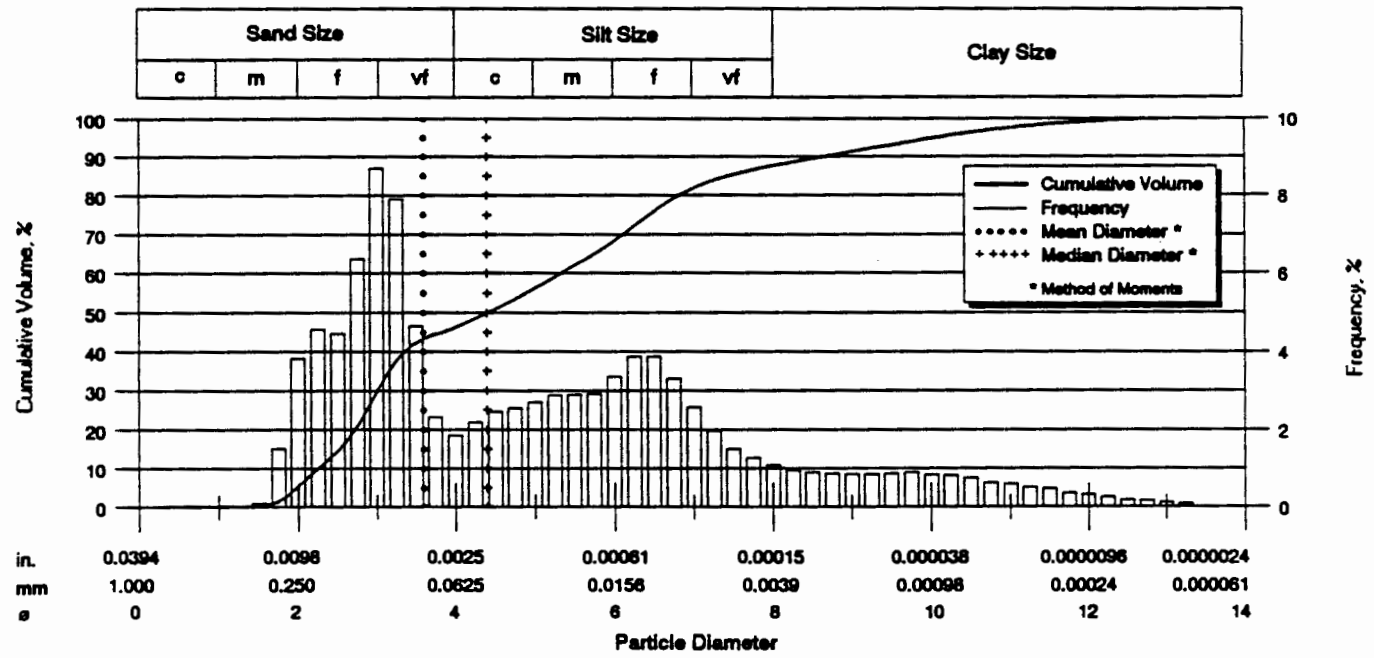
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SD15-SB05-4-6

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | [U.S. Sieve] | Diameter [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.09 | 0.09 |
| | 50 | 0.0118 | 0.30 | 1.75 | 1.53 | 1.62 |
| | 60 | 0.0098 | 0.25 | 2.00 | 3.82 | 5.44 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 4.59 | 10.03 |
| | 80 | 0.0070 | 0.177 | 2.50 | 4.46 | 14.49 |
| | 100 | 0.0059 | 0.149 | 2.75 | 6.37 | 20.86 |
| | 120 | 0.0049 | 0.125 | 3.00 | 8.70 | 29.56 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 7.90 | 37.46 |
| | 170 | 0.0035 | 0.088 | 3.50 | 4.66 | 42.12 |
| | 200 | 0.0029 | 0.074 | 3.75 | 2.32 | 44.44 |
| | 230 | 0.0025 | 0.063 | 4.00 | 1.84 | 46.28 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 2.19 | 48.47 |
| | 325 | 0.0017 | 0.044 | 4.50 | 2.47 | 50.94 |
| | 400 | 0.0015 | 0.037 | 4.75 | 2.53 | 53.47 |
| | 450 | 0.0012 | 0.031 | 5.00 | 2.70 | 56.17 |
| | 500 | 0.0010 | 0.025 | 5.32 | 3.71 | 59.88 |
| | 635 | 0.0008 | 0.020 | 5.64 | 3.67 | 63.55 |
| | | 0.00061 | 0.0156 | 6.00 | 4.67 | 68.22 |
| | | 0.00031 | 0.0078 | 7.00 | 13.61 | 81.83 |
| | | 0.00015 | 0.0039 | 8.00 | 5.81 | 87.64 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 3.60 | 91.24 |
| | | 0.000039 | 0.00098 | 10.0 | 3.47 | 94.71 |
| | | 0.000019 | 0.00049 | 11.0 | 2.80 | 97.51 |
| | | 0.0000094 | 0.00024 | 12.0 | 1.68 | 99.19 |
| | | 0.0000047 | 0.00012 | 13.0 | 0.73 | 99.92 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.08 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0032 | 0.0015 | 0.0013 | 0.0014 |
| Mean, mm | 0.0827 | 0.0397 | 0.0329 | 0.0371 |
| Mean, phi | 3.5956 | 4.6545 | 4.9258 | 4.7525 |
| Median, in | 0.0018 | 0.0018 | 0.0018 | 0.0018 |
| Median, mm | 0.0472 | 0.0472 | 0.0472 | 0.0472 |
| Median, phi | 4.4054 | 4.4058 | 4.4058 | 4.4058 |
| Std Deviation, in | 0.0033 | 0.0138 | 0.0076 | 0.0074 |
| Std Deviation, mm | 0.0836 | 0.3544 | 0.1951 | 0.1885 |
| Std Deviation, phi | 3.5797 | 1.4967 | 2.3579 | 2.4072 |
| Skewness | 0.9490 | 0.9526 | 0.6880 | 0.3104 |
| Kurtosis | -0.0150 | 0.2787 | 0.7191 | 0.9325 |
| Mode, mm | 0.1271 | | | |
| 95% Confidence | 0.0663 | | | |
| Limits, mm | 0.0991 | | | |
| Variance, mm2 | 0.0070 | | | |
| Coef. of Variance, % | 101.10 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0099 | 0.2544 | 1.9748 |
| 10 | 0.0082 | 0.2104 | 2.2485 |
| 16 | 0.0066 | 0.1686 | 2.5679 |
| 25 | 0.0053 | 0.1365 | 2.8731 |
| 50 | 0.0018 | 0.0472 | 4.4058 |
| 75 | 0.0005 | 0.0116 | 6.4358 |
| 84 | 0.0003 | 0.0064 | 7.2837 |
| 90 | 0.0001 | 0.0025 | 8.6410 |
| 95 | 0.0000 | 0.0009 | 10.0814 |

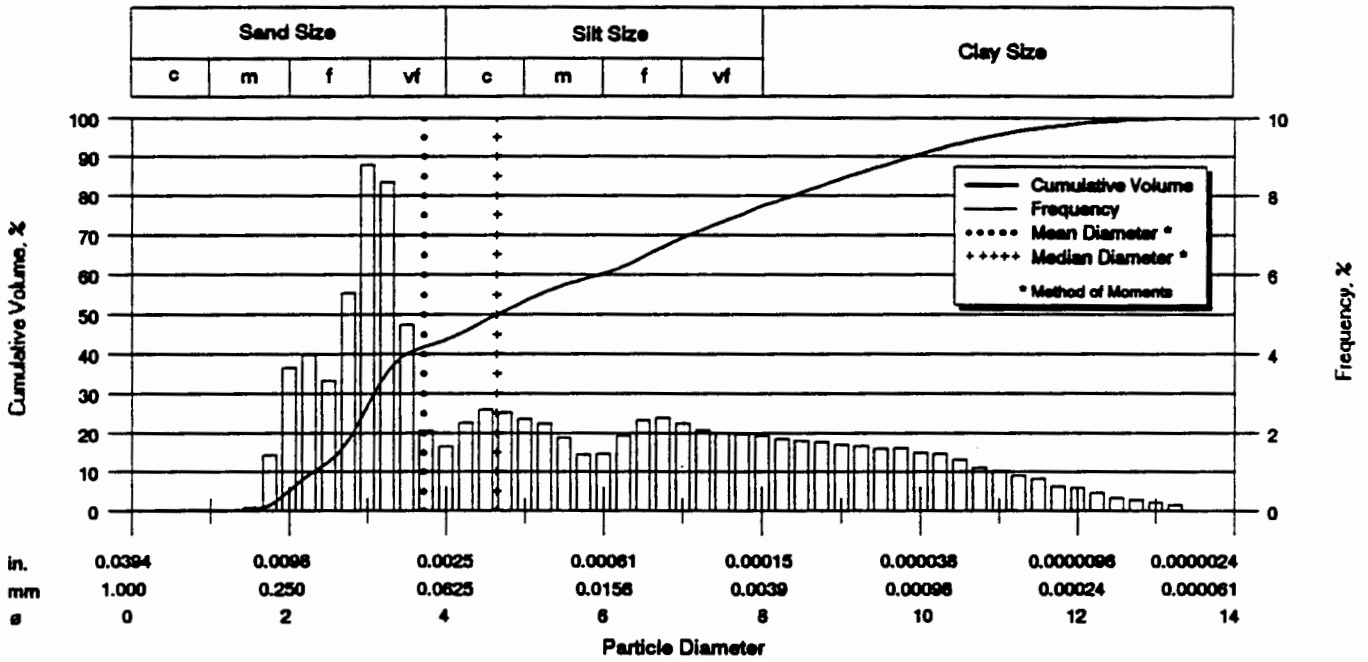
# PTS Laboratories, Inc.

File No: 25036
Date: May 1995

Project Name: Holloman AFB PA/SI
Project No: 830012201
Sample: SD15-SB06-4-6

Client: Groundwater Technology

## Particle Size by Laser Light Scattering
(ASTM D4464)




**Particle Size Distribution**

| | Diameter [U.S. Sieve] | [in] | [mm] | [phi] | Volume, % [Inc.] | [Cum.] |
|---|---|---|---|---|---|---|
| Coarse Sand | 20 | 0.0331 | 0.84 | 0.25 | 0.00 | 0.00 |
| | 25 | 0.0280 | 0.71 | 0.50 | 0.00 | 0.00 |
| | 30 | 0.0232 | 0.59 | 0.75 | 0.00 | 0.00 |
| | 35 | 0.0197 | 0.50 | 1.00 | 0.00 | 0.00 |
| Medium Sand | 40 | 0.0165 | 0.42 | 1.25 | 0.00 | 0.00 |
| | 45 | 0.0138 | 0.35 | 1.50 | 0.08 | 0.08 |
| | 50 | 0.0118 | 0.30 | 1.75 | 1.44 | 1.52 |
| | 60 | 0.0098 | 0.25 | 2.00 | 3.65 | 5.17 |
| Fine Sand | 70 | 0.0083 | 0.210 | 2.25 | 3.99 | 9.16 |
| | 80 | 0.0070 | 0.177 | 2.50 | 3.32 | 12.48 |
| | 100 | 0.0059 | 0.149 | 2.75 | 5.55 | 18.03 |
| | 120 | 0.0049 | 0.125 | 3.00 | 8.79 | 26.82 |
| Very Fine Sand | 140 | 0.0041 | 0.105 | 3.25 | 8.36 | 35.18 |
| | 170 | 0.0035 | 0.088 | 3.50 | 4.74 | 39.92 |
| | 200 | 0.0029 | 0.074 | 3.75 | 2.06 | 41.98 |
| | 230 | 0.0025 | 0.063 | 4.00 | 1.64 | 43.62 |
| Silt | 270 | 0.0021 | 0.053 | 4.25 | 2.26 | 45.88 |
| | 325 | 0.0017 | 0.044 | 4.50 | 2.61 | 48.49 |
| | 400 | 0.0015 | 0.037 | 4.75 | 2.51 | 51.00 |
| | 450 | 0.0012 | 0.031 | 5.00 | 2.35 | 53.35 |
| | 500 | 0.0010 | 0.025 | 5.32 | 2.81 | 56.16 |
| | 635 | 0.0008 | 0.020 | 5.64 | 2.16 | 58.32 |
| | | 0.00061 | 0.0156 | 6.00 | 2.07 | 60.39 |
| | | 0.00031 | 0.0078 | 7.00 | 8.87 | 69.26 |
| | | 0.00015 | 0.0039 | 8.00 | 7.96 | 77.22 |
| Clay | | 0.000079 | 0.0020 | 9.00 | 7.09 | 84.31 |
| | | 0.000039 | 0.00098 | 10.0 | 6.38 | 90.69 |
| | | 0.000019 | 0.00049 | 11.0 | 4.90 | 95.59 |
| | | 0.0000094 | 0.00024 | 12.0 | 2.96 | 98.55 |
| | | 0.0000047 | 0.00012 | 13.0 | 1.30 | 99.85 |
| | | 0.0000039 | 0.00010 | 13.3 | 0.15 | 100.00 |

**Sorting Statistics**

| Parameter | [Moment] | [Trask] | [Inman] | [Folk] |
|---|---|---|---|---|
| Mean, in | 0.0030 | 0.0010 | 0.0007 | 0.0009 |
| Mean, mm | 0.0760 | 0.0248 | 0.0178 | 0.0233 |
| Mean, phi | 3.7175 | 5.3316 | 5.8150 | 5.4258 |
| Median, in | 0.0016 | 0.0016 | 0.0016 | 0.0016 |
| Median, mm | 0.0399 | 0.0399 | 0.0399 | 0.0399 |
| Median, phi | 4.6471 | 4.6474 | 4.6474 | 4.6474 |
| Std Deviation, in | 0.0032 | 0.0127 | 0.0044 | 0.0052 |
| Std Deviation, mm | 0.0831 | 0.3262 | 0.1135 | 0.1328 |
| Std Deviation, phi | 3.5894 | 1.6162 | 3.1393 | 2.9131 |
| Skewness | 1.0350 | 1.0539 | 0.5659 | 0.3863 |
| Kurtosis | 0.2080 | 0.3148 | 0.4123 | 0.7636 |
| Mode, mm | 0.1271 | | | |
| 95% Confidence | 0.0597 | | | |
| Limits, mm | 0.0923 | | | |
| Variance, mm2 | 0.0069 | | | |
| Coef. of Variance, % | 109.30 | | | |

| Percentiles [volume, %] | Particle Diameter [in] | [mm] | [phi] |
|---|---|---|---|
| 5 | 0.0098 | 0.2517 | 1.9904 |
| 10 | 0.0078 | 0.2011 | 2.3137 |
| 18 | 0.0061 | 0.1565 | 2.6757 |
| 25 | 0.0050 | 0.1292 | 2.9519 |
| 50 | 0.0016 | 0.0399 | 4.6474 |
| 75 | 0.0002 | 0.0048 | 7.7112 |
| 64 | 0.0001 | 0.0020 | 8.9543 |
| 90 | 0.0000 | 0.0011 | 9.8776 |
| 95 | 0.0000 | 0.0005 | 10.8574 |

# APPENDIX E

## Groundwater Laboratory Analytical Reports

"Method Report Summary"

Accession Number: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| SD15-GP-5 | CARBON DISULFIDE | UG/L | 20 |
| AOC-BBMS-GP2 | BENZENE | UG/L | 30 |
| | ETHYL BENZENE | UG/L | 300 |
| | TOTAL XYLENES | UG/L | 47 |
| AOC-RR-GP01 | BENZENE | UG/L | 3000 |
| | 1,2-DICHLOROETHANE | UG/L | 380 |
| | ETHYL BENZENE | UG/L | 260 |
| | TOLUENE | UG/L | 1200 |
| | TOTAL XYLENES | UG/L | 1200 |
| AOC-RR-GP04 | 1,2-DICHLOROETHANE | UG/L | 9 |
| | ETHYL BENZENE | UG/L | 24 |
| AOC-RR-GP05 | BENZENE | UG/L | 36 |
| | 1,2-DICHLOROETHANE | UG/L | 190 |
| | 1,2-DICHLOROPROPANE | UG/L | 20 |
| | ETHYL BENZENE | UG/L | 30 |
| | TOLUENE | UG/L | 8 |
| | TOTAL XYLENES | UG/L | 49 |
| AOC-RR-GP06 | BENZENE | UG/L | 870 |
| | 1,2-DICHLOROETHANE | UG/L | 440 |
| | ETHYL BENZENE | UG/L | 1000 |
| | TOLUENE | UG/L | 90 |
| | TOTAL XYLENES | UG/L | 560 |
| AOC-RR-GP07 | BENZENE | UG/L | 700 |
| | TOTAL XYLENES | UG/L | 120 |
| AOC-RR-GP09 | BENZENE | UG/L | 750 |
| | 1,2-DICHLOROETHANE | UG/L | 85 |
| | TOTAL XYLENES | UG/L | 750 |
| AOC-RR-GP11 | BENZENE | UG/L | 3300 |
| | 1,2-DICHLOROETHANE | UG/L | 280 |
| | ETHYL BENZENE | UG/L | 960 |
| AOC-RR-GP07D | BENZENE | UG/L | 780 |
| | 1,2-DICHLOROETHANE | UG/L | 51 |
| | TOTAL XYLENES | UG/L | 180 |
| AOC-BBMS-GP10 | BENZENE | UG/L | 7 |
| | TOTAL XYLENES | UG/L | 7 |
| AOC-RR-GP05 DUP | BENZENE | UG/L | 23 |
| | 1,2-DICHLOROETHANE | UG/L | 170 |
| | 1,2-DICHLOROPROPANE | UG/L | 16 |
| | ETHYL BENZENE | UG/L | 18 |
| | TOLUENE | UG/L | 5 |
| | TOTAL XYLENES | UG/L | 35 |

Common notation for Organic reporting

ND = NOT DETECTED ABOVE REPORTING LIMIT.
N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON AN 'AS IS' BASIS.

** COMPOUNDS FLAGGED IN METHOD ARE NOT WITHIN THE FIVE POINT CURVE. THEY ARE SEARCHED FOR QUALITATIVELY.

KS KENDALL SMITH
PL PAUL LESCHENSKY

AnalyticalTechnologies,Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

RECEIVED
MAY 1 1 1995

SIGNATURE PAGE

Reviewed by: _____
ATI Project Manager

| | |
|---|---|
| Client: | GROUNDWATER TECHNOLOGY<br>ALBUQUERQUE, NEW MEXICO |
| Project Name: | PA/SI@HAFB |
| Project Number: | 830012201 |
| Project Location: | N/S |
| Accession Number: | 505031 |
| Project Manager: | CHUCK SCHICK |
| Sampled By: | N/S |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

# Analysis Report

Analysis: VOLATILES (8240)

| | |
|---|---|
| Accession: | 505031 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201 |
| Project Name: | PA/SI@HAFB |
| Project Location: | N/S |
| Department: | ORGANIC/MS |

AnalyticalTechnologies,Inc., Albuquerque, NM
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# CHAIN OF CUSTODY

DATE:_____ PAGE 1 OF 2

ATI LAB I.D. 505031

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: CHUCK SCHICK

COMPANY: GROUNDWATER TECHNOLOGY
ADDRESS: 2501 YALE BLVD SE
ALBUQUERQUE, NM 87106
PHONE: (505) 242-3113
FAX: (505) 242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Petroleum Hydrocarbons (418.1) | (MOD 8015) Gas/Diesel | Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020) | BTXE/MTBE (8020) | | | Chlorinated Hydrocarbons (601/8010) | Aromatic Hydrocarbons (602/8020) | SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg. | | | Pesticides/PCB (608/8080) | Herbicides (615/8150) | Base/Neutral/Acid Compounds GC/MS (625/8270) | Volatile Organics GC/MS (624/8240) | Polynuclear Aromatics (610/8310) | | | SDWA Primary Standards - Arizona | SDWA Secondary Standards - Arizona | SDWA Primary Standards - Federal | SDWA Secondary Standards - Federal | | | The 13 Priority Pollutant Metals | RCRA Metals by Total Digestion | RCRA Metals by TCLP (1311) | | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOCRR-GP-13 | 4/27/95 | 810 | water | 1 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| AOCRR-GP-12 | | 840 | | 2 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| AOCRR-GP-14 | | 915 | | 3 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| AOCRR-GP-15 | | 1:15pm | | 4 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| AOCRR-GP-16 | | 955 | | 5 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| ~~Aoc~~BBMS-GP-09 | | 1135 | | 6 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| BBMS-GP-11 | | 1205 | | 7 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| SS-06-GP-1 | | 2:55pm | | 8 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| SS-06-GP-2 | — | 3:30pm | — | 9 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO.: 830012201 | NO. CONTAINERS | |
| PROJ. NAME: PA/SI @ HAFB | CUSTODY SEALS | Y / N / NA |
| P.O. NO.: | RECEIVED INTACT | |
| SHIPPED VIA: FEDEX | RECEIVED COLD | |

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☒ 1 WEEK (NORMAL) ☐ 2 WEEK

Comments:
Quote PER SEE K. AVERY
MITCH RUBENSTEIN

| SAMPLED & RELINQUISHED BY: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: Time: 1300 | Signature: Time: | Signature: Time: |
| Printed Name: Date: CH SCHICK 4/28/95 | Printed Name: Date: | Printed Name: Date: |
| Company: Phone: | Company: | Company: |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY:(LAB) 3. |
|---|---|---|
| Signature: Time: | Signature: Time: | Signature: Time: 0932 |
| Printed Name: Date: | Printed Name: Date: | Printed Name: Date: R. ELSPE 4/29/95 |
| Company: | Company: | Analytical Technologies, Inc. |

AnalyticalTechnologies, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

# CHAIN OF CUSTODY

DATE: _____ PAGE 2 OF 2

ATI LAB I.D. 505031

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: CHUCK SCHICK

COMPANY: GROUNDWATER TECHNOLOGY
ADDRESS: 2501 YALE BLVD SE
Albuquerque, NM 87106
PHONE: (505) 242-3113
FAX: (505) 242-1103

BILL TO: SAME
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Petroleum Hydrocarbons (418.1) | (MOD 8015) Gas/Diesel | Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020) | BTXE/MTBE (8020) | | | Chlorinated Hydrocarbons (601/8010) | Aromatic Hydrocarbons (602/8020) | SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg. | | | Pesticides/PCB (608/8080) | Herbicides (615/8150) | Base/Neutral/Acid Compounds GC/MS (625/8270) | Volatile Organics GC/MS (624/8240) | Polynuclear Aromatics (610/8310) | | | SDWA Primary Standards - Arizona | SDWA Secondary Standards - Arizona | SDWA Primary Standards - Federal | SDWA Secondary Standards - Federal | | | The 13 Priority Pollutant Metals | RCRA Metals by Total Digestion | RCRA Metals by TCLP (1311) | | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-06-GP-1D | 4/27 | 255pm | WATER | 10 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| SS-06-GP-3 | 4/28 | 830AM | WATER | 11 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 2 |
| ~~SS-06-GP-4~~ | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| ~~SS-06-GP-5~~ | N/O | SAMPLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ~~SS-06-GP-6~~ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| PROJECT INFORMATION | | SAMPLE RECEIPT | |
|---|---|---|---|
| PROJ. NO. 83001 | | NO. CONTAINERS | |
| PROJ. NAME: | | CUSTODY SEALS | Y / N / NA |
| P.O. NO.: | | RECEIVED INTACT | |
| SHIPPED VIA: | | RECEIVED COLD | |

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEK

Comments:

| SAMPLED & RELINQUISHED BY: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] Time: 1300 | Signature: Time: | Signature: Time: |
| Printed Name: C. SCHICK Date: 4/26/95 | Printed Name: Date: | Printed Name: Date: |
| Company: Phone: | Company: | Company: |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY:(LAB) 3. |
|---|---|---|
| Signature: Time: | Signature: Time: | Signature: [signature] Time: 0932 |
| Printed Name: Date: | Printed Name: Date: | Printed Name: R. ELLERMAN Date: 4/29/95 |
| Company: | Company: | Analytical Technologies, Inc. |

ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ATI • Pink - ORIGINATOR

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

**Midwest Region**
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

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Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083

May 1, 1995

Sara Brothers
Groundwater Technology, Inc.
2501 Yale Blvd., SE, #204
Albuquerque, NM 87106

Dear Sara Brothers:

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories on 04-07-95 under chain of custody records 39943 and 39944.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions concerning this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

Donald Plumm Project Coordinator for

Terry R. Loucks
Laboratory Director

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

# QA NONCONFORMANCE SUMMARY

## Metals in Water

1.0 Sample Handling

1.1 Sample handling and holding time criteria were not met for zero samples.

2.0 Initial Calibration Verification

2.1 The validity for the calibration verification was exceeded for zero samples as shown in Table 2.

3.0 Method Blanks

3.1 Zero target elements were found in the method blank as shown in Table 3.

4.0 Matrix Spike (MS) Accuracy

4.1 The recovery limits were exceeded in the matrix spike and matrix spike duplicate for two elements as shown in Table 4A and 4B.

4.2 Recovery limits were exceeded in the matrix spike and/or matrix spike duplciate sample(s) for thallium due to matrix interference as proven by analytical spike.

4.3 Recovery limits were exceeded for barium in the matrix spike and/or matrix spike duplicate sample(s) due matrix interference during digestion.

5.0 Sample Duplicate Precision

5.1 The maximum percent difference (RPD) was exceeded for one element in the matrix spike and matrix spike duplicate samples as shown in Table 4A and 4B.

5.2 Maximum relative percent difference was exceeded in the matrix and/or matrix spike duplicate sample for barium due to matrix interference during digestion.

6.0 Laboratory Control Sample

6.1 The recovery limits were not met for zero elements for the laboratory control samples as shown in Table 5.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

**Table 2**

INITIAL CALIBRATION VERIFICATION QC CHECK SAMPLE REPORT

Metals in Water

| Analyte | Expected Result, ug/L | Observed Result, ug/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 996 | 966 | 97.0 | 90-110 |
| Antimony | 1000 | 1040 | 104 | 90-110 |
| Arsenic | 40.0 | 37.9 | 94.8 | 90-110 |
| Barium | 1020 | 1020 | 100 | 90-110 |
| Beryllium | 401 | 402 | 100 | 90-110 |
| Cadmium | 498 | 513 | 103 | 90-110 |
| Calcium | 10000 | 10000 | 100 | 90-110 |
| Chromium | 1000 | 1040 | 104 | 90-110 |
| Cobalt | 1020 | 1060 | 104 | 90-110 |
| Copper | 1010 | 1090 | 108 | 90-110 |
| Iron | 1000 | 1060 | 106 | 90-110 |
| Lead | 20.0 | 19.4 | 97.0 | 90-110 |
| Magnesium | 10000 | 10100 | 101 | 90-110 |
| Manganese | 999 | 1020 | 102 | 90-110 |
| Mercury | 4.00 | 3.95 | 98.8 | 90-110 |
| Nickel | 1010 | 1080 | 107 | 90-110 |
| Potassium | 20000 | 18400 | 91.9 | 90-110 |
| Selenium | 40.0 | 41.3 | 103 | 90-110 |
| Silver | 202 | 212 | 105 | 90-110 |
| Sodium | 10000 | 9910 | 99.1 | 90-110 |
| Thallium | 20.0 | 20.4 | 102 | 90-110 |
| Vanadium | 998 | 1000 | 101 | 90-110 |
| Zinc | 996 | 1040 | 104 | 90-110 |

a Acceptability limits as per EPA Contract Laboratory Program.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

**Table 3**

BLANK REPORT

Metals in Water

| Analyte | Initial Calibration Blank, ug/L | Preparation Blank, ug/L |
|---|---|---|
| Aluminum | <200 | <200 |
| Antimony | <200 | <200 |
| Arsenic | <10 | <10 |
| Barium | <200 | <200 |
| Beryllium | <5.0 | <5.0 |
| Cadmium | <20 | <20 |
| Calcium | <1000 | <1000 |
| Chromium | <30 | <30 |
| Cobalt | <50 | <50 |
| Copper | <25 | <25 |
| Iron | <100 | <100 |
| Lead | <4.0 | <4.0 |
| Magnesium | <1000 | <1000 |
| Manganese | <15 | <15 |
| Mercury | <0.50 | <0.50 |
| Nickel | <40 | <40 |
| Potassium | <5000 | <5000 |
| Selenium | <10 | <10 |
| Silver | <20 | <20 |
| Sodium | <5000 | <5000 |
| Thallium | <5 | <5 |
| Vanadium | <50 | <50 |
| Zinc | <20 | <20 |

<# Not detected at the indicated detection limit (#)

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

**Table 4A**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Water

Sample Spiked:Method 7060, 7421, 7740, 7841 & 6010A - W5040083-01
Sample Spiked:Method 7470 - W5-04-0083-13

| Analyte | Spike Added, ug/L | Sample Concentration, ug/L | MS Concentration, ug/L | MS Percent Recovery | Acceptability Limits, %[a] |
|---|---|---|---|---|---|
| Alumimum | 10000 | <200 | 10500 | 105 | 80-120 |
| Antimony | 2000 | <200 | 1990 | 99.5 | 80-120 |
| Arsenic | 40.0 | 8.0 | 48.3 | 101 | 75-125 |
| Barium | 10000 | <200 | 691 | 6.91[b] | 80-120 |
| Beryllium | 100 | <5.0 | 90.3 | 90.3 | 80-120 |
| Cadmium | 500 | <20 | 524 | 105 | 80-120 |
| Calcium | 10000 | 598000 | 620000 | NA | 80-120 |
| Chromium | 200 | <30 | 186 | 92.7 | 80-120 |
| Cobalt | 2000 | <50 | 2070 | 104 | 80-120 |
| Copper | 2000 | <25 | 2180 | 109 | 80-120 |
| Iron | 10000 | <100 | 10100 | 101 | 80-120 |
| Lead | 20.0 | <4.0 | 21.0 | 105 | 75-125 |
| Magnesium | 10000 | 72900 | 85800 | NA | 80-120 |
| Manganese | 5000 | 27.8 | 5210 | 104 | 80-120 |
| Mercury | 2.00 | <0.50 | 1.69 | 84.5 | 75-125 |
| Nickel | 5000 | <40 | 5260 | 105 | 80-120 |
| Potassium | 20000 | 40500 | 64400 | NA | 80-120 |
| Selenium | 40.0 | <10 | 32.2 | 80.5 | 75-125 |
| Silver | 200 | <20 | 210 | 105 | 80-120 |
| Sodium | 10000 | 182000 | 196000 | NA | 80-120 |
| Thallium | 20.0 | <5 | 13.6 | 68.0[b] | 75-125 |
| Vanadium | 2000 | 57.0 | 2120 | 103 | 80-120 |
| Zinc | 5000 | <20 | 5160 | 103 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limit.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

**Table 4B**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Water

| Analyte | Spike Added, ug/L | MSD Concentration, ug/L | MSD Percent Recovery | RPD % | Acceptability Limits, %[a] | |
|---|---|---|---|---|---|---|
| | | | | | RPD | % Recovery |
| Aluminum | 10000 | 10100 | 101 | 3.78 | 20.0 | 80-120 |
| Antimony | 2000 | 2050 | 102 | 2.80 | 20.0 | 80-120 |
| Arsenic | 40.0 | 54.2 | 116 | 13.6 | 20.0 | 75-125 |
| Barium | 10000 | 978 | 9.78[b] | 34.4[b] | 20.0 | 80-120 |
| Beryllium | 100 | 85.8 | 85.8 | 5.14 | 20.0 | 80-120 |
| Cadmium | 500 | 501 | 100 | 4.44 | 20.0 | 80-120 |
| Calcium | 10000 | 604000 | NA | 2.16 | 20.0 | 80-120 |
| Chromium | 200 | 184 | 91.9 | 0.890 | 20.0 | 80-120 |
| Cobalt | 2000 | 2000 | 100 | 3.13 | 20.0 | 80-120 |
| Copper | 2000 | 2140 | 107 | 1.57 | 20.0 | 80-120 |
| Iron | 10000 | 9910 | 99.1 | 1.82 | 20.0 | 80-120 |
| Lead | 20.0 | 20.9 | 104 | 0.48 | 20.0 | 75-125 |
| Magnesium | 10000 | 82000 | NA | 4.53 | 20.0 | 80-120 |
| Manganese | 5000 | 5020 | 99.8 | 3.76 | 20.0 | 80-120 |
| Mercury | 2.00 | 1.60 | 80.0 | 5.47 | 20.0 | 75-125 |
| Nickel | 5000 | 5140 | 103 | 2.45 | 20.0 | 80-120 |
| Potassium | 20000 | 62600 | NA | 2.83 | 20.0 | 80-120 |
| Selenium | 40.0 | 36.3 | 90.8 | 12.0 | 20.0 | 75-125 |
| Silver | 200 | 206 | 103 | 2.31 | 20.0 | 80-120 |
| Sodium | 10000 | 191000 | NA | 2.58 | 20.0 | 80-120 |
| Thallium | 20.0 | 15.0 | 75.0 | 9.79 | 20.0 | 75-125 |
| Vanadium | 2000 | 2040 | 99.3 | 3.64 | 20.0 | 80-120 |
| Zinc | 5000 | 5020 | 100 | 2.74 | 20.0 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limit.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

**Table 5**

LABORATORY CONTROL SAMPLE RESULTS

Metals in Water

| Analyte | Expected Result, ug/L | Observed Result, ug/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 10000 | 10100 | 101 | 80-120 |
| Antimony | 2000 | 2000 | 100 | 80-120 |
| Arsenic | 40.0 | 37.2 | 93.0 | 75-125 |
| Barium | 10000 | 11200 | 112 | 80-120 |
| Beryllium | 100 | 96.6 | 96.6 | 80-120 |
| Cadmium | 500 | 498 | 99.6 | 80-120 |
| Calcium | 10000 | 10400 | 104 | 80-120 |
| Chromium | 200 | 210 | 105 | 80-120 |
| Cobalt | 2000 | 2170 | 108 | 80-120 |
| Copper | 2000 | 2050 | 102 | 80-120 |
| Iron | 10000 | 10800 | 108 | 80-120 |
| Lead | 20.0 | 20.7 | 104 | 75-125 |
| Magnesium | 10000 | 10100 | 101 | 80-120 |
| Manganese | 5000 | 5400 | 108 | 80-120 |
| Mercury | 2.00 | 2.15 | 108 | 75-125 |
| Nickel | 5000 | 5420 | 108 | 80-120 |
| Potassium | 20000 | 18800 | 94.0 | 80-120 |
| Selenium | 40.0 | 36.6 | 91.5 | 75-125 |
| Silver | 200 | 214 | 107 | 80-120 |
| Sodium | 10000 | 9600 | 96.0 | 80-120 |
| Thallium | 20.0 | 19.9 | 99.5 | 75-125 |
| Vanadium | 2000 | 2100 | 105 | 80-120 |
| Zinc | 5000 | 5370 | 107 | 80-120 |

a Acceptability limits established by laboratory practice.

**GTEL** ENVIRONMENTAL LABORATORIES INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

39943

Company Name: Groundwater Technology, Inc.
Phone #: 505 242 3113
FAX #: 505 242 1103
Company Address: 2501 Yale Blvd SE Albuquerque NM 87106
Site Location: Holloman AFB
Project Manager: Sara Brothers
Client Project ID: (#) PA/SI
(NAME) 830012201
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Jim Molesworth

ANALYSIS REQUEST | OTHER

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | HNO3 | H2SO4 | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL Metals | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-BBMS-GP01 | 01 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 3/31/95 | 1100 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-BBMS-GP02 | 02 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/3/95 | 0830 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-BBMS-GP03 | 03 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/3/95 | 0900 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-BBMS-GP04 | 04 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 3/31/95 | 1430 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-BBMS-GP05 | 05 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/3/95 | 0930 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-BBMS-GP06 | 06 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 3/31/95 | 1315 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-RR-GP01 | 07 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/2/95 | 1045 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-RR-GP02 | 08 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/3/95 | 1100 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-RR-GP03 | 09 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/3/95 | 1130 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-RR-GP04 | 10 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/3/95 | 1200 | | | | | | | | | | | | | | | | | | | | X | | | |
| AOC-RR-GP05 | 11 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/3/95 | 1230 | | | | | | | | | | | | | | | | | | | | X | | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other _____
Business Days ☐

**Special Handling**
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ _____

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☒

REMARKS:

Lab Use Only Lot #: NO SEALS
Storage Location
Work Order #: 5°C

**CUSTODY RECORD**

| Relinquished by Sampler: | Date: 4/5/95 | Time: 1300 | Received by: Airborne #9198712095 |
|---|---|---|---|
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | Date: 04-7-95 | Time: 0825 | Received by Laboratory: Tamara [illegible] Waybill # |

**GTEL** ENVIRONMENTAL LABORATORIES INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Page 2 of 2

39944

Company Name: Groundwater Technology Inc.

Phone #: 505 242-3113

FAX #: 505 247-1103

Company Address: 2501 Yale Blvd. SE Albuquerque, NM 87106

Site Location: Holloman AFB

Project Manager: Sara Brothers

Client Project ID: (#) PA/SI

(NAME) 830012201

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Jim Molesworth

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | OTHER: TAL Metals | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADC-RR-GP06 | 13 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/3/95 | 1300 | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-GP03 | 13 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/3/95 | 1400 | | | | | | | | | | | | | | | | | | | | X | | | |

UCC-OU-0088

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other _____
Business Days ☐

**Special Handling**
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ _____

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS

FAX ☒

REMARKS:

Lab Use Only Lot #: NO SEALS

Storage Location

Work Order #: 5°C

## CUSTODY RECORD

| Relinquished by Sampler: | Date: 4/5/95 | Time: 1300 | Received by: Airborne # 9198712095 |
|---|---|---|---|
| Relinquished by: | Date: | Time: | Received by: |
| Relinquished by: | Date: 4 95 | Time: 0825 | Received by Laboratory: Tamara Kelp<br>Waybill # |

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

**Midwest Region**
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

RECEIVED
MAY 1 2 1995

May 11, 1995

Sara Brothers
Groundwater Technology, Inc.
2501 Yale Blvd. Se
Suite 204
Albuquerque, NM 87106

---

| | |
|---|---|
| RE: GTEL Client ID: | 830012201 |
| Login Number: | W5040302 |
| Project ID (number): | 830012201 |
| Project ID (name): | HAFB: AOC-RR, AOC-BBMS/PASI/NM |

---

Dear Sara Brothers:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 04/22/95 under Chain-of-Custody Number(s) 40404.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the State of Kansas under Certification Numbers E-103, E-1113.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Project Coordinator for

Terry R. Loucks
Laboratory Director

Project ID (Number): 830012201
Project ID (Name): HAFB: AOC-RR, AOC-BBMS PASI, NM
Work Order Number: W5-04-0302
Date Reported: 05-05-95

# QA NONCONFORMANCE SUMMARY

## Metals in Water

1.0 Sample Handling

1.1 Sample handling and holding time criteria were not met for zero samples.

2.0 Initial Calibration Verification

2.1 The validity for the calibration verification was exceeded for zero samples as shown in Table 2.

3.0 Method Blanks

3.1 Zero target elements were found in the method blank as shown in Table 3.

4.0 Matrix Spike (MS) Accuracy

4.1 The recovery limits were exceeded in the matrix spike and matrix spike duplicate for four elements as shown in Table 4A and 4B.

4.2 Recovery limits were exceeded in the matrix spike and/or matrix spike duplicate for barium and mercury due to matrix interference during digestion.

4.3 Recovery limits were exceeded in the matrix spike and/or matrix spike duplicate sample(s) for arsenic and thallium due to matrix interference as proven by analytical spike.

5.0 Sample Duplicate Precision

5.1 The maximum percent difference (RPD) was exceeded for one element in the matrix spike and matrix spike duplicate samples as shown in Table 4A and 4B.

6.0 Laboratory Control Sample

6.1 The recovery limits were not met for zero elements for the laboratory control samples as shown in Table 5.

Project ID (Number): 830012201
Project ID (Name): HAFB: AOC-RR, AOC-BBMS PASI, NM
Work Order Number: W5-04-0302
Date Reported: 05-05-95

**Table 2**

INITIAL CALIBRATION VERIFICATION QC CHECK SAMPLE REPORT

Metals in Water

| Analyte | Expected Result, ug/L | Observed Result, ug/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 996 | 986 | 99.0 | 90-110 |
| Antimony | 1000 | 1030 | 103 | 90-110 |
| Arsenic | 40.0 | 38.4 | 96.0 | 90-110 |
| Barium | 1020 | 980 | 96.0 | 90-110 |
| Beryllium | 401 | 409 | 102 | 90-110 |
| Cadmium | 498 | 472 | 94.9 | 90-110 |
| Calcium | 10000 | 9760 | 97.6 | 90-110 |
| Chromium | 1000 | 995 | 99.5 | 90-110 |
| Cobalt | 1020 | 997 | 97.7 | 90-110 |
| Copper | 1010 | 954 | 94.4 | 90-110 |
| Iron | 1000 | 1020 | 102 | 90-110 |
| Lead | 20.0 | 20.7 | 104 | 90-110 |
| Magnesium | 10000 | 10000 | 100 | 90-110 |
| Manganese | 999 | 1010 | 101 | 90-110 |
| Mercury | 4.00 | 3.83 | 95.8 | 90-110 |
| Nickel | 1010 | 1000 | 99.5 | 90-110 |
| Potassium | 20000 | 20100 | 100 | 90-110 |
| Selenium | 40.0 | 43.2 | 108 | 90-110 |
| Silver | 202 | 202 | 99.9 | 90-110 |
| Sodium | 10000 | 9130 | 91.3 | 90-110 |
| Thallium | 20.0 | 18.4 | 92.0 | 90-110 |
| Vanadium | 998 | 1020 | 102 | 90-110 |
| Zinc | 996 | 981 | 98.5 | 90-110 |

a Acceptability limits as per EPA Contract Laboratory Program.

Project ID (Number): 830012201
Project ID (Name): HAFB: AOC-RR, AOC-BBMS PASI, NM
Work Order Number: W5-04-0302
Date Reported: 05-05-95

**Table 3**

BLANK REPORT

Metals in Water

| Analyte | Initial Calibration Blank, ug/L | Preparation Blank, ug/L |
|---|---|---|
| Aluminum | <200 | <200 |
| Antimony | <200 | <200 |
| Arsenic | <10 | <10 |
| Barium | <200 | <200 |
| Beryllium | <5.0 | <5.0 |
| Cadmium | <20 | <20 |
| Calcium | <1000 | <1000 |
| Chromium | <30 | <30 |
| Cobalt | <50 | <50 |
| Copper | <25 | <25 |
| Iron | <100 | <100 |
| Lead | <4.0 | <4.0 |
| Magnesium | <1000 | <1000 |
| Manganese | <15 | <15 |
| Mercury | <0.50 | <0.50 |
| Nickel | <40 | <40 |
| Potassium | <5000 | <5000 |
| Selenium | <10 | <10 |
| Silver | <20 | <20 |
| Sodium | <5000 | <5000 |
| Thallium | <5 | <5 |
| Vanadium | <50 | <50 |
| Zinc | <20 | <20 |

<# Not detected at the indicated detection limit (#)

Project ID (Number): 830012201
Project ID (Name): HAFB: AOC-RR, AOC-BBMS PASI, NM
Work Order Number: W5-04-0302
Date Reported: 05-05-95

**Table 4A**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Water

Sample Spiked:Method 7470 & 6010: W5040302-04
Sample Spiked:Method 7060, 7421, 7740 & 7841: W5040302-01

| Analyte | Spike Added, ug/L | Sample Concentration, ug/L | MS Concentration, ug/L | MS Percent Recovery | Acceptability Limits, %[a] |
|---|---|---|---|---|---|
| Alumimum | 10000 | <200 | 9400 | 94.0 | 80-120 |
| Antimony | 2000 | <200 | 1900 | 95.0 | 80-120 |
| Arsenic | 40.0 | <10 | 22.1 | 55.2[b] | 75-125 |
| Barium | 10000 | <200 | 3900 | 39.0[b] | 80-120 |
| Beryllium | 100 | <5.0 | 80.8 | 80.8 | 80-120 |
| Cadmium | 500 | <20 | 472 | 94.4 | 80-120 |
| Calcium | 10000 | 580000 | 562000 | NA | 80-120 |
| Chromium | 200 | <30 | 197 | 98.5 | 80-120 |
| Cobalt | 2000 | <50 | 1850 | 92.5 | 80-120 |
| Copper | 2000 | <25 | 1880 | 94.0 | 80-120 |
| Iron | 10000 | 4260 | 13000 | 87.4 | 80-120 |
| Lead | 20.0 | <20 | 38 | 100 | 75-125 |
| Magnesium | 10000 | 410000 | 379000 | NA | 80-120 |
| Manganese | 5000 | 1860 | 6350 | 89.8 | 80-120 |
| Mercury | 2.00 | <0.50 | 1.38 | 69.0[b] | 75-125 |
| Nickel | 5000 | <40 | 4380 | 87.6 | 80-120 |
| Potassium | 20000 | 5140 | 26100 | 105 | 80-120 |
| Selenium | 40.0 | <100 | <100 | c | 75-125 |
| Silver | 200 | <20 | 201 | 100 | 80-120 |
| Sodium | 10000 | 282000 | 250000 | NA | 80-120 |
| Thallium | 20.0 | <5.0 | 13.2 | 66[b] | 75-125 |
| Vanadium | 2000 | <50 | 1880 | 94.0 | 80-120 |
| Zinc | 5000 | <20 | 4510 | 90.2 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.

b Value outside acceptability limit.

c Not applicable; due to sample dilution, the spike concentration is less than the reporting limit.

NA Not applicable

Project ID (Number): 830012201
Project ID (Name): HAFB: AOC-RR, AOC-BBMS PASI, NM
Work Order Number: W5-04-0302
Date Reported: 05-05-95

**Table 4B**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Water

| Analyte | Spike Added, ug/L | MSD Concentration, ug/L | MSD Percent Recovery | RPD % | Acceptability Limits, %[a] | |
|---|---|---|---|---|---|---|
| | | | | | RPD | % Recovery |
| Aluminum | 10000 | 9470 | 94.7 | 0.74 | 20.0 | 80-120 |
| Antimony | 2000 | 1890 | 94.5 | 0.53 | 20.0 | 80-120 |
| Arsenic | 40.0 | 20.1 | 50.2[b] | 9.48 | 20.0 | 75-125 |
| Barium | 10000 | 3570 | 35.7[b] | 8.84 | 20.0 | 80-120 |
| Beryllium | 100 | 80.4 | 80.4 | 0.50 | 20.0 | 80-120 |
| Cadmium | 500 | 489 | 97.8 | 3.54 | 20.0 | 80-120 |
| Calcium | 10000 | 578000 | NA | 2.81 | 20.0 | 80-120 |
| Chromium | 200 | 191 | 95.5 | 3.09 | 20.0 | 80-120 |
| Cobalt | 2000 | 1860 | 93.0 | 0.54 | 20.0 | 80-120 |
| Copper | 2000 | 1880 | 94.0 | 0.00 | 20.0 | 80-120 |
| Iron | 10000 | 13200 | 89.4 | 2.26 | 20.0 | 80-120 |
| Lead | 20.0 | 35 | 85.0 | 16.2 | 20.0 | 75-125 |
| Magnesium | 10000 | 386000 | NA | 1.83 | 20.0 | 80-120 |
| Manganese | 5000 | 6450 | 91.8 | 2.20 | 20.0 | 80-120 |
| Mercury | 2.00 | 1.36 | 68.0[b] | 1.46 | 20.0 | 75-125 |
| Nickel | 5000 | 4390 | 87.8 | 0.23 | 20.0 | 80-120 |
| Potassium | 20000 | 26500 | 107 | 1.89 | 20.0 | 80-120 |
| Selenium | 40.0 | <100 | c | --- | 20.0 | 75-125 |
| Silver | 200 | 207 | 103 | 3.00 | 20.0 | 80-120 |
| Sodium | 10000 | 250000 | NA | 0.00 | 20.0 | 80-120 |
| Thallium | 20.0 | 14.1 | 70.5[b] | 6.59 | 20.0 | 75-125 |
| Vanadium | 2000 | 1890 | 94.5 | 0.53 | 20.0 | 80-120 |
| Zinc | 5000 | 4600 | 92.0 | 2.00 | 20.0 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limit.
c Not applicable; due to sample dilution, the spike concentration is less than the reporting limit.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): HAFB: AOC-RR, AOC-BBMS PASI, NM
Work Order Number: W5-04-0302
Date Reported: 05-05-95

**Table 5**

LABORATORY CONTROL SAMPLE RESULTS

Metals in Water

| Analyte | Expected Result, ug/L | Observed Result, ug/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 10000 | 9220 | 92.2 | 80-120 |
| Antimony | 2000 | 1790 | 89.6 | 80-120 |
| Arsenic | 40.0 | 39.8 | 99.5 | 75-125 |
| Barium | 10000 | 8640 | 86.4 | 80-120 |
| Beryllium | 100 | 92.7 | 92.7 | 80-120 |
| Cadmium | 500 | 464 | 92.9 | 80-120 |
| Calcium | 10000 | 8860 | 88.4 | 80-120 |
| Chromium | 200 | 190 | 94.9 | 80-120 |
| Cobalt | 2000 | 1890 | 94.4 | 80-120 |
| Copper | 2000 | 1870 | 93.6 | 80-120 |
| Iron | 10000 | 9510 | 95.1 | 80-120 |
| Lead | 20.0 | 22.1 | 110 | 75-125 |
| Magnesium | 10000 | 9250 | 92.5 | 80-120 |
| Manganese | 5000 | 4670 | 93.4 | 80-120 |
| Mercury | 2.00 | 1.85 | 92.5 | 75-125 |
| Nickel | 5000 | 4810 | 96.1 | 80-120 |
| Potassium | 20000 | 16200 | 81.1 | 80-120 |
| Selenium | 40.0 | 41.1 | 103 | 75-125 |
| Silver | 200 | 181 | 90.5 | 80-120 |
| Sodium | 10000 | 9140 | 91.4 | 80-120 |
| Thallium | 20.0 | 20.4 | 102 | 75-125 |
| Vanadium | 2000 | 1830 | 91.5 | 80-120 |
| Zinc | 5000 | 4790 | 95.6 | 80-120 |

a Acceptability limits established by laboratory practice.

**GTEL** ENVIRONMENTAL LABORATORIES, INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

40404

Company Name: Groundwater Technology, Inc
Phone #: 505-242-3113
FAX #: 505-242-1103
Company Address: 2501 Yale Blvd SE, Suite 204 Albuquerque NM 87106
Site Location: HAFB
Project Manager: Sara Brothers
Client Project ID: (#) 830012201
(NAME) AOC-RR, AOC-BBMS
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Tim Molesworth

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | HNO3 | H2SO4 | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL Metals | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-RR-GP09 | 01 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/7 | 1110 | | | | | | | | | | | | | | | | | | | | | ✓ | | |
| AOC-RR-GP07 | 02 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/7 | 1045 | | | | | | | | | | | | | | | | | | | | | ✓ | | |
| AOC-RR-GP08 | 03 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/7 | 1115 | | | | | | | | | | | | | | | | | | | | | ✓ | | |
| AOC-RR-GP11 | 04 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/7 | 1045 | | | | | | | | | | | | | | | | | | | | | ✓ | | |
| AOC-BBMS-GP07 | 05 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/7 | 1245 | | | | | | | | | | | | | | | | | | | | | ✓ | | |
| AOC-BBMS-GP10 | 06 | 2 | ✓ | | | | | | | ✓ | | ✓ | | | 4/7 | 1350 | | | | | | | | | | | | | | | | | | | | | ✓ | | |
| AOC-BBMS-GP08 | 07 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/21 | 0900 | | | | | | | | | | | | | | | | | | | | | ✓ | | |
| AOC-BBMS-GP11 | 08 | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4/21 | 0950 | | | | | | | | | | | | | | | | | | | | | ✓ | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other _____
Business Days ☐

**Special Handling**
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ _____

SPECIAL DETECTION LIMITS
Per CDAP

SPECIAL REPORTING REQUIREMENTS
FAX ☑

REMARKS: BBMS-GP11 has limited quantity due to recharge problems.

Lab Use Only Lot #: NO Seals 3°C
Storage Location
Work Order #:

**CUSTODY RECORD**

| Relinquished by Sampler: | Date 4/21/00 | Time 1500 | Received by: Airborne |
|---|---|---|---|
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | Date [illegible] | Time [illegible] | Received by Laboratory: Waybill # 3199712390 |

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

**Midwest Region**
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-04-0013

RECEIVED

APR 2 1 1995

April 14, 1995

C. Schick/S. Brothers
Groundwater Technology, Inc.
2501 Yale Blvd., SE, #204
Albuquerque, NM 87106

Dear C. Schick/S. Brothers:

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories on 04-01-95 under chain of custody records 39940.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions concerning this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

Project Coordinator for

Terry R. Loucks
Laboratory Director

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-04-0013
Date Reported: 04-14-95

# QA NONCONFORMANCE SUMMARY

## Metals in Water

1.0 Sample Handling

1.1 Sample handling and holding time criteria were not met for zero samples.

2.0 Initial Calibration Verification

2.1 The validity for the calibration verification was exceeded for zero samples as shown in Table 2.

3.0 Method Blanks

3.1 Zero target elements were found in the method blank as shown in Table 3.

4.0 Matrix Spike (MS) Accuracy

4.1 The recovery limits were exceeded in the matrix spike and matrix spike duplicate for four elements as shown in Table 4A and 4B.

4.2 Recovery limits were exceeded for barium in the matrix spike and/or matrix spike duplicate sample due to matrix interference during digestion.

4.3 Recovery limits were exceeded in the matrix spike and/or matrix spike duplicate for selenium and thallium due to matrix interference as proven by analytical spike.

4.4 The recovery limts were exceeded in the matrix spike and matrix spike duplicate samples for silver due to precipitation of the silver spike in the presence of concentrated acid.

5.0 Sample Duplicate Precision

5.1 The maximum percent difference (RPD) was exceeded for two elements in the matrix spike and matrix spike duplicate samples as shown in Table 4A and 4B.

5.2 The maximum percent difference was exceeded for barium due to matrix interference during digestion.

5.3 The maximum percent difference was exceeded for silver due to precipitation of the silver spike in the presence of concentrated acid.

6.0 Laboratory Control Sample

6.1 The recovery limits were not met for zero elements for the laboratory control samples as shown in Table 5.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-04-0013
Date Reported: 04-14-95

**Table 2**

INITIAL CALIBRATION VERIFICATION QC CHECK SAMPLE REPORT

Metals in Water

| Analyte | Expected Result, ug/L | Observed Result, ug/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 996 | 1010 | 101 | 90-110 |
| Antimony | 1000 | 1000 | 100 | 90-110 |
| Arsenic | 40.0 | 37.8 | 94.5 | 90-110 |
| Barium | 1020 | 1050 | 103 | 90-110 |
| Beryllium | 401 | 417 | 104 | 90-110 |
| Cadmium | 498 | 482 | 96.7 | 90-110 |
| Calcium | 10000 | 9810 | 98.1 | 90-110 |
| Chromium | 1000 | 1040 | 104 | 90-110 |
| Cobalt | 1020 | 1050 | 103 | 90-110 |
| Copper | 1010 | 1020 | 101 | 90-110 |
| Iron | 1000 | 1070 | 107 | 90-110 |
| Lead | 20.0 | 22.0 | 110 | 90-110 |
| Magnesium | 10000 | 10100 | 101 | 90-110 |
| Manganese | 999 | 1050 | 105 | 90-110 |
| Mercury | 4.00 | 4.20 | 105 | 90-110 |
| Nickel | 1010 | 1060 | 105 | 90-110 |
| Potassium | 20000 | 19000 | 95.0 | 90-110 |
| Selenium | 40.0 | 42.0 | 105 | 90-110 |
| Silver | 202 | 206 | 102 | 90-110 |
| Sodium | 10000 | 9810 | 98.1 | 90-110 |
| Thallium | 20.0 | 19.9 | 99.5 | 90-110 |
| Vanadium | 998 | 1040 | 104 | 90-110 |
| Zinc | 996 | 989 | 99.3 | 90-110 |

a Acceptability limits as per EPA Contract Laboratory Program.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-04-0013
Date Reported: 04-14-95

**Table 3**

BLANK REPORT

Metals in Water

| Analyte | Initial Calibration Blank, ug/L | Preparation Blank, ug/L |
|---|---|---|
| Aluminum | <200 | <200 |
| Antimony | <200 | <200 |
| Arsenic | <10 | <10 |
| Barium | <200 | <200 |
| Beryllium | <5.0 | <5.0 |
| Cadmium | <20 | <20 |
| Calcium | <1000 | <1000 |
| Chromium | <30 | <30 |
| Cobalt | <50 | <50 |
| Copper | <25 | <25 |
| Iron | <100 | <100 |
| Lead | <4.0 | <4.0 |
| Magnesium | <1000 | <1000 |
| Manganese | <15 | <15 |
| Mercury | <0.50 | <0.50 |
| Nickel | <40 | <40 |
| Potassium | <5000 | <5000 |
| Selenium | <10 | <10 |
| Silver | <20 | <20 |
| Sodium | <1000 | <1000 |
| Thallium | <10 | <10 |
| Vanadium | <50 | <50 |
| Zinc | <20 | <20 |

<# Not detected at the indicated detection limit (#)

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-04-0013
Date Reported: 04-14-95

**Table 4A**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Water

Sample Spiked:For Method 7421, 7841, and 7470 W5-04-0013-07
Sample Spiked:For Method 6010A, 7740, and 7060 W5-04-0013-01

| Analyte | Spike Added, ug/L | Sample Concentration, ug/L | MS Concentration, ug/L | MS Percent Recovery | Acceptability Limits, %[a] |
|---|---|---|---|---|---|
| Alumimum | 10000 | 1050 | 10900 | 98.0 | 80-120 |
| Antimony | 2000 | <1000 | 1910 | 95.6 | 80-120 |
| Arsenic | 40.0 | <10 | 43.0 | 108 | 75-125 |
| Barium | 10000 | <1000 | 5230 | 52.3[b] | 80-120 |
| Beryllium | 100 | <25 | 104 | 104 | 80-120 |
| Cadmium | 500 | <100 | 427 | 85.4 | 80-120 |
| Calcium | 10000 | 607000 | 608000 | NA | 80-120 |
| Chromium | 200 | <150 | 202 | 100.8 | 80-120 |
| Cobalt | 2000 | <250 | 2010 | 100 | 80-120 |
| Copper | 2000 | <120 | 2020 | 101 | 80-120 |
| Iron | 10000 | <100 | 10500 | 102 | 80-120 |
| Lead | 20.0 | <4.0 | 22.0 | 111 | 75-125 |
| Magnesium | 10000 | 50100 | 59200 | NA | 80-120 |
| Manganese | 5000 | 171 | 5160 | 99.9 | 80-120 |
| Mercury | 2.00 | <0.50 | 1.79 | 89.5 | 75-125 |
| Nickel | 5000 | <200 | 5060 | 101 | 80-120 |
| Potassium | 20000 | 3870 | 24000 | 101 | 80-120 |
| Selenium | 40.0 | <10 | 14.8 | 37.0[b] | 75-125 |
| Silver | 200 | <20 | 184 | 91.9 | 80-120 |
| Sodium | 10000 | 64700 | 74400 | NA | 80-120 |
| Thallium | 20.0 | <10 | 7.4 | 37.0[b] | 75-125 |
| Vanadium | 2000 | <250 | 2010 | 101 | 80-120 |
| Zinc | 5000 | <100 | 4810 | 94.2 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limit.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-04-0013
Date Reported: 04-14-95

**Table 4B**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Water

| Analyte | Spike Added, ug/L | MSD Concentration, ug/L | MSD Percent Recovery | RPD % | Acceptability Limits, %[a] | |
|---|---|---|---|---|---|---|
| | | | | | RPD | % Recovery |
| Aluminum | 10000 | 10600 | 95.8 | 2.27 | 20.0 | 80-120 |
| Antimony | 2000 | 1830 | 91.7 | 4.15 | 20.0 | 80-120 |
| Arsenic | 40.0 | 41.9 | 105 | 2.59 | 20.0 | 75-125 |
| Barium | 10000 | 700 | 6.96[b] | 153[b] | 20.0 | 80-120 |
| Beryllium | 100 | 104 | 104 | 0.02 | 20.0 | 80-120 |
| Cadmium | 500 | 450 | 90.2 | 5.50 | 20.0 | 80-120 |
| Calcium | 10000 | 627000 | NA | 3.24 | 20.0 | 80-120 |
| Chromium | 200 | 205 | 102 | 1.56 | 20.0 | 80-120 |
| Cobalt | 2000 | 2040 | 102 | 1.56 | 20.0 | 80-120 |
| Copper | 2000 | 2070 | 103 | 2.32 | 20.0 | 80-120 |
| Iron | 10000 | 10500 | 103 | 0.41 | 20.0 | 80-120 |
| Lead | 20.0 | 21.9 | 110 | 0.45 | 20.0 | 75-125 |
| Magnesium | 10000 | 62300 | NA | 5.04 | 20.0 | 80-120 |
| Manganese | 5000 | 5250 | 102 | 1.77 | 20.0 | 80-120 |
| Mercury | 2.00 | 1.52 | 76.0 | 16.3 | 20.0 | 75-125 |
| Nickel | 5000 | 5270 | 105 | 3.97 | 20.0 | 80-120 |
| Potassium | 20000 | 25200 | 107 | 5.77 | 20.0 | 80-120 |
| Selenium | 40.0 | 14.3 | 35.8[b] | 3.44 | 20.0 | 75-125 |
| Silver | 200 | 82.6 | 41.3[b] | 75.9[b] | 20.0 | 80-120 |
| Sodium | 10000 | 76900 | NA | 3.30 | 20.0 | 80-120 |
| Thallium | 20.0 | 6.8 | 34.0[b] | 8.45 | 20.0 | 75-125 |
| Vanadium | 2000 | 2030 | 102 | 0.96 | 20.0 | 80-120 |
| Zinc | 5000 | 4930 | 96.5 | 2.48 | 20.0 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limit.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-04-0013
Date Reported: 04-14-95

**Table 5**

LABORATORY CONTROL SAMPLE RESULTS

Metals in Water

| Analyte | Expected Result, ug/L | Observed Result, ug/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 10000 | 9510 | 95.1 | 80-120 |
| Antimony | 2000 | 1890 | 94.3 | 80-120 |
| Arsenic | 40.0 | 39.2 | 98.0 | 75-125 |
| Barium | 10000 | 9790 | 97.9 | 80-120 |
| Beryllium | 100 | 95.1 | 95.1 | 80-120 |
| Cadmium | 500 | 434 | 86.8 | 80-120 |
| Calcium | 10000 | 9340 | 93.2 | 80-120 |
| Chromium | 200 | 204 | 102 | 80-120 |
| Cobalt | 2000 | 1993 | 99.4 | 80-120 |
| Copper | 2000 | 1950 | 97.6 | 80-120 |
| Iron | 10000 | 10600 | 106 | 80-120 |
| Lead | 20.0 | 22.2 | 111 | 75-125 |
| Magnesium | 10000 | 9490 | 94.9 | 80-120 |
| Manganese | 5000 | 5010 | 100 | 80-120 |
| Mercury | 2.00 | 1.97 | 98.5 | 75-125 |
| Nickel | 5000 | 5020 | 100 | 80-120 |
| Potassium | 20000 | 19100 | 95.4 | 80-120 |
| Selenium | 40.0 | 45.6 | 114 | 75-125 |
| Silver | 200 | 186 | 93.2 | 80-120 |
| Sodium | 10000 | 9680 | 96.8 | 80-120 |
| Thallium | 20.0 | 21.6 | 108 | 75-125 |
| Vanadium | 2000 | 1980 | 99.0 | 80-120 |
| Zinc | 5000 | 4630 | 92.6 | 80-120 |

a Acceptability limits established by laboratory practice.

**GTEL** ENVIRONMENTAL LABORATORIES, INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PAGE 1 OF — 39940

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103

Company Address: 2501 Yale Blvd SE ALBUQUERQUE, NM 87106
Site Location: Holloman AFB

Project Manager: S. Brothers / C. Schick
Client Project ID: (#) 830012201
(NAME) PA/ST

I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): J. Molesworth

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL Metals | [redacted] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SD15-GP-1 | 01 | 1 | X | | | | | | | X | | X | | | 3/30 | 1300 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-GP-2 | 02 | 1 | X | | | | | | | X | | X | | | 3/30 | 1330 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-GP-3 | 03 | 1 | X | | | | | | | X | | X | | | 3/30 | 1400 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-GP-4 | 04 | 1 | X | | | | | | | X | | X | | | 3/30 | 1430 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-GP-5 | 05 | 1 | X | | | | | | | X | | X | | | 3/30 | 1320 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15-GP-4D | 06 | 1 | X | | | | | | | X | | X | | | 3/30 | 1430 | | | | | | | | | | | | | | | | | | | | X | | | |
| SD15GP-6 | 07 | 1 | X | | | | | | | X | | X | | | 3/30 | 1540 | | | | | | | | | | | | | | | | | | | | X | | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other ____
Business Days ☐

**Special Handling**
GTEL Contact: D. Kensner
Quote/Contract # ____
Confirmation # ____
P.O. # ____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☒ CDAP

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS

FAX ☐

REMARKS: Analyze per CDAP

Lab Use Only Lot #: Seals intact
Storage Location
Work Order #:

## CUSTODY RECORD

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| Sampler: [signature] | 3/31/95 | 1300 | |
| Relinquished by: | | | Received by: |
| Relinquished by: | 4/3/95 | 9:00 | Received by Laboratory: Waybill # 919 871 2191 |

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

**Midwest Region**
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-05-0002

RECEIVED
MAY 19 1995

May 15, 1995

Sara Brothers
Groundwater Technology, Inc.
2501 Yale Blvd., SE, #204
Albuquerque, NM 87106

Dear Sara Brothers:

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories on 05-01-95 under chain of custody record 40405.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions concerning this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

Project Coordinator for

Terry R. Loucks
Laboratory Director

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-05-0002
Date Reported: 05-15-95

# QA NONCONFORMANCE SUMMARY

## Metals in Water

1.0 Sample Handling

1.1 Sample handling and holding time criteria were not met for zero samples.

2.0 Initial Calibration Verification

2.1 The validity for the calibration verification was exceeded for zero samples as shown in Table 2.

3.0 Method Blanks

3.1 Zero target elements were found in the method blank as shown in Table 3.

4.0 Matrix Spike (MS) Accuracy

4.1 The recovery limits were exceeded in the matrix spike and matrix spike duplicate for three elements as shown in Table 4A and 4B.

4.2 Recovery limits were exceeded for barium, and silver in the matrix spike and/or matrix spike duplicate sample(s) due to matrix interference during digestion.

5.0 Sample Duplicate Precision

5.1 The maximum percent difference (RPD) was exceeded for two elements in the matrix spike and matrix spike duplicate samples as shown in Table 4A and 4B.

5.2 Maximum relative percent difference was exceeded in the matrix and/or matrix spike duplicate sample for barium due to matrix interference during digestion.

6.0 Laboratory Control Sample

6.1 The recovery limits were not met for one element for the laboratory control samples as shown in Table 5.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-05-0002
Date Reported: 05-15-95

**Table 2**

INITIAL CALIBRATION VERIFICATION QC CHECK SAMPLE REPORT

Metals in Water

| Analyte | Expected Result, ug/L | Observed Result, ug/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 996 | 969 | 97.3 | 90-110 |
| Antimony | 1000 | 985 | 98.5 | 90-110 |
| Arsenic | 40.0 | 36.9 | 92.2 | 90-110 |
| Barium | 1020 | 934 | 91.5 | 90-110 |
| Beryllium | 401 | 411 | 102 | 90-110 |
| Cadmium | 498 | 478 | 95.9 | 90-110 |
| Calcium | 10000 | 9430 | 94.3 | 90-110 |
| Chromium | 1000 | 973 | 97.3 | 90-110 |
| Cobalt | 1020 | 995 | 97.5 | 90-110 |
| Copper | 1010 | 981 | 97.1 | 90-110 |
| Iron | 1000 | 1010 | 101 | 90-110 |
| Lead | 20.0 | 21.3 | 106 | 90-110 |
| Magnesium | 10000 | 9850 | 98.5 | 90-110 |
| Manganese | 999 | 985 | 98.6 | 90-110 |
| Mercury | 4.00 | 3.77 | 94.2 | 90-110 |
| Nickel | 1010 | 955 | 94.5 | 90-110 |
| Potassium | 20000 | 19000 | 95.0 | 90-110 |
| Selenium | 40.0 | 42.3 | 106 | 90-110 |
| Silver | 202 | 201 | 99.5 | 90-110 |
| Sodium | 10000 | 9470 | 94.7 | 90-110 |
| Thallium | 20.0 | 21.4 | 107 | 90-110 |
| Vanadium | 998 | 995 | 99.7 | 90-110 |
| Zinc | 996 | 971 | 97.5 | 90-110 |

a Acceptability limits as per EPA Contract Laboratory Program.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-05-0002
Date Reported: 05-15-95

**Table 3**

BLANK REPORT

Metals in Water

| Analyte | Initial Calibration Blank, ug/L | Preparation Blank, ug/L |
|---|---|---|
| Aluminum | <200 | <200 |
| Antimony | <200 | <200 |
| Arsenic | <10 | <10 |
| Barium | <200 | <200 |
| Beryllium | <5.0 | <5.0 |
| Cadmium | <20 | <20 |
| Calcium | <1000 | <1000 |
| Chromium | <30 | <30 |
| Cobalt | <50 | <50 |
| Copper | <25 | <25 |
| Iron | <100 | <100 |
| Lead | <4.0 | <4.0 |
| Magnesium | <1000 | <1000 |
| Manganese | <15 | <15 |
| Mercury | <0.50 | <0.50 |
| Nickel | <40 | <40 |
| Potassium | <5000 | <5000 |
| Selenium | <10 | <10 |
| Silver | <20 | <20 |
| Sodium | <5000 | <5000 |
| Thallium | <5 | <5 |
| Vanadium | <50 | <50 |
| Zinc | <20 | <20 |

<# Not detected at the indicated detection limit (#)

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-05-0002
Date Reported: 05-15-95

**Table 4A**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Water

Sample Spiked: Method 7740, 7841, 7470, 7060, 7421 and 6010A for W5050002-01

| Analyte | Spike Added, ug/L | Sample Concentration, ug/L | MS Concentration, ug/L | MS Percent Recovery | Acceptability Limits, %[a] |
|---|---|---|---|---|---|
| Alumimum | 10000 | <200 | 8960 | 89.6 | 80-120 |
| Antimony | 2000 | <200 | 1840 | 92.0 | 80-120 |
| Arsenic | 40.0 | <10 | 40.0 | 100 | 75-125 |
| Barium | 10000 | <200 | 7220 | 72.2[b] | 80-120 |
| Beryllium | 100 | <5.0 | 83.6 | 83.6 | 80-120 |
| Cadmium | 500 | <20 | 446 | 89.2 | 80-120 |
| Calcium | 10000 | 523000 | 500000 | NA | 80-120 |
| Chromium | 200 | <30 | 166 | 83.0 | 80-120 |
| Cobalt | 2000 | <50 | 1750 | 87.4 | 80-120 |
| Copper | 2000 | <25 | 1900 | 95.0 | 80-120 |
| Iron | 10000 | <100 | 8910 | 89.1 | 80-120 |
| Lead | 20.0 | <4.0 | 21.3 | 106 | 75-125 |
| Magnesium | 10000 | 185000 | 185000 | NA | 80-120 |
| Manganese | 5000 | 96.9 | 4470 | 87.5 | 80-120 |
| Mercury | 2.00 | <0.50 | 1.54 | 77.0 | 75-125 |
| Nickel | 5000 | <40 | 4286 | 85.7 | 80-120 |
| Potassium | 20000 | 6900 | 27400 | 102 | 80-120 |
| Selenium | 40.0 | <10 | 30.9 | 77.2 | 75-125 |
| Silver | 200 | <20 | 185 | 92.5 | 80-120 |
| Sodium | 10000 | 97100 | 103000 | NA | 80-120 |
| Thallium | 20.0 | <5.0 | 15.7 | 78.5 | 75-125 |
| Vanadium | 2000 | <50 | 1770 | 88.6 | 80-120 |
| Zinc | 5000 | <20 | 4330 | 86.5 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.

b Value outside of acceptability limits.

NA Not applicable.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-05-0002
Date Reported: 05-15-95

**Table 4B**

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SUMMARY

Metals in Water

| Analyte | Spike Added, ug/L | MSD Concentration, ug/L | MSD Percent Recovery | RPD % | Acceptability Limits, %[a] | |
|---|---|---|---|---|---|---|
| | | | | | RPD | % Recovery |
| Aluminum | 10000 | 9840 | 98.4 | 9.33 | 20.0 | 80-120 |
| Antimony | 2000 | 2010 | 100 | 8.87 | 20.0 | 80-120 |
| Arsenic | 40.0 | 40.8 | 102 | 1.98 | 20.0 | 75-125 |
| Barium | 10000 | 2200 | 22.0[b] | 107[b] | 20.0 | 80-120 |
| Beryllium | 100 | 85.1 | 85.1 | 1.86 | 20.0 | 80-120 |
| Cadmium | 500 | 481 | 96.3 | 7.62 | 20.0 | 80-120 |
| Calcium | 10000 | 540000 | NA | 7.69 | 20.0 | 80-120 |
| Chromium | 200 | 183 | 91.4 | 9.70 | 20.0 | 80-120 |
| Cobalt | 2000 | 1930 | 96.4 | 9.89 | 20.0 | 80-120 |
| Copper | 2000 | 2050 | 103 | 7.70 | 20.0 | 80-120 |
| Iron | 10000 | 9620 | 96.2 | 7.67 | 20.0 | 80-120 |
| Lead | 20.0 | 19.2 | 96.0 | 10.4 | 20.0 | 75-125 |
| Magnesium | 10000 | 201000 | NA | 8.29 | 20.0 | 80-120 |
| Manganese | 5000 | 4900 | 96.0 | 9.27 | 20.0 | 80-120 |
| Mercury | 2.00 | 1.54 | 77.0 | 0.00 | 20.0 | 75-125 |
| Nickel | 5000 | 4700 | 94.1 | 9.30 | 20.0 | 80-120 |
| Potassium | 20000 | 30300 | 117 | 13.1 | 20.0 | 80-120 |
| Selenium | 40.0 | 31.2 | 78.0 | 0.966 | 20.0 | 75-125 |
| Silver | 200 | 116 | 57.8[b] | 46.2[b] | 20.0 | 80-120 |
| Sodium | 10000 | 110000 | NA | 6.57 | 20.0 | 80-120 |
| Thallium | 20.0 | 16.1 | 80.5 | 2.52 | 20.0 | 75-125 |
| Vanadium | 2000 | 1940 | 97.0 | 9.02 | 20.0 | 80-120 |
| Zinc | 5000 | 4820 | 96.3 | 10.8 | 20.0 | 80-120 |

a Acceptability limits as per EPA Contract Laboratory Program.
b Value outside acceptability limit.
NA Not applicable; initital sample concentration greater than four times the spike amount.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-05-0002
Date Reported: 05-15-95

**Table 5**

LABORATORY CONTROL SAMPLE RESULTS

Metals in Water

| Analyte | Expected Result, ug/L | Observed Result, ug/L | Recovery, % | Acceptability Limits, %[a] |
|---|---|---|---|---|
| Aluminum | 10000 | 10100 | 101 | 80-120 |
| Antimony | 2000 | 1850 | 92.6 | 80-120 |
| Arsenic | 40.0 | 30.5 | 76.2 | 75-125 |
| Barium | 10000 | 9710 | 97.1 | 80-120 |
| Beryllium | 100 | 96.3 | 96.3 | 80-120 |
| Cadmium | 500 | 499 | 99.8 | 80-120 |
| Calcium | 10000 | 10200 | 102 | 80-120 |
| Chromium | 200 | 204 | 102 | 80-120 |
| Cobalt | 2000 | 2040 | 102 | 80-120 |
| Copper | 2000 | 1990 | 99.7 | 80-120 |
| Iron | 10000 | 10400 | 104 | 80-120 |
| Lead | 20.0 | 22.5 | 112 | 75-125 |
| Magnesium | 10000 | 10100 | 101 | 80-120 |
| Manganese | 5000 | 5140 | 103 | 80-120 |
| Mercury | 2.00 | 1.83 | 91.5 | 75-125 |
| Nickel | 5000 | 4950 | 99.1 | 80-120 |
| Potassium | 20000 | 19900 | 99.7 | 80-120 |
| Selenium | 40.0 | 38.8 | 97.0 | 75-125 |
| Silver | 200 | 117 | 58.6[b] | 80-120 |
| Sodium | 10000 | 10000 | 100 | 80-120 |
| Thallium | 20.0 | 19.3 | 96.5 | 75-125 |
| Vanadium | 2000 | 2040 | 102 | 80-120 |
| Zinc | 5000 | 5270 | 105 | 80-120 |

a Acceptability limits established by laboratory practice.
b Value outside acceptability limits.

**GTEL** ENVIRONMENTAL LABORATORIES, INC

4211 MAY AVE.
WICHITA, KS 67209
(316) 945-2624
(800) 633-7936

AMENDED COC

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PAGE 2 OF 2 ~~3 of 3~~

Company Name: GROUNDWATER TECHNOLOGY

Phone #: (505) 242-3113

FAX #: (505) 242-1103

Company Address: 2501 Yale Blvd SE Albuquerque, NM 87106

Site Location: Holloman AFB

Project Manager: C. Schick / S. Brothers

Client Project ID: (#) 83001220 (NAME) PA/SI

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Charles W. Schick

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | HNO3 | H2SO4 | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL metals per COAP | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCEE-6P-12D | 13 | 1 | X | | | | | | | X | | X | | | 4/27 | 8:40 am | | | | | | | | | | | | | | | | | | | X | | | |
| OCEE-6P-1D | 14 | 1 | X | | | | | | | | | X | | | 4/27 | 2:55 p | | | Release / and analyze | | | | | | | | | | | | | | | | X | | | |

**TAT**
- Priority (24 hr) ☐
- Expedited (48 hr) ☐
- Business Days ☐
- Other _____
- Business Days ☐

**Special Handling**
- GTEL Contact _____
- Quote/Contract # _____
- Confirmation # _____
- P.O. # _____

**QA/QC Level**
- Blue ☐ CLP ☐ Other ☐

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS

FAX ☐

REMARKS:

Lab Use Only Lot #:

Storage Location

Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| Sampler: | 4/28/95 | 1330 | |
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | Date | Time | Received by Laboratory: |

**GTEL** ENVIRONMENTAL LABORATORIES, INC.

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WICHITA, KS 67209
(316) 946-2624
(800) 633-7936

AMENDED COC

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PAGE 1 OF 2 (2 cus) 940405

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1183

Company Address: 2501 YALE BLVD SE ALBUQUERQUE NM 87106
Site Location: HOLLOMAN AFB

Project Manager: C. SCHICK / S. BROTHERS
Client Project ID: (#) 85C01 2201 (NAME) PA/SI

I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Charles W. Schick

ANALYSIS REQUEST | OTHER

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | HNO3 | H2SO4 | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIM DRO) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ MES (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ MES (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 8010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | OTHER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOCRR-GP-12 | 01 | 1 | X | cus | | | | | X | X | | X | | | 4/27 | 840 | | | | | | | | | | | | | | | | | | | X TAL METALS PER COAP |
| AOCRR-GP-13 | 02 | 1 | X | | | | | | | | | | | | | 910 | | | | | | | | | | | | | | | | | | | |
| AOCRR-GP-14 | 03 | 1 | X | | | | | | | | | | | | | 915 | | | | | | | | | | | | | | | | | | | |
| AOCRR-GP-15 | 04 | 1 | X | | | | | | | | | | | | | 1145 am | | | | | | | | | | | | | | | | | | | |
| AOCRR-GP-16 | 05 | 1 | X | | | | | | | | | | | | | 955 | | | | | | | | | | | | | | | | | | | |
| BMS-GP-09 | 06 | 1 | X | | | | | | | | | | | | | 1135 A | | | | | | | | | | | | | | | | | | | |
| BMS-GP-11 | 07 | 1 | X | | | | | | | | | | | | | 1205 p | | | | | | | | | | | | | | | | | | | |
| SS-06-GP-1 | 08 | 1 | X | | | | | | | | | | | | | 255 pm | | | Release & Analyze | | | | | | | | | | | | | | | | |
| SS-06-GP-2 | 09 | 1 | X | | | | | | | | | | | | | 330 pm | | | Release & Analyze | | | | | | | | | | | | | | | | |
| SS-06-GP-2D | 12 | 1 | X | | | | | | | | | | | | — | 330 pm | | | Release & Analyze | | | | | | | | | | | | | | | | |
| SS-06-GP-3 | 10 | 1 | X | | | | | | | | | | | | 4/28 | 830 AM | | | Release & Analyze | | | | | | | | | | | | | | | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
Business Days ☐
Other ____
Business Days ☐

**Special Handling**
GTEL Contact ____
Quote/Contract # ____
Confirmation # ____
P.O. # ____

**QA/QC Level**
Std ☐ CLP ☐ Other ☐ COAP

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS: Analyze per COAP for HAFS PA/SI. Hold SAMPLES UNTIL C. SCHICK NOTIFYS TO PROCEED

Lab Use Only Lot #: no seals free water only no ice 9°C no seals
Storage Location
Work Order # airbill marked for sat. delivery

**CUSTODY RECORD**

| Relinquished by Sampler: | Date/Time: 4/28/95 1350 | Received by: |
|---|---|---|
| Relinquished by: | Date/Time: | Received by: |
| Relinquished by: | Date/Time: 5/1/95 0848 | Received for Laboratory: Sandra Cam |

Waybill # 783 107 8430

**GTEL** ENVIRONMENTAL LABORATORIES INC

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# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PAGE 1 OF 1 40405

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103
Company Address: 2501 Yale BLVD SE ALBUQUERQUE, NM 87106
Site Location: Holloman AFB
Project Manager: C. Schick / S. Brothers
Client Project ID: (#) 830012201
(NAME) PA/SI
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Charles W. Schick

ANALYSIS REQUEST | OTHER

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL METALS PER COAP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOCRR-GP-12 | 01 | 1 | X | | | | | | X | X | | X | | | 4/27 | 840 | | | | | | | | | | | | | | | | | | | | | X | |
| AOCRR-GP-13 | 02 | 1 | X | | | | | | | | | | | | | 810 | | | | | | | | | | | | | | | | | | | | | | |
| AOCRR-GP-14 | 03 | 1 | X | | | | | | | | | | | | | 915 | | | | | | | | | | | | | | | | | | | | | | |
| AOCRR-GP-15 | 04 | 1 | X | | | | | | | | | | | | | 145pm | | | | | | | | | | | | | | | | | | | | | | |
| AOCRR-GP-16 | 05 | 1 | X | | | | | | | | | | | | | 955 | | | | | | | | | | | | | | | | | | | | | | |
| BBMS-GP-09 | 06 | 1 | X | | | | | | | | | | | | | 11 35 A | | | | | | | | | | | | | | | | | | | | | | |
| BBMS-GP-11 | 07 | 1 | X | | | | | | | | | | | | | 1205 P | | | | | | | | | | | | | | | | | | | | | | |
| SS-06-GP-1 | 08 | 1 | X | | | | | | | | | | | | | 255 pm | | | | | | | | | | | | | | | | | | | | | | |
| SS-06-GP-2 | 09 | 1 | X | | | | | | | | | | | | | 3 30 pm | | | | | | | | | | | | | | | | | | | | | | |
| SS-06-GP-2D | | 1 | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SS-06-GP-3 | 10 | 1 | X | | | | | | | | | | | | 4/28 | | | | | | | | | | | | | | | | | | | | | | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other ____
Business Days ☐

**Special Handling**
GTEL Contact ____
Quote/Contract # ____
Confirmation # ____
P.O. # ____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ COAP

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS

FAX ☐

REMARKS: Analyze per COAP for HAFB PA/SI. Hold SAMPLES UNTIL C. SCHICK NOTIFYS TO PROCEED

Lab Use Only Lot #: no seals, free water only, no ice
Storage Location: 9°C no seals
Work Order #: air bill marked for Sat. delivery

**CUSTODY RECORD**

| Relinquished by Sampler: | Date / Time: 4/28/95 1350 | Received by: |
|---|---|---|
| Relinquished by: | Date / Time | Received by: |
| Relinquished by: | Date / Time: 5/ /95 0948 | Received by Laboratory: Waybill # |

AnalyticalTechnologies, Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

| ATI LAB I.D. | ATI ML I.D. |
|---|---|
| | |

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE:_____ PAGE_____ OF_____

COMPANY:
ADDRESS:
PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | 8240 | pH | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-BBMS-GP1 | 3/31/95 | 1100 | Water | 178 | JM | 1100 | PL | | | | | | | | X | X | | | |
| AOC-BBMS-GP2 | ↓ | 1230 | ↓ | 179 | ↓ | ↓ | ↓ | | | | | | | | X | X | | | |
| AOC-BBMS-GP3 | ↓ | 1320 | ↓ | 180 | ↓ | ↓ | ↓ | | | | | | | | X | | | | |
| AOC-BBMS-GP4 | ↓ | 1430 | ↓ | 181 | ↓ | ↓ | ↓ | | | | | | | | X | X | | | |
| AOC-BBMS-GP6 | ↓ | 1315 | ↓ | 182 | ↓ | ↓ | ↓ | | | | | | | | X | X | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| JM | Jim Molesworth | [signature] |
| PL | Paul Leschevsky | [signature] |

| Mobile Lab Time: |
|---|
| Date: |
| Start Time: |
| Stop Time: |
| Client Signoff: [signature] |

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

Anal, _al**Technologies,**Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOB LABORATORY CHAIN OF CUSTODY

| ATI LAB I.D. | ATI ML |
|---|---|
| | |

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE:_____ PAGE_____ OF_____

COMPANY:
ADDRESS:

PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | 8240 | PH | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-RR-GP01 | 4-2-95 | 1045 | W | 183 | JM | 1610 | PL | | | | | | | | X | X | | | |
| AOC-RR-GP02 | | 1500 | | 184 | | | PL | | | | | | | | X | X | | | |
| AOC-RR-GP03 | | 1520 | | 185 | | | PL | | | | | | | | X | X | | | |
| AOC-RR-GP04 | | 1530 | | 186 | | | PL | | | | | | | | X | X | | | |
| AOC-RR-GP05 | | 1545 | | 187 | | | PL | | | | | | | | X | X | | | |
| AOC-RR-GP06 | | 1600 | | 188 | | | PL | | | | | | | | X | X | | | |
| SS-06-GP03 | | 1400 | | 189 | | | PL | | | | | | | | X | X | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| JM | Jim Molesworth | |
| PL | Paul Lesch | PL 04/06/95 |
| PL | Paul Lesch | |

Mobile Lab Time:
Date:
Start Time:
Stop Time:
Client Signoff:

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

AnalyticalTechnologies,Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

| ATI LAB I.D. | ATI ML I.D. |
|---|---|
| | |

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

COMPANY:
ADDRESS:
PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

DATE:_____ PAGE_____ OF_____

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, Inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | | | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADC-BBMS-GP03 | 4-3-95 | 1100 | W | 190 | JLM | 1550 | PL | | | | | | | | X | X | | | |
| ADC-BBMS-GP05 | 4-3-95 | 1150 | W | 191 | JLM | 1550 | PL | | | | | | | | | X | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| JLM | Jim Molesworth | |
| PL | Paul Leschensky | |

Mobile Lab Time:
Date:
Start Time:
Stop Time:
Client Signature:

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

ATI Labs: S ) (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland 34-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, IN k - ORIGINATOR

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# MOBILE LABORATORY CHAIN OF CUSTODY

ATI LAB I.D.

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE:_____ PAGE_____ OF_____

COMPANY:
ADDRESS:
PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, Inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | 8240 | PH | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-RR-GP07 | 4/7/95 | 1045 | Water | 242 | JM | 1200 | PL | | | | | | | | X | X | | | |
| AOC-RR-GP08 | ↓ | 1110 | ↓ | 243 | ↓ | ↓ | PL | | | | | | | | X | X | | | |
| AOC-RR-GP09 | | 1130 | | 244 | | | PL | | | | | | | | X | X | | | |
| AOC-RR-GP11 | | 1145 | | 245 | | | PL | | | | | | | | X | X | | | |
| AOC-RR-GP07D | | 1045 | | 246 | | | PL | | | | | | | | X | X JM | | | |
| AOC-BBMS-GP07 | | 1245 | Water | 247 | JM | 1445 | PL | | | | | | | | X | X | | | |
| AOC-BBMS-GP08 | | 1345 | ↓ | 248 | ↓ | ↓ | PL | | | | | | | | X | X | | | |
| AOC-BBMS-GP10 | | 1350 | | 249 | | | PL | | | | | | | | X | X | | | |
| AOC-BBMS-GP11 | | 1415 | | 250 | | | PL | | | | | | | | X | X | | | |
| AOC-BBMS-GP07D | | 1245 | | 251 | | | PL | | | | | | | | X | | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| JM | Jim Molesworth | [signature] |
| PL | Paul Leschensky | [signature] |

Mobile Lab Time:
Date:
Start Time:
Stop Time:
Client Signoff: [signature]

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

AnalyticalTechnologies, Inc., Phoenix, Arizona
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

# MOBILE LABORATORY CHAIN OF CUSTODY

| ATI LAB I.D. | ATI ML I.D. |
|---|---|
| | |

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

DATE:_____ PAGE_____ OF_____

COMPANY:
ADDRESS:
PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

ANALYSIS REQUEST

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID | Sampled & Relinquished By | Time Relinquished | Received By Analytical Technologies, inc. | Petroleum Hydrocarbons (418.1) | BXTE (8020) | Diesel (Mod 8015) | Aromatic Volatile Organics (602 / 8020) | Halogenated Volatile Organics (601 / 8010) | Chlorinated Pesticides Screen (8080) | Metals by XRF List Metals: | 8240 | H | | HOLD | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-BBMS-SB5-0-2 | 3/30/95 | 0820 | Soil | 166 | JM | 1015 | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB5-2-4 | ↓ | 0825 | ↓ | 167 | ↓ | ↓ | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB6-0-2 | ↓ | 0845 | ↓ | 168 | ↓ | ↓ | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB6-0-2 dup | ↓ | 0845 | ↓ | 169 | ↓ | ↓ | PL | | | X | | | | | X | | | | |
| AOC-BBMS-SB6-24 | ↓ | 0850 | ↓ | 170 | ↓ | ↓ | PL | | | X | | | | | X | | | | |
| SD15-GP-1 | 3/30/95 | 1300 | Water | 171 | JM | 1625 | PL | | | | | | | | X | X | | | |
| SD15-GP-2 | ↓ | 1330 | GW | 172 | ↓ | ↓ | PL | | | | | | | | X | X | | | |
| SD15-GP-3 | ↓ | 1400 | GW | 173 | ↓ | ↓ | PL | | | | | | | | X | X | | | |
| SD15-GP-3D | ↓ | 1400 | GW | 174 | ↓ | ↓ | PL | | | | | | | | X | X | | | |
| SD15-GP-4 | ↓ | 1430 | GW | 175 | ↓ | ↓ | PL | | | | | | | | X | X | | | |
| SD15-GP-5 | ↓ | 1520 | GW | 176 | ↓ | ↓ | PL | | | | | | | | X | X | | | |
| SD15-GP-6 | ↓ | 1540 | GW | 177 | ↓ | ↓ | PL | | | | | | | | X | X | | | |

Comments:

| Initials | Printed Name | Signature |
|---|---|---|
| JM | Jim Molesworth | [signature] |
| PL | Paul Leeuwenburg | [signature] |
| | | |
| | | |
| | | |

Mobile Lab Time:
Date: 03/30/95
Start Time:
Stop Time:
Client Signoff: [signature]

| PROJECT INFORMATION | SAMPLE RECEIPT | |
|---|---|---|
| PROJ. NO. | NO CONTAINERS | |
| | CUSTODY SEALS | Y / N / NA |
| PROJ. NAME: | RECEIVED INTACT | |
| | RECEIVED COLD | |

"QC Report"

Title: Water Blank
Batch: BEW008
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: A Date Analyzed: 31-MAR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| 2-BUTANONE (MEK) | UG/L | ND | 3 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| ETHYL BENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 |
| STYRENE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| TOTAL XYLENES | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 86-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 90 | 76-114 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: BEW008
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Water Blank
Batch: BEW008
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: B Date Analyzed: 31-MAR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| 2-BUTANONE (MEK) | UG/L | ND | 3 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| ETHYL BENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 |
| STYRENE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| TOTAL XYLENES | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 86-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 90 | 76-114 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: BEW008
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Water Blank
Batch: BEW009
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: B Date Analyzed: 03-APR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| 2-BUTANONE (MEK) | UG/L | ND | 3 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| ETHYL BENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 |
| STYRENE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| TOTAL XYLENES | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 99 | 86-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 93 | 76-114 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: BEW009
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 104 | 88-110 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Water Blank
Batch: BEW008
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: C Date Analyzed: 02-APR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| 2-BUTANONE (MEK) | UG/L | ND | 3 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| ETHYL BENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 |
| STYRENE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| TOTAL XYLENES | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 92 | 86-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 95 | 76-114 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: BEW008
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 105 | 88-110 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Water Blank
Batch: BEW009
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: A Date Analyzed: 02-APR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| 2-BUTANONE (MEK) | UG/L | ND | 3 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| ETHYL BENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 |
| STYRENE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| TOTAL XYLENES | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 92 | 86-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 95 | 76-114 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: BEW009
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 105 | 88-110 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Water Blank
Batch: BEW011
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: D Date Analyzed: 11-APR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| 2-BUTANONE (MEK) | UG/L | ND | 3 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| ETHYL BENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 |
| STYRENE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| TOTAL XYLENES | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 97 | 86-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 102 | 76-114 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: BEW011
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Water Blank
Batch: BEW011
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Blank Id: A Date Analyzed: 04-APR-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| 2-BUTANONE (MEK) | UG/L | ND | 3 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| ETHYL BENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 |
| STYRENE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| TOTAL XYLENES | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 104 | 86-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 98 | 76-114 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: BEW011
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE-D8 | %REC/SURR | 103 | 88-110 |
| ANALYST | INITIALS | PL | |

Comments:

"QC Report"

Title: Water Reagent
Batch: BEW008
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

RS Date Analyzed: 31-MAR-95
RSD Date Analyzed: 31-MAR-95

RS Date Extracted: N/A
RSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | RSD Conc | RSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 50 | 100 | 46 | 92 | 8 | 50 | 50-150 |
| BENZENE | 50 | <1 | 48 | 96 | 47 | 94 | 2 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 46 | 92 | 45 | 90 | 2 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 40 | 80 | 48 | 96 | 18 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 26 | 104 | 25 | 100 | 4 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Water Reagent
Batch: BEW009
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

RS Date Analyzed: 03-APR-95
RSD Date Analyzed: 03-APR-95

RS Date Extracted: N/A
RSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | RSD Conc | RSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 46 | 92 | 44 | 88 | 4 | 50 | 50-150 |
| BENZENE | 50 | <1 | 48 | 96 | 48 | 96 | 0 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 46 | 92 | 46 | 92 | 0 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 49 | 98 | 50 | 100 | 2 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 25 | 100 | 25 | 100 | 0 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Reagent
Batch: BEW011
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

RS Date Analyzed: 11-APR-95
RSD Date Analyzed: 11-APR-95

RS Date Extracted: N/A
RSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | RSD Conc | RSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 44 | 88 | 44 | 88 | 0 | 50 | 50-150 |
| BENZENE | 50 | <1 | 48 | 96 | 49 | 98 | 2 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 46 | 92 | 48 | 96 | 4 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 50 | 100 | 51 | 102 | 2 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 25 | 100 | 25 | 100 | 0 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Water Matrix
Batch: BEW008
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Dry Weight %: N/A
Sample Spiked: 503730-175

MS Date Analyzed: 02-APR-95
MSD Date Analyzed: 02-APR-95

MS Date Extracted: N/A
MSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 47 | 94 | 45 | 90 | 4 | 50 | 50-150 |
| BENZENE | 50 | <1 | 49 | 98 | 48 | 96 | 2 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 48 | 96 | 47 | 94 | 2 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 50 | 100 | 49 | 98 | 2 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 25 | 100 | 26 | 104 | 4 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Matrix
Batch: BEW009
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Dry Weight %: N/A
Sample Spiked: 503730-190

MS Date Analyzed: 04-APR-95
MSD Date Analyzed: 04-APR-95

MS Date Extracted: N/A
MSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 43 | 86 | 37 | 74 | 15 | 50 | 50-150 |
| BENZENE | 50 | <1 | 48 | 96 | 51 | 102 | 6 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 44 | 88 | 45 | 90 | 2 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 48 | 96 | 49 | 98 | 2 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 24 | 96 | 25 | 100 | 4 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Matrix
Batch: BEW011
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A

Dry Weight %: N/A
Sample Spiked: 503730-243

MS Date Analyzed: 11-APR-95
MSD Date Analyzed: 11-APR-95

MS Date Extracted: N/A
MSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 47 | 94 | 42 | 84 | 11 | 50 | 50-150 |
| BENZENE | 50 | <1 | 48 | 96 | 50 | 100 | 4 | 50 | 50-150 |
| TRICHLOROETHENE | 50 | <1 | 47 | 94 | 49 | 98 | 4 | 50 | 50-150 |
| TOLUENE | 50 | <5 | 50 | 100 | 51 | 102 | 2 | 50 | 50-150 |
| CHLOROBENZENE | 25 | <1 | 25 | 100 | 27 | 108 | 8 | 50 | 50-150 |

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

ND = NOT DETECTED ABOVE REPORTING LIMIT.
N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON AN 'AS IS' BASIS.

** COMPOUNDS FLAGGED IN METHOD ARE NOT WITHIN THE FIVE POINT CURVE. THEY ARE SEARCHED FOR QUALITATIVELY.

KS KENDALL SMITH
PL PAUL LESCHENSKY

# APPENDIX E-1

## Site SS-06

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 189
Client Sample Id: SS-06-GP03
Sample Date/Time: 02-APR-95 1400
Received Date: 02-APR-95

Batch: BEW009
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 03-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 101 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 104 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 102 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 008
Client Sample Id: SS-06-GP-1
Sample Date/Time: 27-APR-95 1455
Received Date: 29-APR-95

Batch: NAW049
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | ND | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 008
Client Sample Id: SS-06-GP-1
Sample Date/Time: 27-APR-95 1455
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | ND | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 103 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 96 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 100 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 009
Client Sample Id: SS-06-GP-2
Sample Date/Time: 27-APR-95 1530
Received Date: 29-APR-95

Batch: NAW049
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | 17 | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | ND | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 009
Client Sample Id: SS-06-GP-2
Sample Date/Time: 27-APR-95 1530
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | ND | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 102 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 94 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 99 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 010
Client Sample Id: SS-06-GP-1D
Sample Date/Time: 27-APR-95 1455
Received Date: 29-APR-95

Batch: NAW049
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | ND | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 010
Client Sample Id: SS-06-GP-1D
Sample Date/Time: 27-APR-95 1455
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | ND | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 104 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 100 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 98 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 011
Client Sample Id: SS-06-GP-3
Sample Date/Time: 28-APR-95 0830
Received Date: 29-APR-95

Batch: NAW049
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | ND | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 011
Client Sample Id: SS-06-GP-3
Sample Date/Time: 28-APR-95 0830
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | ND | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 99 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 96 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 99 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

ANALYTICAL RESULTS
Metals in Water[a]

| | | | | | | |
|---|---|---|---|---|---|---|
| GTEL Sample Number | | | 13 | | | |
| Client Identification | | | SS06-GP03 | | | |
| Date Sampled | | | 04-03-95 | | | |
| Date Digested | | | 04-13 to 04-21-95 | | | |
| Date Analyzed | | | 04-18 to 04-26-95 | | | |
| Dilution Factor Method 6010A | | | 50 | | | |
| Dilution Factor Method 7740 | | | 20 | | | |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| Aluminum | EPA 6010A | 200 | <10000 | | | |
| Antimony | EPA 6010A | 200 | <10000 | | | |
| Arsenic | EPA 7060 | 10 | <10 | | | |
| Barium | EPA 6010A | 200 | <10000 | | | |
| Beryllium | EPA 6010A | 5.0 | <250 | | | |
| Cadmium | EPA 6010A | 20 | <1000 | | | |
| **Calcium** | EPA 6010A | 5000 | **770000** | | | |
| Chromium | EPA 6010A | 30 | <1500 | | | |
| Cobalt | EPA 6010A | 50 | <2500 | | | |
| Copper | EPA 6010A | 25 | <1250 | | | |
| Iron | EPA 6010A | 100 | <5000 | | | |
| Lead | EPA 7421 | 4.0 | <4.0 | | | |
| **Magnesium** | EPA 6010A | 5000 | **3300000** | | | |
| Manganese | EPA 6010A | 15 | <750 | | | |
| Mercury | EPA 7470 | 0.50 | <0.50 | | | |
| Nickel | EPA 6010A | 40 | <2000 | | | |
| Potassium | EPA 6010A | 5000 | <250000 | | | |
| Selenium | EPA 7740 | 10 | <200 | | | |
| Silver | EPA 6010A | 20 | <1000 | | | |
| **Sodium** | EPA 6010A | 5000 | **14000000** | | | |
| Thallium | EPA 7841 | 5 | <5 | | | |
| Vanadium | EPA 6010A | 50 | <2500 | | | |
| Zinc | EPA 6010A | 20 | <1000 | | | |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition Revision 1, US EPA July 1992; Digestion by Method 3010A/3020A, except for 7060, 7470, 7841 and 7740 which are method specific.
b The dilution factor indicates the adjustments made for sample dilution required because of high mineral content.
* Quantitation Limit.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-05-0002
Date Reported: 05-15-95

ANALYTICAL RESULTS
Metals in Water[a]

| | | GTEL Sample Number | 08 | 09 | 10 | 12 |
|---|---|---|---|---|---|---|
| | | Client Identification | SS-06-GP-1 | SS-06-GP-02 | SS-06-GP-03 | SS-06-GP-2D |
| | | Date Sampled | 04-27-95 | 04-27-95 | 04-28-95 | 04-27-95 |
| | | Date Digested | 05-02 to 05-08-95 | 05-02 to 05-08-95 | 05-02 to 05-08-95 | 05-02 to 05-08-95 |
| | | Date Analyzed | 05-03 to 05-11-95 | 05-03 to 05-11-95 | 05-03 to 05-11-95 | 05-03 to 05-11-95 |
| | | Dilution Factor Method 6010A[b] | 100 | 100 | 100 | 100 |
| | | Dilution Factor Method 7740[b] | 20 | 20 | 20 | 20 |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| **Aluminum** | EPA 6010A | 200 | **26000** | **72000** | **58000** | **12000** |
| Antimony | EPA 6010A | 200 | <20000 | <20000 | <20000 | <20000 |
| Arsenic | EPA 7060 | 10 | <10 | <10 | <10 | <10 |
| Barium | EPA 6010A | 200 | <20000 | <20000 | <20000 | <20000 |
| Beryllium | EPA 6010A | 5.0 | <500 | <500 | <500 | <500 |
| Cadmium | EPA 6010A | 20 | <2000 | <2000 | <2000 | <2000 |
| **Calcium** | EPA 6010A | 1000 | **670000** | **560000** | **710000** | **720000** |
| Chromium | EPA 6010A | 30 | <3000 | <3000 | <3000 | <3000 |
| Cobalt | EPA 6010A | 50 | <5000 | <5000 | <5000 | <5000 |
| Copper | EPA 6010A | 25 | <2500 | <2500 | <2500 | <2500 |
| Iron | EPA 6010A | 100 | <10000 | <10000 | <10000 | <10000 |
| **Lead** | EPA 7421 | 4.0 | <4.0 | **63** | **5.0** | <4.0 |
| **Magnesium** | EPA 6010A | 1000 | **3200000** | **2200000** | **3000000** | **3200000** |
| **Manganese** | EPA 6010A | 15 | <1500 | <1500 | <1500 | <1500 |
| Mercury | EPA 7470 | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Nickel | EPA 6010A | 40 | <4000 | <4000 | <4000 | <4000 |
| **Potassium** | EPA 6010A | 5000 | <500000 | <500000 | <500000 | <500000 |
| Selenium | EPA 7740 | 10 | <200 | <200 | <200 | <200 |
| Silver | EPA 6010A | 20 | <2000 | <2000 | <2000 | <2000 |
| **Sodium** | EPA 6010A | 1000 | **15000000** | **9500000** | **12000000** | **14000000** |
| Thallium | EPA 7841 | 5 | <5.0 | <5.0 | <5.0 | <5.0 |
| Vanadium | EPA 6010A | 50 | <5000 | <5000 | <5000 | <5000 |
| Zinc | EPA 6010A | 20 | <2000 | **3400** | <2000 | **3400** |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 1, US EPA July 1992; Digestion by Method 3010A/3020A, except for 7060, 7470, 7841 and 7740 which are method specific.
b The dilution factor indicates the adjustments made for sample dilution required because of high mineral content.
* Quantitation Limit.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-05-0002
Date Reported: 05-15-95

ANALYTICAL RESULTS
Metals in Water[a]

| | | | | | | |
|---|---|---|---|---|---|---|
| GTEL Sample Number | | | 14 | | | |
| Client Identification | | | SS-06-GP-1D | | | |
| Date Sampled | | | 04-27-95 | | | |
| Date Digested | | | 05-02 to 05-08-95 | | | |
| Date Analyzed | | | 05-03 to 05-11-95 | | | |
| Dilution Factor Method 6010A[b] | | | 100 | | | |
| Dilution Factor Method 7740[b] | | | 20 | | | |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| **Aluminum** | EPA 6010A | 200 | **40000** | | | |
| Antimony | EPA 6010A | 200 | <20000 | | | |
| Arsenic | EPA 7060 | 10 | <10 | | | |
| Barium | EPA 6010A | 200 | <20000 | | | |
| Beryllium | EPA 6010A | 5.0 | <500 | | | |
| Cadmium | EPA 6010A | 20 | <2000 | | | |
| **Calcium** | EPA 6010A | 1000 | **700000** | | | |
| Chromium | EPA 6010A | 30 | <3000 | | | |
| Cobalt | EPA 6010A | 50 | <5000 | | | |
| Copper | EPA 6010A | 25 | <2500 | | | |
| Iron | EPA 6010A | 100 | <10000 | | | |
| **Lead** | EPA 7421 | 4.0 | **140** | | | |
| **Magnesium** | EPA 6010A | 1000 | **2900000** | | | |
| Manganese | EPA 6010A | 15 | <1500 | | | |
| Mercury | EPA 7470 | 0.50 | <0.50 | | | |
| Nickel | EPA 6010A | 40 | <4000 | | | |
| Potassium | EPA 6010A | 5000 | <500000 | | | |
| Selenium | EPA 7740 | 10 | <200 | | | |
| Silver | EPA 6010A | 20 | <2000 | | | |
| **Sodium** | EPA 6010A | 1000 | **12000000** | | | |
| Thallium | EPA 7841 | 5 | <5.0 | | | |
| Vanadium | EPA 6010A | 50 | <5000 | | | |
| Zinc | EPA 6010A | 20 | <2000 | | | |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 1, US EPA July 1992; Digestion by Method 3010A/3020A, except for 7060, 7470, 7841 and 7740 which are method specific.

b The dilution factor indicates the adjustments made for sample dilution required because of high mineral content.

# APPENDIX E-2

## Site AOC-RR

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 277
Client Sample Id: AOC-RR-GP05 DUP
Sample Date/Time: 02-APR-95 1545
Received Date: 02-APR-95

Batch: BEW008
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 03-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | 23 | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | 170 | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | 16 | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | 18 | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | 5 | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | 35 | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 102 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 183
Client Sample Id: AOC-RR-GP01
Sample Date/Time: 02-APR-95 1045
Received Date: 02-APR-95

Batch: BEW009
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 03-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 1000 | |
| BENZENE | UG/L | 3000 | 250 | |
| BROMODICHLOROMETHANE | UG/L | ND | 250 | |
| BROMOFORM | UG/L | ND | 250 | |
| BROMOMETHANE | UG/L | ND | 500 | |
| 2-BUTANONE (MEK) | UG/L | ND | 1000 | |
| CARBON DISULFIDE | UG/L | ND | 250 | |
| CARBON TETRACHLORIDE | UG/L | ND | 250 | |
| CHLOROBENZENE | UG/L | ND | 250 | |
| CHLOROETHANE | UG/L | ND | 500 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 500 | |
| CHLOROFORM | UG/L | ND | 250 | |
| CHLOROMETHANE | UG/L | ND | 500 | |
| DIBROMOMETHANE | UG/L | ND | 250 | |
| 1,2-DICHLOROETHANE | UG/L | 380 | 250 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 250 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 250 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 250 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 250 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 250 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 250 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 250 | |
| ETHYL BENZENE | UG/L | 260 | 250 | |
| 2-HEXANONE | UG/L | ND | 1000 | |
| METHYLENE CHLORIDE | UG/L | ND | 250 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 1000 | |
| STYRENE | UG/L | ND | 250 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 250 | |
| TETRACHLOROETHENE | UG/L | ND | 250 | |
| TOLUENE | UG/L | 1200 | 250 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 250 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 250 | |
| TRICHLOROETHENE | UG/L | ND | 250 | |
| VINYL ACETATE | UG/L | ND | 1000 | |
| VINYL CHLORIDE | UG/L | ND | 500 | |
| TOTAL XYLENES | UG/L | 1200 | 250 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 95 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 104 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 184
Client Sample Id: AOC-RR-GP02
Sample Date/Time: 02-APR-95 1500
Received Date: 02-APR-95

Batch: BEW009
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 03-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 96 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 100 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 100 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 185
Client Sample Id: AOC-RR-GP03
Sample Date/Time: 02-APR-95 1520
Received Date: 02-APR-95

Batch: BEW008
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 03-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 97 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 104 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 103 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 186
Client Sample Id: AOC-RR-GP04
Sample Date/Time: 02-APR-95 1530
Received Date: 02-APR-95

Batch: BEW008
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 03-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | 9 | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | 24 | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 88 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 101 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 100 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 187
Client Sample Id: AOC-RR-GP05
Sample Date/Time: 02-APR-95 1545
Received Date: 02-APR-95

Batch: BEW009
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 04-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | 36 | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | 190 | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | 20 | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | 30 | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | 8 | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | 49 | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 102 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 101 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 97 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 188
Client Sample Id: AOC-RR-GP06
Sample Date/Time: 02-APR-95 1600
Received Date: 02-APR-95

Batch: BEW009
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 04-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 200 | |
| BENZENE | UG/L | 870 | 50 | |
| BROMODICHLOROMETHANE | UG/L | ND | 50 | |
| BROMOFORM | UG/L | ND | 50 | |
| BROMOMETHANE | UG/L | ND | 100 | |
| 2-BUTANONE (MEK) | UG/L | ND | 200 | |
| CARBON DISULFIDE | UG/L | ND | 50 | |
| CARBON TETRACHLORIDE | UG/L | ND | 50 | |
| CHLOROBENZENE | UG/L | ND | 50 | |
| CHLOROETHANE | UG/L | ND | 100 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 100 | |
| CHLOROFORM | UG/L | ND | 50 | |
| CHLOROMETHANE | UG/L | ND | 100 | |
| DIBROMOMETHANE | UG/L | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/L | 440 | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 50 | |
| ETHYL BENZENE | UG/L | 1000 | 50 | |
| 2-HEXANONE | UG/L | ND | 200 | |
| METHYLENE CHLORIDE | UG/L | ND | 50 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 200 | |
| STYRENE | UG/L | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 50 | |
| TETRACHLOROETHENE | UG/L | ND | 50 | |
| TOLUENE | UG/L | 90 | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 50 | |
| TRICHLOROETHENE | UG/L | ND | 50 | |
| VINYL ACETATE | UG/L | ND | 200 | |
| VINYL CHLORIDE | UG/L | ND | 100 | |
| TOTAL XYLENES | UG/L | 560 | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 85 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 101 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 96 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 242
Client Sample Id: AOC-RR-GP07
Sample Date/Time: 07-APR-95 1045
Received Date: 07-APR-95

Batch: BEW011
Blank: D
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 11-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 200 | |
| BENZENE | UG/L | 700 | 50 | |
| BROMODICHLOROMETHANE | UG/L | ND | 50 | |
| BROMOFORM | UG/L | ND | 50 | |
| BROMOMETHANE | UG/L | ND | 100 | |
| 2-BUTANONE (MEK) | UG/L | ND | 200 | |
| CARBON DISULFIDE | UG/L | ND | 50 | |
| CARBON TETRACHLORIDE | UG/L | ND | 50 | |
| CHLOROBENZENE | UG/L | ND | 50 | |
| CHLOROETHANE | UG/L | ND | 100 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 100 | |
| CHLOROFORM | UG/L | ND | 50 | |
| CHLOROMETHANE | UG/L | ND | 100 | |
| DIBROMOMETHANE | UG/L | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 50 | |
| ETHYL BENZENE | UG/L | ND | 50 | |
| 2-HEXANONE | UG/L | ND | 200 | |
| METHYLENE CHLORIDE | UG/L | ND | 50 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 200 | |
| STYRENE | UG/L | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 50 | |
| TETRACHLOROETHENE | UG/L | ND | 50 | |
| TOLUENE | UG/L | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 50 | |
| TRICHLOROETHENE | UG/L | ND | 50 | |
| VINYL ACETATE | UG/L | ND | 200 | |
| VINYL CHLORIDE | UG/L | ND | 100 | |
| TOTAL XYLENES | UG/L | 120 | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 99 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 246
Client Sample Id: AOC-RR-GP07D
Sample Date/Time: 07-APR-95 1045
Received Date: 07-APR-95

Batch: BEW011
Blank: D
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 11-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 200 | |
| BENZENE | UG/L | 780 | 50 | |
| BROMODICHLOROMETHANE | UG/L | ND | 50 | |
| BROMOFORM | UG/L | ND | 50 | |
| BROMOMETHANE | UG/L | ND | 100 | |
| 2-BUTANONE (MEK) | UG/L | ND | 200 | |
| CARBON DISULFIDE | UG/L | ND | 50 | |
| CARBON TETRACHLORIDE | UG/L | ND | 50 | |
| CHLOROBENZENE | UG/L | ND | 50 | |
| CHLOROETHANE | UG/L | ND | 100 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 100 | |
| CHLOROFORM | UG/L | ND | 50 | |
| CHLOROMETHANE | UG/L | ND | 100 | |
| DIBROMOMETHANE | UG/L | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/L | 51 | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 50 | |
| ETHYL BENZENE | UG/L | ND | 50 | |
| 2-HEXANONE | UG/L | ND | 200 | |
| METHYLENE CHLORIDE | UG/L | ND | 50 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 200 | |
| STYRENE | UG/L | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 50 | |
| TETRACHLOROETHENE | UG/L | ND | 50 | |
| TOLUENE | UG/L | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 50 | |
| TRICHLOROETHENE | UG/L | ND | 50 | |
| VINYL ACETATE | UG/L | ND | 200 | |
| VINYL CHLORIDE | UG/L | ND | 100 | |
| TOTAL XYLENES | UG/L | 180 | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 84 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 101 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 101 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 243
Client Sample Id: AOC-RR-GP08
Sample Date/Time: 07-APR-95 1110
Received Date: 07-APR-95

Batch: BEW011
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 07-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 98 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 104 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 104 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 244
Client Sample Id: AOC-RR-GP09
Sample Date/Time: 07-APR-95 1130
Received Date: 07-APR-95

Batch: BEW011
Blank: D
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 11-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 200 | |
| BENZENE | UG/L | 750 | 50 | |
| BROMODICHLOROMETHANE | UG/L | ND | 50 | |
| BROMOFORM | UG/L | ND | 50 | |
| BROMOMETHANE | UG/L | ND | 100 | |
| 2-BUTANONE (MEK) | UG/L | ND | 200 | |
| CARBON DISULFIDE | UG/L | ND | 50 | |
| CARBON TETRACHLORIDE | UG/L | ND | 50 | |
| CHLOROBENZENE | UG/L | ND | 50 | |
| CHLOROETHANE | UG/L | ND | 100 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 100 | |
| CHLOROFORM | UG/L | ND | 50 | |
| CHLOROMETHANE | UG/L | ND | 100 | |
| DIBROMOMETHANE | UG/L | ND | 50 | |
| 1,2-DICHLOROETHANE | UG/L | 85 | 50 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 50 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 50 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 50 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 50 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 50 | |
| ETHYL BENZENE | UG/L | ND | 50 | |
| 2-HEXANONE | UG/L | ND | 200 | |
| METHYLENE CHLORIDE | UG/L | ND | 50 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 200 | |
| STYRENE | UG/L | ND | 50 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 50 | |
| TETRACHLOROETHENE | UG/L | ND | 50 | |
| TOLUENE | UG/L | ND | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 50 | |
| TRICHLOROETHENE | UG/L | ND | 50 | |
| VINYL ACETATE | UG/L | ND | 200 | |
| VINYL CHLORIDE | UG/L | ND | 100 | |
| TOTAL XYLENES | UG/L | 750 | 50 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 85 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 103 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 95 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 245
Client Sample Id: AOC-RR-GP11
Sample Date/Time: 07-APR-95 1145
Received Date: 07-APR-95

Batch: BEW011
Blank: D
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 11-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 1000 | |
| BENZENE | UG/L | 3300 | 250 | |
| BROMODICHLOROMETHANE | UG/L | ND | 250 | |
| BROMOFORM | UG/L | ND | 250 | |
| BROMOMETHANE | UG/L | ND | 500 | |
| 2-BUTANONE (MEK) | UG/L | ND | 1000 | |
| CARBON DISULFIDE | UG/L | ND | 250 | |
| CARBON TETRACHLORIDE | UG/L | ND | 250 | |
| CHLOROBENZENE | UG/L | ND | 250 | |
| CHLOROETHANE | UG/L | ND | 500 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 500 | |
| CHLOROFORM | UG/L | ND | 250 | |
| CHLOROMETHANE | UG/L | ND | 500 | |
| DIBROMOMETHANE | UG/L | ND | 250 | |
| 1,2-DICHLOROETHANE | UG/L | 280 | 250 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 250 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 250 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 250 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 250 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 250 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 250 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 250 | |
| ETHYL BENZENE | UG/L | 960 | 250 | |
| 2-HEXANONE | UG/L | ND | 1000 | |
| METHYLENE CHLORIDE | UG/L | ND | 250 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 1000 | |
| STYRENE | UG/L | ND | 250 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 250 | |
| TETRACHLOROETHENE | UG/L | ND | 250 | |
| TOLUENE | UG/L | ND | 250 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 250 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 250 | |
| TRICHLOROETHENE | UG/L | ND | 250 | |
| VINYL ACETATE | UG/L | ND | 1000 | |
| VINYL CHLORIDE | UG/L | ND | 500 | |
| TOTAL XYLENES | UG/L | ND | 250 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 97 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 103 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 91 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 001
Client Sample Id: AOCRR-GP-13
Sample Date/Time: 27-APR-95 0810
Received Date: 29-APR-95

Batch: NAW048
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 05-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 100 | |
| ACROLEIN | UG/L | ND | 1000 | |
| ACRYLONITRILE | UG/L | ND | 1000 | |
| BENZENE | UG/L | 100 | 10 | |
| BROMODICHLOROMETHANE | UG/L | ND | 10 | |
| BROMOFORM | UG/L | ND | 20 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 30 | |
| CARBON DISULFIDE | UG/L | ND | 10 | |
| CARBON TETRACHLORIDE | UG/L | ND | 20 | |
| CHLOROBENZENE | UG/L | ND | 10 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 50 | |
| CHLOROFORM | UG/L | ND | 20 | |
| CHLOROMETHANE | UG/L | ND | 20 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 50 | |
| DIBROMOMETHANE | UG/L | ND | 50 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 50 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 10 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 20 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 10 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 50 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 20 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 10 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 10 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 50 | |
| ETHYL BENZENE | UG/L | 490 | 10 | |
| ETHYL METHACRYLATE | UG/L | ND | 50 | |
| 2-HEXANONE | UG/L | ND | 30 | |
| IODOMETHANE | UG/L | ND | 50 | |
| METHYLENE CHLORIDE | UG/L | ND | 30 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 30 | |
| STYRENE | UG/L | ND | 20 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 20 | |
| TETRACHLOROETHENE | UG/L | ND | 10 | |
| TOLUENE | UG/L | 1600 | 50 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 50 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 20 | |
| TRICHLOROETHENE | UG/L | ND | 10 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 10 | |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 001
Client Sample Id: AOCRR-GP-13
Sample Date/Time: 27-APR-95 0810
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 50 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | 3200 | 20 | |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 103 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 110 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 002
Client Sample Id: AOCRR-GP-12
Sample Date/Time: 27-APR-95 0840
Received Date: 29-APR-95

Batch: NAW048
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 05-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | ND | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | 2 | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

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"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 002
Client Sample Id: AOCRR-GP-12
Sample Date/Time: 27-APR-95 0840
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | 5 | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 93 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 101 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 109 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 003
Client Sample Id: AOCRR-GP-14
Sample Date/Time: 27-APR-95 0915
Received Date: 29-APR-95

Batch: NAW049
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | ND | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

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"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 003
Client Sample Id: AOCRR-GP-14
Sample Date/Time: 27-APR-95 0915
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | 3 | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 97 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 100 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 104 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 004
Client Sample Id: AOCRR-GP-15
Sample Date/Time: 27-APR-95 1345
Received Date: 29-APR-95

Batch: NAW048
Blank: D
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 05-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | ND | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

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"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 004
Client Sample Id: AOCRR-GP-15
Sample Date/Time: 27-APR-95 1345
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | ND | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 101 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 98 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 101 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 005
Client Sample Id: AOCRR-GP-16
Sample Date/Time: 27-APR-95 0955
Received Date: 29-APR-95

Batch: NAW048
Blank: D
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 05-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| ACROLEIN | UG/L | ND | 200 | |
| ACRYLONITRILE | UG/L | ND | 200 | |
| BENZENE | UG/L | 40 | 2 | |
| BROMODICHLOROMETHANE | UG/L | ND | 2 | |
| BROMOFORM | UG/L | ND | 4 | |
| BROMOMETHANE | UG/L | ND | 2 | |
| 2-BUTANONE (MEK) | UG/L | ND | 6 | |
| CARBON DISULFIDE | UG/L | ND | 2 | |
| CARBON TETRACHLORIDE | UG/L | ND | 4 | |
| CHLOROBENZENE | UG/L | ND | 2 | |
| CHLOROETHANE | UG/L | ND | 2 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 4 | |
| CHLOROMETHANE | UG/L | ND | 4 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 10 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 10 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,2-DICHLOROETHANE | UG/L | 290 | 4 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 2 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 10 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 4 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 2 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 2 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 10 | |
| ETHYL BENZENE | UG/L | 210 | 2 | |
| ETHYL METHACRYLATE | UG/L | ND | 10 | |
| 2-HEXANONE | UG/L | ND | 6 | |
| IODOMETHANE | UG/L | ND | 10 | |
| METHYLENE CHLORIDE | UG/L | ND | 6 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 6 | |
| STYRENE | UG/L | ND | 4 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 4 | |
| TETRACHLOROETHENE | UG/L | ND | 2 | |
| TOLUENE | UG/L | ND | 10 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 10 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 4 | |
| TRICHLOROETHENE | UG/L | ND | 2 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 2 | |

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"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 005
Client Sample Id: AOCRR-GP-16
Sample Date/Time: 27-APR-95 0955
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 10 | |
| VINYL ACETATE | UG/L | ND | 4 | |
| VINYL CHLORIDE | UG/L | ND | 2 | |
| TOTAL XYLENES | UG/L | ND | 4 | |
| BROMOFLUOROBENZENE | %REC/SURR | 102 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 108 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 98 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 012
Client Sample Id: AOCRR-GP-12D
Sample Date/Time: 27-APR-95 0840
Received Date: 29-APR-95

Batch: NAW049
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | ND | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | 2 | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 012
Client Sample Id: AOCRR-GP-12D
Sample Date/Time: 27-APR-95 0840
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | 6 | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 105 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 92 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 94 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 013
Client Sample Id: TRIP BLANK
Sample Date/Time: 24-APR-95 0918
Received Date: 29-APR-95

Batch: NAW049
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | ND | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 013
Client Sample Id: TRIP BLANK
Sample Date/Time: 24-APR-95 0918
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | ND | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 100 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 98 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 98 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"Method Report Summary"

Accession Number: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| AOCRR-GP-13 | BENZENE | UG/L | 100 |
| | ETHYL BENZENE | UG/L | 490 |
| | TOLUENE | UG/L | 1600 |
| | TOTAL XYLENES | UG/L | 3200 |
| AOCRR-GP-12 | ETHYL BENZENE | UG/L | 2 |
| | TOTAL XYLENES | UG/L | 5 |
| AOCRR-GP-14 | TOTAL XYLENES | UG/L | 3 |
| AOCRR-GP-16 | BENZENE | UG/L | 40 |
| | 1,2-DICHLOROETHANE | UG/L | 290 |
| | ETHYL BENZENE | UG/L | 210 |
| BBMS-GP-09 | BENZENE | UG/L | 230 |
| BBMS-GP-11 | BENZENE | UG/L | 1 |
| SS-06-GP-2 | ACETONE | UG/L | 17 |
| AOCRR-GP-12D | ETHYL BENZENE | UG/L | 2 |
| | TOTAL XYLENES | UG/L | 6 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

# Quality Control Report

Analysis: VOLATILES (8240)

| | |
|---|---|
| Accession: | 505031 |
| Client: | GROUNDWATER TECHNOLOGY |
| Project Number: | 830012201 |
| Project Name: | PA/SI@HAFB |
| Project Location: | N/S |
| Department: | ORGANIC/MS |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: NAW048
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

Blank Id: C Date Analyzed: 05-MAY-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACETONITRILE | UG/L | ND | 100 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| ALLYL CHLORIDE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BIS(CHLOROMETHYL)ETHER | UG/L | ND | 5 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLOROPRENE | UG/L | ND | 5 |
| DIBROMOCHLOROMETHANE | UG/L | ND | 1 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| 1,2-DICHLOROETHENE (TOTAL) | UG/L | ND | 2 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| 1,4-DIOXANE | UG/L | ND | 10 |
| ETHYLBENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE (MBK) | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| ISOBUTYL ALCOHOL | UG/L | ND | 10 |
| METHACRYLONITRILE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| METHYL ETHYL KETONE | UG/L | ND | 3 |
| METHYL METHACRYLATE | UG/L | ND | 5 |
| 4-METHYL-2-PENTANONE (MIBK) | UG/L | ND | 3 |
| PROPIONITRILE | UG/L | ND | 5 |
| STYRENE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| 1,1,1,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: NAW048
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| XYLENES (TOTAL) | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 93 | 82-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 99 | 76-114 |
| TOLUENE-D8 | %REC/SURR | 107 | 88-115 |
| ANALYST | INITIALS | DWB | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: NAW049
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

Blank Id: B Date Analyzed: 06-MAY-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACETONITRILE | UG/L | ND | 100 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| ALLYL CHLORIDE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BIS(CHLOROMETHYL)ETHER | UG/L | ND | 5 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLOROPRENE | UG/L | ND | 5 |
| DIBROMOCHLOROMETHANE | UG/L | ND | 1 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| 1,2-DICHLOROETHENE (TOTAL) | UG/L | ND | 2 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| 1,4-DIOXANE | UG/L | ND | 10 |
| ETHYLBENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE (MBK) | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| ISOBUTYL ALCOHOL | UG/L | ND | 10 |
| METHACRYLONITRILE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| METHYL ETHYL KETONE | UG/L | ND | 3 |
| METHYL METHACRYLATE | UG/L | ND | 5 |
| 4-METHYL-2-PENTANONE (MIBK) | UG/L | ND | 3 |
| PROPIONITRILE | UG/L | ND | 5 |
| STYRENE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| 1,1,1,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: NAW049
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| XYLENES (TOTAL) | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 82-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 96 | 76-114 |
| TOLUENE-D8 | %REC/SURR | 103 | 88-115 |
| ANALYST | INITIALS | DWB | |

Comments:

"QC Report"

Title: Water Blank
Batch: NAW048
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

Blank Id: D Date Analyzed: 05-MAY-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACETONITRILE | UG/L | ND | 100 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| ALLYL CHLORIDE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BIS(CHLOROMETHYL)ETHER | UG/L | ND | 5 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLOROPRENE | UG/L | ND | 5 |
| DIBROMOCHLOROMETHANE | UG/L | ND | 1 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| 1,2-DICHLOROETHENE (TOTAL) | UG/L | ND | 2 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| 1,4-DIOXANE | UG/L | ND | 10 |
| ETHYLBENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE (MBK) | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| ISOBUTYL ALCOHOL | UG/L | ND | 10 |
| METHACRYLONITRILE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| METHYL ETHYL KETONE | UG/L | ND | 3 |
| METHYL METHACRYLATE | UG/L | ND | 5 |
| 4-METHYL-2-PENTANONE (MIBK) | UG/L | ND | 3 |
| PROPIONITRILE | UG/L | ND | 5 |
| STYRENE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| 1,1,1,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: NAW048
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| XYLENES (TOTAL) | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 104 | 82-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 96 | 76-114 |
| TOLUENE-D8 | %REC/SURR | 100 | 88-115 |
| ANALYST | INITIALS | DB | |

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: NAW049
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

Blank Id: A Date Analyzed: 05-MAY-95 Date Extracted: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| ACETONE | UG/L | ND | 10 |
| ACETONITRILE | UG/L | ND | 100 |
| ACROLEIN | UG/L | ND | 100 |
| ACRYLONITRILE | UG/L | ND | 100 |
| ALLYL CHLORIDE | UG/L | ND | 100 |
| BENZENE | UG/L | ND | 1 |
| BIS(CHLOROMETHYL)ETHER | UG/L | ND | 5 |
| BROMODICHLOROMETHANE | UG/L | ND | 1 |
| BROMOFORM | UG/L | ND | 2 |
| BROMOMETHANE | UG/L | ND | 1 |
| CARBON DISULFIDE | UG/L | ND | 1 |
| CARBON TETRACHLORIDE | UG/L | ND | 2 |
| CHLOROBENZENE | UG/L | ND | 1 |
| CHLOROETHANE | UG/L | ND | 1 |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 |
| CHLOROFORM | UG/L | ND | 2 |
| CHLOROMETHANE | UG/L | ND | 2 |
| CHLOROPRENE | UG/L | ND | 5 |
| DIBROMOCHLOROMETHANE | UG/L | ND | 1 |
| DIBROMOMETHANE | UG/L | ND | 5 |
| 1,2-DIBROMO-3-CHLOROPROPANE | UG/L | ND | 5 |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 |
| 1,2-DICHLOROETHENE (TOTAL) | UG/L | ND | 2 |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 |
| TRANS-1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 |
| 1,4-DIOXANE | UG/L | ND | 10 |
| ETHYLBENZENE | UG/L | ND | 1 |
| ETHYL METHACRYLATE | UG/L | ND | 5 |
| 2-HEXANONE (MBK) | UG/L | ND | 3 |
| IODOMETHANE | UG/L | ND | 5 |
| ISOBUTYL ALCOHOL | UG/L | ND | 10 |
| METHACRYLONITRILE | UG/L | ND | 5 |
| METHYLENE CHLORIDE | UG/L | ND | 3 |
| METHYL ETHYL KETONE | UG/L | ND | 3 |
| METHYL METHACRYLATE | UG/L | ND | 5 |
| 4-METHYL-2-PENTANONE (MIBK) | UG/L | ND | 3 |
| PROPIONITRILE | UG/L | ND | 5 |
| STYRENE | UG/L | ND | 2 |
| TETRACHLOROETHENE | UG/L | ND | 1 |
| 1,1,1,2-TETRACHLOROETHANE | UG/L | ND | 2 |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Blank
Batch: NAW049
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| TOLUENE | UG/L | ND | 5 |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 |
| TRICHLOROETHENE | UG/L | ND | 1 |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 |
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 |
| VINYL ACETATE | UG/L | ND | 2 |
| VINYL CHLORIDE | UG/L | ND | 1 |
| XYLENES (TOTAL) | UG/L | ND | 2 |
| BROMOFLUOROBENZENE | %REC/SURR | 104 | 82-115 |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 96 | 76-114 |
| TOLUENE-D8 | %REC/SURR | 100 | 88-115 |
| ANALYST | INITIALS | DB | |

Comments:

"QC Report"

Title: Water Reagent
Batch: NAW048
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

RS Date Analyzed: 04-MAY-95
RSD Date Analyzed: 04-MAY-95

RS Date Extracted: N/A
RSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | RSD Conc | RSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 46 | 92 | 45 | 90 | 2 | 12 | 81-115 |
| TRICHLOROETHENE | 50 | <1 | 51 | 102 | 52 | 104 | 2 | 9 | 90-115 |
| BENZENE | 50 | <1 | 49 | 98 | 52 | 104 | 6 | 9 | 84-116 |
| TOLUENE | 50 | <5 | 46 | 92 | 47 | 94 | 2 | 11 | 90-119 |
| CHLOROBENZENE | 50 | <1 | 52 | 104 | 52 | 104 | 0 | 9 | 84-115 |
| Surrogates: | | | | | | | | | |
| 1,2-DICHLOROETHANE-D4 | | | | 95 | | 102 | | | 76-114 |
| TOLUENE-D8 | | | | 93 | | 92 | | | 88-115 |
| BROMOFLUOROBENZENE | | | | 101 | | 100 | | | 82-115 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"QC Report"

Title: Water Reagent
Batch: NAW049
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A

RS Date Analyzed: 05-MAY-95
RSD Date Analyzed: 06-MAY-95

RS Date Extracted: N/A
RSD Date Extracted: N/A

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | RSD Conc | RSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-DICHLOROETHENE | 50 | <1 | 46 | 92 | 44 | 88 | 4 | 12 | 81-115 |
| TRICHLOROETHENE | 50 | <1 | 51 | 102 | 51 | 102 | 0 | 9 | 90-115 |
| BENZENE | 50 | <1 | 47 | 94 | 50 | 100 | 6 | 9 | 84-116 |
| TOLUENE | 50 | <5 | 48 | 96 | 49 | 98 | 2 | 11 | 90-119 |
| CHLOROBENZENE | 50 | <1 | 51 | 102 | 51 | 102 | 0 | 9 | 84-115 |
| Surrogates: | | | | | | | | | |
| 1,2-DICHLOROETHANE-D4 | | | | 94 | | 94 | | | 76-114 |
| TOLUENE-D8 | | | | 96 | | 96 | | | 88-115 |
| BROMOFLUOROBENZENE | | | | 100 | | 105 | | | 82-115 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
MG/M3 = MILLIGRAMS PER CUBIC METER.
NG = NANOGRAMS.
UG = MICROGRAMS.
PPBV = PARTS PER BILLION/VOLUME.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS
J = THE REPORTED VALUE IS EITHER LESS THAN THE REPORTING LIMIT BUT GREATER THAN ZERO, OR QUANTITATED AS A TIC; THEREFORE, IT IS ESTIMATED.
JJ = REPORTED VALUE IS ESTIMATED DUE TO MATRIX INTERFERENCE.
ND = NOT DETECTED ABOVE REPORT LIMIT.
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.
RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRY WEIGHT BASIS.

DUE TO THE NATURE OF THE SAMPLE MATRIX, MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS CANNOT BE PERFORMED FOR AIR ANALYSIS.

LP = LEVERNE PETERSON
DWB = DAVID BOWERS
DB = DENNIS BESON
LL = LANCE LARSON
JA = JENNIFER ALEXANDER
RW = RITA WINGO
LD = LARRY DILMORE
DC = DAVID CELESTIAL
RB = RAFAEL BARRAZA

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

ANALYTICAL RESULTS
Metals in Water[a]

| | | GTEL Sample Number | 09 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOC-RR-GP03 | AOC-RR-GP04 | AOC-RR-GP05 | AOC-RR-GP06 |
| | | Date Sampled | 04-03-95 | 04-03-95 | 04-03-95 | 04-03-95 |
| | | Date Digested | 04-13 to 04-21-95 | 04-13 to 04-21-95 | 04-13 to 04-21-95 | 04-13 to 04-21-95 |
| | | Date Analyzed | 04-18 to 04-21-95 | 04-18 to 04-21-95 | 04-18 to 04-21-95 | 04-18 to 04-26-95 |
| | | Dilution Factor Method 6010A[b] | 50 | 50 | 50 | 50 |
| | | Dilution Factor Method 7740[b] | 20 | 1 | 1 | 1 |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| **Aluminum** | EPA 6010A | 200 | <10000 | **12000** | **12000** | **22000** |
| Antimony | EPA 6010A | 200 | <10000 | <10000 | <10000 | <10000 |
| **Arsenic** | EPA 7060 | 10 | <10 | <10 | **30** | **29** |
| Barium | EPA 6010A | 200 | <10000 | <10000 | <10000 | <10000 |
| Beryllium | EPA 6010A | 5.0 | <250 | <250 | <250 | <250 |
| Cadmium | EPA 6010A | 20 | <1000 | <1000 | <1000 | <1000 |
| **Calcium** | EPA 6010A | 5000 | **590000** | **480000** | **370000** | **500000** |
| Chromium | EPA 6010A | 30 | <1500 | <1500 | <1500 | <1500 |
| Cobalt | EPA 6010A | 50 | <2500 | <2500 | <2500 | <2500 |
| Copper | EPA 6010A | 25 | <1250 | <1250 | <1250 | <1250 |
| **Iron** | EPA 6010A | 100 | <5000 | <5000 | **9400** | <5000 |
| Lead | EPA 7421 | 4.0 | <4.0 | <4.0 | <4.0 | <4.0 |
| **Magnesium** | EPA 6010A | 5000 | **1400000** | **430000** | **450000** | **590000** |
| **Manganese** | EPA 6010A | 15 | **2000** | **2900** | **8700** | **3300** |
| Mercury | EPA 7470 | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Nickel | EPA 6010A | 40 | <2000 | <2000 | <2000 | <2000 |
| Potassium | EPA 6010A | 5000 | <250000 | <250000 | <250000 | <250000 |
| Selenium | EPA 7740 | 10 | <200 | <10 | <10 | <10 |
| Silver | EPA 6010A | 20 | <1000 | <1000 | <1000 | <1000 |
| **Sodium** | EPA 6010A | 5000 | **6000000** | **8800000** | **2100000** | **2300000** |
| Thallium | EPA 7841 | 5 | <5 | <5 | <5 | <5 |
| Vanadium | EPA 6010A | 50 | <2500 | <2500 | <2500 | <2500 |
| **Zinc** | EPA 6010A | 20 | **1400** | **4800** | **3100** | <1000 |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition Revision 1, US EPA July 1992; Digestion by Method 3010A/3020A, except for 7060, 7470, 7841 and 7740 which are method specific.
b The dilution factor indicates the adjustments made for sample dilution required because of high mineral content.
* Quantitation Limit.

Project ID (Number): 830012201
Project ID (Name): HAFB: AOC-RR, AOC-BBMS PASI, NM
Work Order Number: W5-04-0302
Date Reported: 05-05-95

ANALYTICAL RESULTS
Metals in Water[a]

| | | | | | | |
|---|---|---|---|---|---|---|
| GTEL Sample Number | | | 01 | 02 | 03 | 04 |
| Client Identification | | | AOC-RR-GP09 | AOC-RR-GP07 | AOC-RR-GP08 | AOC-RR-GP11 |
| Date Sampled | | | 04-07-95 | 04-07-95 | 04-07-95 | 04-07-95 |
| Date Digested | | | 04-24 to 04-27-95 | 04-24 to 04-27-95 | 04-24 to 04-27-95 | 04-24 to 04-27-95 |
| Date Analyzed | | | 04-25 to 05-04-95 | 04-25 to 05-04-95 | 04-25 to 05-04-95 | 04-25 to 05-04-95 |
| Dilution Factor Method 6010A[b] | | | 100 | 100 | 100 | 1 |
| Dilution Factor Method 7740[b] | | | 10 | 10 | 10 | 10 |
| Dilution Factor Method 7421[b] | | | 5 | 5 | 5 | 5 |
| Dilution Factor Method 7470 | | | 2 | 2 | 2 | 2 |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| **Aluminum** | EPA 6010A | 200 | **38000** | **44000** | **53000** | <200 |
| Antimony | EPA 6010A | 200 | <20000 | <20000 | <20000 | <200 |
| Arsenic | EPA 7060 | 10 | <10 | <10 | <10 | <10 |
| Barium | EPA 6010A | 200 | <20000 | <20000 | <20000 | <200 |
| Beryllium | EPA 6010A | 5.0 | <500 | <500 | <500 | <5.0 |
| Cadmium | EPA 6010A | 20 | <2000 | <2000 | <2000 | <20 |
| **Calcium** | EPA 6010A | 1000 | **650000** | **890000** | **810000** | **580000** |
| Chromium | EPA 6010A | 30 | <3000 | <3000 | <3000 | <30 |
| Cobalt | EPA 6010A | 50 | <5000 | <5000 | <5000 | <50 |
| Copper | EPA 6010A | 25 | <2500 | <2500 | <2500 | <25 |
| **Iron** | EPA 6010A | 100 | <10000 | <10000 | <10000 | **4300** |
| **Lead** | EPA 7421 | 4.0 | <20 | **46** | <20 | <20 |
| **Magnesium** | EPA 6010A | 1000 | **1800000** | **3300000** | **2700000** | **410000** |
| **Manganese** | EPA 6010A | 15 | <1500 | <1500 | <1500 | **1900** |
| Mercury | EPA 7470 | 0.50 | <1.0 | <1.0 | <1.0 | <1.0 |
| Nickel | EPA 6010A | 40 | <4000 | <4000 | <4000 | <40 |
| **Potassium** | EPA 6010A | 5000 | <500000 | <500000 | <500000 | **5100** |
| Selenium | EPA 7740 | 10 | <100 | <100 | <100 | <100 |
| Silver | EPA 6010A | 20 | <2000 | <2000 | <2000 | <20 |
| **Sodium** | EPA 6010A | 1000 | **8100000** | **1300000** | **1100000** | **280000** |
| Thallium | EPA 7841 | 5 | <5 | <5 | <5 | <5 |
| Vanadium | EPA 6010A | 50 | <5000 | <5000 | <5000 | <50 |
| **Zinc** | EPA 6010A | 20 | <2000 | <2000 | <2000 | <20 |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 1, US EPA July 1992; Digestion by Method 3010A/3020A, except for 7060, 7470, 7841 and 7740 which are method specific.
b The dilution factor indicates the adjustments made for sample dilution required because of high mineral content.
* Quantitation Limit.

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 183
Client Sample Id: AOC-RR-GP01
Sample Date/Time: 02-APR-95 1045
Received Date: 02-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.45 | NA | | PHW005 | KS |

Comments:

Analyzed: 02-APR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 184
Client Sample Id: AOC-RR-GP02
Sample Date/Time: 02-APR-95 1500
Received Date: 02-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.72 | NA | | PHW005 | KS |

Comments:

Analyzed: 02-APR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 185
Client Sample Id: AOC-RR-GP03
Sample Date/Time: 02-APR-95 1520
Received Date: 02-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.63 | NA | | PHW005 | KS |

Comments:

Analyzed: 02-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 186
Client Sample Id: AOC-RR-GP04
Sample Date/Time: 02-APR-95 1530
Received Date: 02-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.67 | NA | | PHW005 | ES |

Comments:

Analyzed: 02-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 187
Client Sample Id: AOC-RR-GP05
Sample Date/Time: 02-APR-95 1545
Received Date: 02-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.29 | NA | | PHW005 | KS |

Comments:

Analyzed: 02-APR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 188
Client Sample Id: AOC-RR-GP06
Sample Date/Time: 02-APR-95 1600
Received Date: 02-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.25 | NA | | PHW005 | KS |

Comments:

Analyzed: 02-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 242
Client Sample Id: AOC-RR-GP07
Sample Date/Time: 07-APR-95 1045
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.20 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 243
Client Sample Id: AOC-RR-GP08
Sample Date/Time: 07-APR-95 1110
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.35 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 244
Client Sample Id: AOC-RR-GP09
Sample Date/Time: 07-APR-95 1130
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.64 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 245
Client Sample Id: AOC-RR-GP11
Sample Date/Time: 07-APR-95 1145
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.39 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 246
Client Sample Id: AOC-RR-GP07D
Sample Date/Time: 07-APR-95 1045
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.17 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 273
Client Sample Id: AOC-RR-GP06 DUP
Sample Date/Time: 02-APR-95 1600
Received Date: 02-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.24 | NA | | PHW005 | KS |

Comments:

Analyzed: 02-APR-95

# APPENDIX E-3

## Site AOC-BBMS

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 178
Client Sample Id: AOC-BBMS-GP1
Sample Date/Time: 31-MAR-95 1100
Received Date: 31-MAR-95

Batch: BEW008
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 85 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 103 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 179
Client Sample Id: AOC-BBMS-GP2
Sample Date/Time: 31-MAR-95 1230
Received Date: 31-MAR-95

Batch: BEW009
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 04-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 100 | |
| BENZENE | UG/L | 30 | 25 | |
| BROMODICHLOROMETHANE | UG/L | ND | 25 | |
| BROMOFORM | UG/L | ND | 25 | |
| BROMOMETHANE | UG/L | ND | 50 | |
| 2-BUTANONE (MEK) | UG/L | ND | 100 | |
| CARBON DISULFIDE | UG/L | ND | 25 | |
| CARBON TETRACHLORIDE | UG/L | ND | 25 | |
| CHLOROBENZENE | UG/L | ND | 25 | |
| CHLOROETHANE | UG/L | ND | 50 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 50 | |
| CHLOROFORM | UG/L | ND | 25 | |
| CHLOROMETHANE | UG/L | ND | 50 | |
| DIBROMOMETHANE | UG/L | ND | 25 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 25 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 25 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 25 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 25 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 25 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 25 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 25 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 25 | |
| ETHYL BENZENE | UG/L | 300 | 25 | |
| 2-HEXANONE | UG/L | ND | 100 | |
| METHYLENE CHLORIDE | UG/L | ND | 25 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 100 | |
| STYRENE | UG/L | ND | 25 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 25 | |
| TETRACHLOROETHENE | UG/L | ND | 25 | |
| TOLUENE | UG/L | ND | 25 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 25 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 25 | |
| TRICHLOROETHENE | UG/L | ND | 25 | |
| VINYL ACETATE | UG/L | ND | 100 | |
| VINYL CHLORIDE | UG/L | ND | 50 | |
| TOTAL XYLENES | UG/L | 47 | 25 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 101 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 190
Client Sample Id: AOC-BBMS-GP03
Sample Date/Time: 03-APR-95 1100
Received Date: 03-APR-95

Batch: BEW009
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 04-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 99 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 100 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 105 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 181
Client Sample Id: AOC-BBMS-GP4
Sample Date/Time: 31-MAR-95 1430
Received Date: 31-MAR-95

Batch: BEW008
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 01-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 103 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 180
Client Sample Id: AOC-BBMS-GP5

Sample Date/Time: 31-MAR-95 1320
Received Date: 31-MAR-95

Batch: BEW008
Blank: C Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 03-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 97 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 100 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 96 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 191
Client Sample Id: AOC-BBMS-GP05
Sample Date/Time: 03-APR-95 1150
Received Date: 03-APR-95

Batch: BEW009
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 04-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 94 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 104 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 97 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 182
Client Sample Id: AOC-BBMS-GP6
Sample Date/Time: 31-MAR-95 1315
Received Date: 31-MAR-95

Batch: BEW008
Blank: C
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 03-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 88 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 104 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 99 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 247
Client Sample Id: AOC-BBMS-GP07
Sample Date/Time: 07-APR-95 1245
Received Date: 07-APR-95

Batch: BEW011
Blank: D
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 11-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 90 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 105 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 95 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 248
Client Sample Id: AOC-BBMS-GP08
Sample Date/Time: 07-APR-95 1345
Received Date: 07-APR-95

Batch: BEW011
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 07-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 100 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 96 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 249
Client Sample Id: AOC-BBMS-GP10
Sample Date/Time: 07-APR-95 1350
Received Date: 07-APR-95

Batch: BEW011
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 07-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | 7 | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | 7 | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 92 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 250
Client Sample Id: AOC-BBMS-GP11
Sample Date/Time: 07-APR-95 1415
Received Date: 07-APR-95

Batch: BEW011
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 07-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 94 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 97 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 251
Client Sample Id: AOC-BBMS-GP07D
Sample Date/Time: 07-APR-95 1245
Received Date: 07-APR-95

Batch: BEW011
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 07-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 97 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 100 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 006
Client Sample Id: BBMS-GP-09
Sample Date/Time: 27-APR-95 1135
Received Date: 29-APR-95

Batch: NAW048
Blank: D
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 05-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| ACROLEIN | UG/L | ND | 200 | |
| ACRYLONITRILE | UG/L | ND | 200 | |
| BENZENE | UG/L | 230 | 2 | |
| BROMODICHLOROMETHANE | UG/L | ND | 2 | |
| BROMOFORM | UG/L | ND | 4 | |
| BROMOMETHANE | UG/L | ND | 2 | |
| 2-BUTANONE (MEK) | UG/L | ND | 6 | |
| CARBON DISULFIDE | UG/L | ND | 2 | |
| CARBON TETRACHLORIDE | UG/L | ND | 4 | |
| CHLOROBENZENE | UG/L | ND | 2 | |
| CHLOROETHANE | UG/L | ND | 2 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 4 | |
| CHLOROMETHANE | UG/L | ND | 4 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 10 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 10 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 4 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 2 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 10 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 4 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 2 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 2 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 10 | |
| ETHYL BENZENE | UG/L | ND | 2 | |
| ETHYL METHACRYLATE | UG/L | ND | 10 | |
| 2-HEXANONE | UG/L | ND | 6 | |
| IODOMETHANE | UG/L | ND | 10 | |
| METHYLENE CHLORIDE | UG/L | ND | 6 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 6 | |
| STYRENE | UG/L | ND | 4 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 4 | |
| TETRACHLOROETHENE | UG/L | ND | 2 | |
| TOLUENE | UG/L | ND | 10 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 10 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 4 | |
| TRICHLOROETHENE | UG/L | ND | 2 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 2 | |

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 006
Client Sample Id: BBMS-GP-09
Sample Date/Time: 27-APR-95 1135
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 10 | |
| VINYL ACETATE | UG/L | ND | 4 | |
| VINYL CHLORIDE | UG/L | ND | 2 | |
| TOTAL XYLENES | UG/L | ND | 4 | |
| BROMOFLUOROBENZENE | %REC/SURR | 103 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 93 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 101 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 007
Client Sample Id: BBMS-GP-11
Sample Date/Time: 27-APR-95 1205
Received Date: 29-APR-95

Batch: NAW049
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 06-MAY-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 10 | |
| ACROLEIN | UG/L | ND | 100 | |
| ACRYLONITRILE | UG/L | ND | 100 | |
| BENZENE | UG/L | 1 | 1 | |
| BROMODICHLOROMETHANE | UG/L | ND | 1 | |
| BROMOFORM | UG/L | ND | 2 | |
| BROMOMETHANE | UG/L | ND | 1 | |
| 2-BUTANONE (MEK) | UG/L | ND | 3 | |
| CARBON DISULFIDE | UG/L | ND | 1 | |
| CARBON TETRACHLORIDE | UG/L | ND | 2 | |
| CHLOROBENZENE | UG/L | ND | 1 | |
| CHLOROETHANE | UG/L | ND | 1 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 5 | |
| CHLOROFORM | UG/L | ND | 2 | |
| CHLOROMETHANE | UG/L | ND | 2 | |
| CHLORODIBROMOMETHANE | UG/L | ND | 5 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| DICHLORODIFLUOROMETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 1 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 2 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 1 | |
| TOTAL 1,2-DICHLOROETHYLENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 2 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 1 | |
| 1,4-DICHLORO-2-BUTENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 1 | |
| ETHYL METHACRYLATE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 3 | |
| IODOMETHANE | UG/L | ND | 5 | |
| METHYLENE CHLORIDE | UG/L | ND | 3 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 3 | |
| STYRENE | UG/L | ND | 2 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 2 | |
| TETRACHLOROETHENE | UG/L | ND | 1 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 2 | |
| TRICHLOROETHENE | UG/L | ND | 1 | |
| TRICHLOROFLUOROMETHANE | UG/L | ND | 1 | |

"FINAL REPORT FORMAT - SINGLE"

Accession: 505031
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201
Project Name: PA/SI@HAFB
Project Location: N/S
Test: VOLATILES (8240)
Analysis Method: 8240 / SW-846, 3rd Edition, September 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: I

Lab Id: 007
Client Sample Id: BBMS-GP-11
Sample Date/Time: 27-APR-95 1205
Received Date: 29-APR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| 1,2,3 TRICHLOROPROPANE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 2 | |
| VINYL CHLORIDE | UG/L | ND | 1 | |
| TOTAL XYLENES | UG/L | ND | 2 | |
| BROMOFLUOROBENZENE | %REC/SURR | 100 | 82-115 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 98 | 88-115 | |
| ANALYST | INITIALS | DWB | | |

Comments:

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

ANALYTICAL RESULTS
Metals in Water[a]

| | | GTEL Sample Number | 01 | 02 | 03 | 04 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOC-BBMS-GP01 | AOC-BBMS-GP02 | AOC-BBMS-GP03 | AOC-BBMS-GP04 |
| | | Date Sampled | 03-31-95 | 04-03-95 | 04-03-95 | 03-31-95 |
| | | Date Digested | 04-13 to 04-21-95 | 04-13 to 04-21-95 | 04-13 to 04-21-95 | 04-13 to 04-21-95 |
| | | Date Analyzed | 04-18 to 04-26-95 | 04-18 to 04-21-95 | 04-18 to 04-21-95 | 04-18 to 04-21-95 |
| | | Dilution Factor Method 6010A[b] | 1 | 50 | 50 | 20 |
| | | Dilution Factor Method 7740[b] | 1 | 1 | 1 | 1 |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| **Aluminum** | EPA 6010A | 200 | <200 | **170000** | <10000 | **4100** |
| Antimony | EPA 6010A | 200 | <200 | <10000 | <10000 | <10000 |
| Arsenic | EPA 7060 | 10 | <10 | <10 | <10 | <10 |
| Barium | EPA 6010A | 200 | <200 | <10000 | <10000 | <10000 |
| Beryllium | EPA 6010A | 5.0 | <5.0 | <250 | <250 | <250 |
| Cadmium | EPA 6010A | 20 | <20 | <1000 | <1000 | <1000 |
| **Calcium** | EPA 6010A | 1000 | **600000** | **780000** | **510000** | **300000** |
| Chromium | EPA 6010A | 30 | <30 | <1500 | <1500 | <600 |
| Cobalt | EPA 6010A | 50 | <50 | <2500 | <2500 | <1000 |
| Copper | EPA 6010A | 25 | <25 | <1250 | <1250 | <500 |
| **Iron** | EPA 6010A | 100 | <100 | **72000** | <5000 | <2000 |
| **Lead** | EPA 7421 | 4.0 | <4.0 | **7.5** | **8.1** | **4.5** |
| **Magnesium** | EPA 6010A | 1000 | **73000** | **680000** | **460000** | **200000** |
| **Manganese** | EPA 6010A | 15 | **28** | <750 | <750 | <300 |
| Mercury | EPA 7470 | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Nickel | EPA 6010A | 40 | <40 | <2000 | <2000 | <800 |
| **Potassium** | EPA 6010A | 5000 | **41000** | <250000 | <250000 | <100000 |
| Selenium | EPA 7740 | 10 | <10 | <10 | <10 | <10 |
| Silver | EPA 6010A | 20 | <20 | <1000 | <1000 | <400 |
| **Sodium** | EPA 6010A | 1000 | **180000** | **1400000** | **1500000** | **440000** |
| Thallium | EPA 7841 | 5 | <5 | <5 | <5 | <5 |
| **Vanadium** | EPA 6010A | 50 | **57** | <2500 | <2500 | <1000 |
| **Zinc** | EPA 6010A | 20 | <20 | **7400** | **7900** | **1800** |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 1, US EPA July 1992; Digestion by Method 3010A/3020A, except for 7060, 7470, 7841 and 7740 which are method specific.
b The dilution factor indicates the adjustments made for sample dilution required because of high mineral content.
* Quantitation Limit.

Project ID (Number): 830012201
Project ID (Name): PA/SI
Holloman AFB
Work Order Number: W5-04-0083
Date Reported: 04-27-95

ANALYTICAL RESULTS
Metals in Water[a]

| | | GTEL Sample Number | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOC-BBMS-GP05 | AOC-BBMS-GP06 | AOC-RR-GP01 | AOC-RR-GP02 |
| | | Date Sampled | 04-03-95 | 03-31-95 | 04-02-95 | 04-03-95 |
| | | Date Digested | 04-13 to 04-21-95 | 04-13 to 04-21-95 | 04-13 to 04-21-95 | 04-13 to 04-21-95 |
| | | Date Analyzed | 04-18 to 04-21-95 | 04-18 to 04-21-95 | 04-18 to 04-21-95 | 04-18 to 04-21-95 |
| | | Dilution Factor Method 6010A[b] | 50 | 50 | 50 | 50 |
| | | Dilution Factor Method 7740[b] | 1 | 1 | 20 | 20 |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| **Aluminum** | EPA 6010A | 200 | <10000 | <10000 | **19000** | <10000 |
| Antimony | EPA 6010A | 200 | <10000 | <10000 | <10000 | <10000 |
| Arsenic | EPA 7060 | 10 | <10 | <10 | <10 | <10 |
| Barium | EPA 6010A | 200 | <10000 | <10000 | <10000 | <10000 |
| Beryllium | EPA 6010A | 5.0 | <250 | <250 | <250 | <250 |
| Cadmium | EPA 6010A | 20 | <1000 | <1000 | <1000 | <1000 |
| **Calcium** | EPA 6010A | 1000 | **510000** | **710000** | **470000** | **490000** |
| Chromium | EPA 6010A | 30 | <1500 | <1500 | <1500 | <1500 |
| Cobalt | EPA 6010A | 50 | <2500 | <2500 | <2500 | <2500 |
| Copper | EPA 6010A | 25 | <1250 | <1250 | <1250 | <1250 |
| **Iron** | EPA 6010A | 100 | <5000 | <5000 | **8700** | <5000 |
| Lead | EPA 7421 | 4.0 | <4.0 | <4.0 | <4.0 | <4.0 |
| **Magnesium** | EPA 6010A | 5000 | **430000** | **340000** | **1400000** | **1600000** |
| **Manganese** | EPA 6010A | 15 | <750 | <750 | **4200** | <750 |
| Mercury | EPA 7470 | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Nickel | EPA 6010A | 40 | <2000 | <2000 | <2000 | <2000 |
| Potassium | EPA 6010A | 5000 | <250000 | <250000 | <250000 | <250000 |
| Selenium | EPA 7740 | 10 | <10 | <10 | <200 | <200 |
| Silver | EPA 6010A | 20 | <1000 | <1000 | <1000 | <1000 |
| **Sodium** | EPA 6010A | 5000 | **1300000** | **960000** | **6700000** | **7500000** |
| Thallium | EPA 7841 | 5 | <5 | <5 | <5 | <5 |
| Vanadium | EPA 6010A | 50 | <2500 | <2500 | <2500 | <2500 |
| **Zinc** | EPA 6010A | 20 | **1400** | **2200** | **9300** | <1000 |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 1, US EPA July 1992; Digestion by Method 3010A/3020A, except for 7060, 7470, 7841 and 7740 which are method specific.
b The dilution factor indicates the adjustments made for sample dilution required because of high mineral content.
* Quantitation Limit.

Project ID (Number): 830012201
Project ID (Name): HAFB: AOC-RR, AOC-BBMS PASI, NM
Work Order Number: W5-04-0302
Date Reported: 05-05-95

ANALYTICAL RESULTS
Metals in Water[a]

| | | GTEL Sample Number | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|
| | | Client Identification | AOC+BBMS-GP07 | AOC-BBMS-GP10 | AOC-BBMS-GP08 | AOC-BBMS-GP11 |
| | | Date Sampled | 04-07-95 | 04-07-95 | 04-21-95 | 04-21-95 |
| | | Date Digested | 04-24 to 04-27-95 | 04-24 to 04-27-95 | 04-24 to 04-27-95 | 04-24 to 04-27-95 |
| | | Date Analyzed | 04-25 to 05-04-95 | 04-25 to 05-04-95 | 04-25 to 05-04-95 | 04-25 to 05-04-95 |
| | | Dilution Factor Method 6010A[b] | 2 | 50 | 2 | 10 |
| | | Dilution Factor Method 7740[b] | 10 | 10 | 10 | 10 |
| | | Dilution Factor Method 7421[b] | 5 | 5 | 5 | 5 |
| | | Dilution Factor Method 7470 | 2 | 2 | 2 | 2 |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| **Aluminum** | EPA 6010A | 200 | **1000** | **24000** | **1500** | **3900** |
| Antimony | EPA 6010A | 200 | <400 | <10000 | <400 | <2000 |
| Arsenic | EPA 7060 | 10 | <10 | <10 | <10 | <10 |
| Barium | EPA 6010A | 200 | <400 | <10000 | <400 | <2000 |
| Beryllium | EPA 6010A | 5.0 | <10 | <250 | <10 | <50 |
| Cadmium | EPA 6010A | 20 | <40 | <1000 | <40 | <200 |
| **Calcium** | EPA 6010A | 1000 | **540000** | **710000** | **530000** | **620000** |
| Chromium | EPA 6010A | 30 | <60 | <1500 | <60 | <300 |
| Cobalt | EPA 6010A | 50 | <100 | <2500 | <100 | <500 |
| Copper | EPA 6010A | 25 | <50 | <1250 | <50 | <250 |
| **Iron** | EPA 6010A | 100 | **390** | <5000 | <200 | <1000 |
| **Lead** | EPA 7421 | 4.0 | **32** | **54** | **41** | **40** |
| **Magnesium** | EPA 6010A | 1000 | **110000** | **810000** | **160000** | **490000** |
| **Manganese** | EPA 6010A | 15 | **130** | <750 | **300** | **810** |
| Mercury | EPA 7470 | 0.50 | <1.0 | <1.0 | <1.0 | <1.0 |
| Nickel | EPA 6010A | 40 | <80 | <2000 | <80 | <400 |
| **Potassium** | EPA 6010A | 5000 | **25000** | <250000 | **39000** | <50000 |
| Selenium | EPA 7740 | 10 | <100 | <100 | <100 | <100 |
| Silver | EPA 6010A | 20 | <40 | <1000 | <40 | <200 |
| **Sodium** | EPA 6010A | 1000 | **240000** | **2800000** | **290000** | **1400000** |
| Thallium | EPA 7841 | 5 | <5 | <5 | <5 | <5 |
| Vanadium | EPA 6010A | 50 | <100 | <2500 | <100 | <500 |
| **Zinc** | EPA 6010A | 20 | **56** | **1500** | <40 | <200 |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 1, US EPA July 1992; Digestion by Method 3010A/3020A, except for 7060, 7470, 7841 and 7740 which are method specific.
b The dilution factor indicates the adjustments made for sample dilution required because of high mineral content.
* Quantitation Limit.

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 178
Client Sample Id: AOC-BBMS-GP1
Sample Date/Time: 31-MAR-95 1100
Received Date: 31-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.75 | NA | | PHW004 | KS |

Comments:

Analyzed: 31-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 179
Client Sample Id: AOC-BBMS-GP2
Sample Date/Time: 31-MAR-95 1230
Received Date: 31-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.75 | NA | | PHW004 | KS |

Comments:

Analyzed: 31-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 190
Client Sample Id: AOC-BBMS-GP03
Sample Date/Time: 03-APR-95 1100
Received Date: 03-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.57 | NA | | PHW006 | KS |

Comments:

Analyzed: 03-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 181
Client Sample Id: AOC-BBMS-GP4
Sample Date/Time: 31-MAR-95 1430
Received Date: 31-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.95 | NA | | PHW004 | KS |

Comments:

Analyzed: 31-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 191
Client Sample Id: AOC-BBMS-GP05
Sample Date/Time: 03-APR-95 1150
Received Date: 03-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.87 | NA | | PHW006 | KS |

Comments:

Analyzed: 03-APR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 274
Client Sample Id: AOC-BBMS-GP05 DUP
Sample Date/Time: 03-APR-95 1150
Received Date: 03-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.87 | NA | | PHW006 | KS |

Comments:

Analyzed: 03-APR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 275
Client Sample Id: AOC-BBMS-GP05 DUP
Sample Date/Time: 07-APR-95 1245
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.69 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 182
Client Sample Id: AOC-BBMS-GP6
Sample Date/Time: 31-MAR-95 1315
Received Date: 31-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.87 | NA | | PHW004 | KS |

Comments:

Analyzed: 31-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 247
Client Sample Id: AOC-BBMS-GP07
Sample Date/Time: 07-APR-95 1245
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.71 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 248
Client Sample Id: AOC-BBMS-GP08
Sample Date/Time: 07-APR-95 1345
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.79 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 249
Client Sample Id: AOC-BBMS-GP10
Sample Date/Time: 07-APR-95 1350
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.54 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 250
Client Sample Id: AOC-BBMS-GP11
Sample Date/Time: 07-APR-95 1415
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.84 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 251
Client Sample Id: AOC-BBMS-GP07D
Sample Date/Time: 07-APR-95 1245
Received Date: 07-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.70 | NA | | PHW007 | KS |

Comments:

Analyzed: 07-APR-95

# APPENDIX E-4

## Site SD-15

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 171
Client Sample Id: SD15-GP-1
Sample Date/Time: 30-MAR-95 1300
Received Date: 30-MAR-95

Batch: BEW008
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 100 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 94 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: GROUNDWATER
QC Level: N

Lab Id: 172
Client Sample Id: SD15-GP-2
Sample Date/Time: 30-MAR-95 1330
Received Date: 30-MAR-95

Batch: BEW008
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 89 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 104 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 92 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: GROUNDWATER
QC Level: N

Lab Id: 173
Client Sample Id: SD15-GP-3
Sample Date/Time: 30-MAR-95 1400
Received Date: 30-MAR-95

Batch: BEW008
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 93 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 97 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: GROUNDWATER
QC Level: N

Lab Id: 174
Client Sample Id: SD15-GP-3D
Sample Date/Time: 30-MAR-95 1400
Received Date: 30-MAR-95

Batch: BEW008
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 87 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 105 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: GROUNDWATER
QC Level: N

Lab Id: 175
Client Sample Id: SD15-GP-4
Sample Date/Time: 30-MAR-95 1430
Received Date: 30-MAR-95

Batch: BEW008
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 90 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 103 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 97 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: GROUNDWATER
QC Level: N

Lab Id: 176
Client Sample Id: SD15-GP-5
Sample Date/Time: 30-MAR-95 1520
Received Date: 30-MAR-95

Batch: BEW008
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | 20 | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 96 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 105 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 98 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: VOLATILES (8240) MOBILE LAB. (HOLLOMAN AFB)
Analysis Method: 8240 SW-846 (Mobile Lab)
Extraction Method: N/A
Matrix: GROUNDWATER
QC Level: N

Lab Id: 177
Client Sample Id: SD15-GP-6
Sample Date/Time: 30-MAR-95 1540
Received Date: 30-MAR-95

Batch: BEW008
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 31-MAR-95

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| ACETONE | UG/L | ND | 20 | |
| BENZENE | UG/L | ND | 5 | |
| BROMODICHLOROMETHANE | UG/L | ND | 5 | |
| BROMOFORM | UG/L | ND | 5 | |
| BROMOMETHANE | UG/L | ND | 10 | |
| 2-BUTANONE (MEK) | UG/L | ND | 20 | |
| CARBON DISULFIDE | UG/L | ND | 5 | |
| CARBON TETRACHLORIDE | UG/L | ND | 5 | |
| CHLOROBENZENE | UG/L | ND | 5 | |
| CHLOROETHANE | UG/L | ND | 10 | |
| 2-CHLOROETHYLVINYL ETHER | UG/L | ND | 10 | |
| CHLOROFORM | UG/L | ND | 5 | |
| CHLOROMETHANE | UG/L | ND | 10 | |
| DIBROMOMETHANE | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE | UG/L | ND | 5 | |
| CIS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| TRANS 1,2 DICHLOROETHENE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHANE | UG/L | ND | 5 | |
| 1,1-DICHLOROETHENE | UG/L | ND | 5 | |
| 1,2-DICHLOROPROPANE | UG/L | ND | 5 | |
| CIS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| TRANS-1,3-DICHLOROPROPENE | UG/L | ND | 5 | |
| ETHYL BENZENE | UG/L | ND | 5 | |
| 2-HEXANONE | UG/L | ND | 20 | |
| METHYLENE CHLORIDE | UG/L | ND | 5 | |
| 4-METHYL-2-PENTANONE | UG/L | ND | 20 | |
| STYRENE | UG/L | ND | 5 | |
| 1,1,2,2-TETRACHLOROETHANE | UG/L | ND | 5 | |
| TETRACHLOROETHENE | UG/L | ND | 5 | |
| TOLUENE | UG/L | ND | 5 | |
| 1,1,1-TRICHLOROETHANE | UG/L | ND | 5 | |
| 1,1,2-TRICHLOROETHANE | UG/L | ND | 5 | |
| TRICHLOROETHENE | UG/L | ND | 5 | |
| VINYL ACETATE | UG/L | ND | 20 | |
| VINYL CHLORIDE | UG/L | ND | 10 | |
| TOTAL XYLENES | UG/L | ND | 5 | |
| 1,2-DICHLOROETHANE-D4 | %REC/SURR | 91 | 76-114 | |
| TOLUENE-D8 | %REC/SURR | 102 | 88-110 | |
| BROMOFLUOROBENZENE | %REC/SURR | 104 | 86-115 | |
| ANALYST | INITIALS | PL | | |

Comments:

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-04-0013
Date Reported: 04-14-95

ANALYTICAL RESULTS

Metals in Water[a]

| | | GTEL Sample Number | 01 | 02 | 03 | 04 |
|---|---|---|---|---|---|---|
| | | Client Identification | SD15-GP-1 | SD15-GP-2 | SD15-GP-3 | SD15-GP-4 |
| | | Date Sampled | 04-03 to 04-07-95 | 04-03 to 04-07-95 | 04-03 to 04-07-95 | 04-03 to 04-07-95 |
| | | Date Digested | 03-30-95 | 03-30-95 | 03-30-95 | 03-30-95 |
| | | Date Analyzed | 04-03 to 04-12-95 | 04-03 to 04-12-95 | 04-03 to 04-12-95 | 04-03 to 04-12-95 |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | 5 |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| **Aluminum** | EPA 6010A | 200 | **1100** | <1000 | <1000 | <1000 |
| Antimony | EPA 6010A | 60 | <1000 | <1000 | <1000 | <1000 |
| Arsenic | EPA 7060 | 5 | <10 | <10 | <10 | <10 |
| Barium | EPA 6010A | 200 | <1000 | <1000 | <1000 | <1000 |
| Beryllium | EPA 6010A | 5 | <25 | <25 | <25 | <25 |
| Cadmium | EPA 6010A | 5 | <100 | <100 | <100 | <100 |
| **Calcium** | EPA 6010A | 1000 | **610000** | **530000** | **630000** | **550000** |
| Chromium | EPA 6010A | 10 | <150 | <150 | <150 | <150 |
| Cobalt | EPA 6010A | 50 | <250 | <250 | <250 | <250 |
| Copper | EPA 6010A | 25 | <120 | <120 | <120 | <120 |
| **Iron** | EPA 6010A | 100 | <500 | **3000** | **500** | **680** |
| Lead | EPA 7421 | 5 | <4.0 | <4.0 | **6.8** | **16** |
| **Magnesium** | EPA 6010A | 1000 | **50000** | **64000** | **56000** | **50000** |
| **Manganese** | EPA 6010A | 15 | **170** | **1500** | **3400** | **90** |
| Mercury | EPA 7470 | 0.4 | <0.5 | <0.5 | <0.5 | <0.5 |
| Nickel | EPA 6010A | 40 | <200 | <200 | <200 | <200 |
| Potassium | EPA 6010A | 5000 | <25000 | <25000 | <25000 | <25000 |
| Selenium | EPA 7740 | 5 | <10 | <10 | <10 | <10 |
| Silver | EPA 6010A | 10 | <100 | <100 | <100 | <100 |
| **Sodium** | EPA 6010A | 5000 | **65000** | **71000** | **120000** | **120000** |
| Thallium | EPA 6010A | 40 | <10 | <10 | <10 | <10 |
| Vanadium | EPA 6010A | 50 | <250 | <250 | <250 | <250 |
| **Zinc** | EPA 6010A | 20 | <100 | **200** | <100 | <100 |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Including Update 1, US EPA November 1992; Digestion by Method 3010/3020, except for 7060, 7470, 7740, and 7841 which are method specific.

NOTE: Dilution factor indicates the adjustments made for sample dilution.

Project ID (Number): 830012201
Project ID (Name): HAFB/PASI
Work Order Number: W5-04-0013
Date Reported: 04-14-95

## ANALYTICAL RESULTS

### Metals in Water[a]

| | | GTEL Sample Number | 05 | 06 | 07 | |
|---|---|---|---|---|---|---|
| | | Client Identification | SD15-GP-5 | SD15-GP-4D | SD15-GP-6 | |
| | | Date Sampled | 03-30-95 | 03-30-95 | 03-30-95 | |
| | | Date Digested | 04-03 to 04-07-95 | 04-03 to 04-07-95 | 04-03 to 04-07-95 | |
| | | Date Analyzed | 04-03 to 04-12-95 | 04-03 to 04-12-95 | 04-03 to 04-12-95 | |
| | | Dilution Factor Method 6010A | 5 | 5 | 5 | |
| Analyte | Method | QL,* ug/L | Concentration, ug/L | | | |
| Aluminum | EPA 6010A | 200 | <1000 | <1000 | <1000 | |
| Antimony | EPA 6010A | 60 | <1000 | <1000 | <1000 | |
| Arsenic | EPA 7060 | 5 | <10 | <10 | <10 | |
| Barium | EPA 6010A | 200 | <1000 | <1000 | <1000 | |
| Beryllium | EPA 6010A | 5 | <25 | <25 | <25 | |
| Cadmium | EPA 6010A | 5 | <100 | <100 | <100 | |
| **Calcium** | EPA 6010A | 1000 | **530000** | **420000** | **550000** | |
| Chromium | EPA 6010A | 10 | <150 | <150 | <150 | |
| Cobalt | EPA 6010A | 50 | <250 | <250 | <250 | |
| Copper | EPA 6010A | 25 | <120 | <120 | <120 | |
| **Iron** | EPA 6010A | 100 | <500 | **650** | **520** | |
| **Lead** | EPA 7421 | 5 | **5.6** | **16** | <4.0 | |
| **Magnesium** | EPA 6010A | 1000 | **41000** | **52000** | **88000** | |
| **Manganese** | EPA 6010A | 15 | <75 | **95** | **2500** | |
| Mercury | EPA 7470 | .4 | <0.5 | <0.5 | <0.5 | |
| Nickel | EPA 6010A | 40 | <200 | <200 | <200 | |
| Potassium | EPA 6010A | 5000 | <25000 | <25000 | <25000 | |
| Selenium | EPA 7740 | 5 | <10 | <10 | <10 | |
| Silver | EPA 6010A | 10 | <100 | <100 | <100 | |
| **Sodium** | EPA 6010A | 5000 | **75000** | **130000** | **250000** | |
| Thallium | EPA 6010A | 40 | <10 | <10 | <10 | |
| Vanadium | EPA 6010A | 50 | <250 | <250 | <250 | |
| **Zinc** | EPA 6010A | 20 | **140** | <100 | <100 | |

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986; Digestion by Method 3010/3020, except for 7060, 7470, and 7740 which are method specific.

* Quantitation Limit.

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 171
Client Sample Id: SD15-GP-1
Sample Date/Time: 30-MAR-95 1300
Received Date: 30-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.35 | NA | | PHW003 | KS |

Comments:

Analyzed: 30-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: GROUNDWATER
QC Level: N

Lab ID: 172
Client Sample Id: SD15-GP-2
Sample Date/Time: 30-MAR-95 1330
Received Date: 30-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.24 | NA | | PHW003 | KS |

Comments:

Analyzed: 30-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: GROUNDWATER
QC Level: N

Lab ID: 173
Client Sample Id: SD15-GP-3
Sample Date/Time: 30-MAR-95 1400
Received Date: 30-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.19 | NA | | PHW003 | KS |

Comments:

Analyzed: 30-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: GROUNDWATER
QC Level: N

Lab ID: 174
Client Sample Id: SD15-GP-3D
Sample Date/Time: 30-MAR-95 1400
Received Date: 30-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.08 | NA | | PHW003 | KS |

Comments:

Analyzed: 30-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: N

Lab ID: 189
Client Sample Id: SS-06-GP03
Sample Date/Time: 02-APR-95 1400
Received Date: 02-APR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.56 | NA | | PHW005 | KS |

Comments:

Analyzed: 02-APR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: GROUNDWATER
QC Level: N

Lab ID: 175
Client Sample Id: SD15-GP-4
Sample Date/Time: 30-MAR-95 1430
Received Date: 30-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.66 | NA | | PHW003 | KS |

Comments:

Analyzed: 30-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: GROUNDWATER
QC Level: N

Lab ID: 176
Client Sample Id: SD15-GP-5
Sample Date/Time: 30-MAR-95 1520
Received Date: 30-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.69 | NA | | PHW003 | KS |

Comments:

Analyzed: 30-MAR-95

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: GROUNDWATER
QC Level: N

Lab ID: 177
Client Sample Id: SD15-GP-6
Sample Date/Time: 30-MAR-95 1540
Received Date: 30-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.10 | NA | | PHW003 | KS |

Comments:

Analyzed: 30-MAR-95

"FINAL REPORT FORMAT - SINGLE"

Accession: 503730
Client: GROUNDWATER TECHNOLOGY
Project Number: 830012201.03.050
Project Name: HOLLOMAN AFB, NM
Project Location: ALAMOGORDO, NM
Test: Group of Single Wetchem
Matrix: GROUNDWATER
QC Level: N

Lab ID: 272
Client Sample Id: SD15-GP-6 DUP
Sample Date/Time: 30-MAR-95 1540
Received Date: 30-MAR-95

| Parameters: | Units: | Results: | Rpt Lmts: | Q: | Batch: | Analyst: |
|---|---|---|---|---|---|---|
| PH (150.1) | UNITS | 7.10 | NA | | PHW003 | KS |

Comments:

Analyzed: 30-MAR-95

# APPENDIX F

## Surveyors Coordinates for Sample Locations

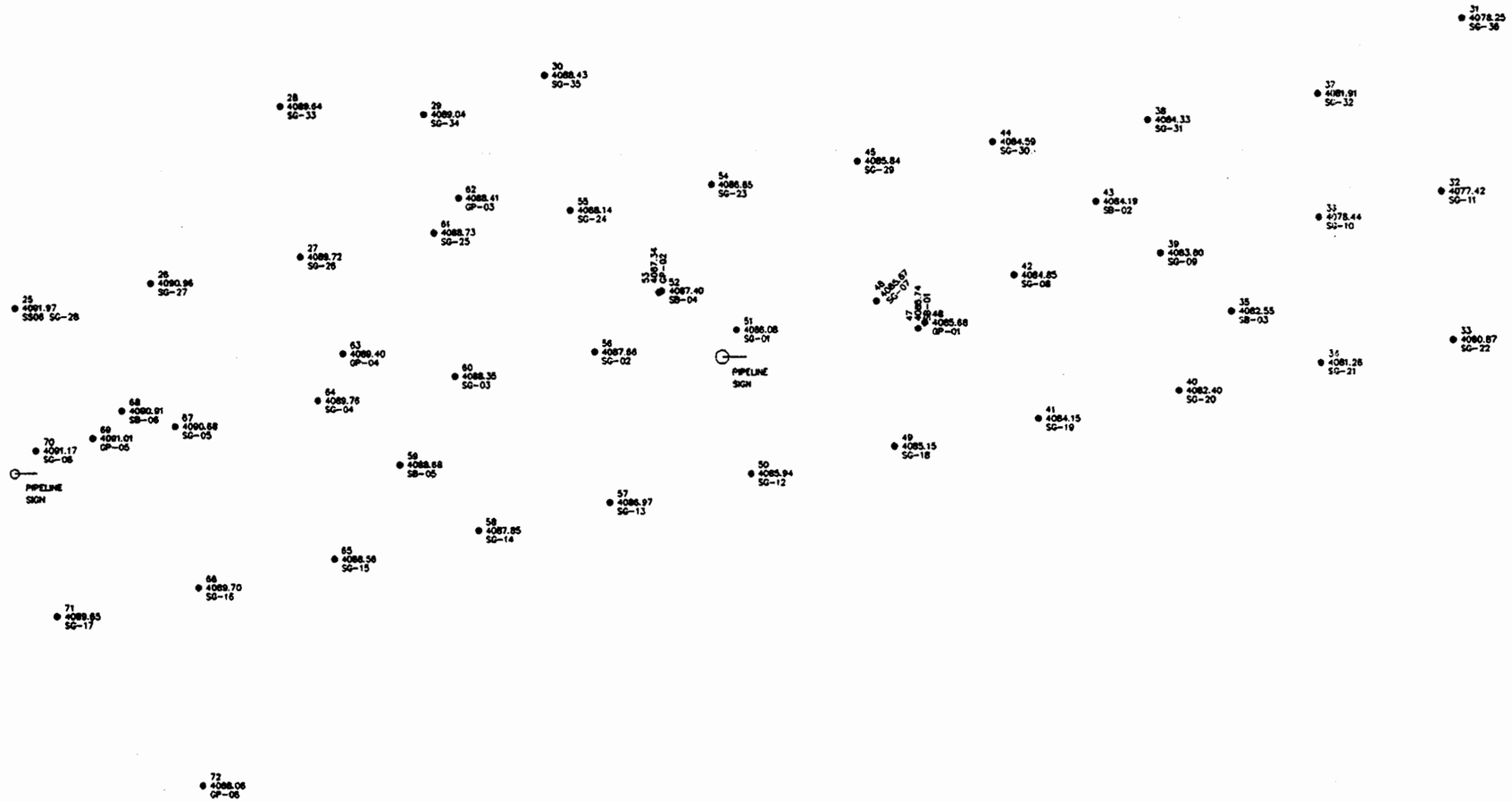
# APPENDIX F-1

## Site SS-06

SITE SS-06
JP-4 FUEL LINE SPILL

| PT. NO. | NORTHING | EASTING | DISC. |
|---|---|---|---|
| 25 | 672984.13 | 555591.55 | SG-28 |
| 26 | 672937.13 | 555600.03 | SG-27 |
| 27 | 672884.62 | 555609.01 | SG-26 |
| 28 | 672891.82 | 555661.30 | SG-33 |
| 29 | 672840.98 | 555658.32 | SG-34 |
| 30 | 672798.23 | 555671.77 | SG-35 |
| 31 | 672478.22 | 555691.60 | SG-36 |
| 32 | 672485.34 | 555631.44 | SG-11 |
| 33 | 672481.51 | 555579.94 | SG-22 |
| 34 | 672527.29 | 555571.91 | SG-21 |
| 35 | 672558.34 | 555589.82 | SB-03 |
| 36 | 672527.97 | 555622.42 | SG-10 |
| 37 | 672528.40 | 555665.26 | SG-32 |
| 38 | 672587.27 | 555656.16 | SG-31 |
| 39 | 672582.86 | 555610.02 | SG-09 |
| 40 | 672576.52 | 555562.15 | SG-20 |
| 41 | 672625.38 | 555552.47 | SG-19 |
| 42 | 672633.80 | 555602.34 | SG-08 |
| 43 | 672605.33 | 555627.86 | SB-02 |
| 44 | 672641.09 | 555648.50 | SG-30 |
| 45 | 672687.85 | 555641.78 | SG-29 |
| 46 | 672681.27 | 555593.17 | SG-07 |
| 47 | 672666.89 | 555583.67 | SB-01 |
| 48 | 672664.58 | 555585.72 | GP-01 |
| 49 | 672675.17 | 555542.66 | SG-18 |
| 50 | 672725.20 | 555533.30 | SG-12 |
| 51 | 672730.47 | 555583.29 | SG-01 |
| 52 | 672757.19 | 555596.83 | SB-04 |
| 53 | 672758.22 | 555596.33 | GP-02 |
| 54 | 672739.40 | 555633.65 | SG-23 |
| 55 | 672789.20 | 555624.86 | SG-24 |
| 56 | 672780.73 | 555575.56 | SG-02 |
| 57 | 672775.50 | 555523.23 | SG-13 |
| 58 | 672821.60 | 555513.56 | SG-14 |
| 59 | 672849.45 | 555536.56 | SB-05 |
| 60 | 672830.08 | 555567.26 | SG-03 |
| 61 | 672837.43 | 555617.21 | SG-25 |
| 62 | 672828.73 | 555629.16 | GP-03 |
| 63 | 672869.40 | 555575.24 | GP-04 |
| 64 | 672878.45 | 555558.94 | SG-04 |
| 65 | 672872.62 | 555503.73 | SG-15 |
| 66 | 672920.43 | 555493.97 | SG-16 |
| 67 | 672928.63 | 555550.12 | SG-05 |
| 68 | 672947.07 | 555555.55 | SB-06 |
| 69 | 672957.24 | 555545.98 | GP-05 |
| 70 | 672976.80 | 555541.75 | SG-06 |
| 71 | 672969.54 | 555483.93 | SG-17 |
| 72 | 672919.09 | 555425.03 | GP-06 |

| PT. NO. | NORTHING | EASTING | DISC. |
|---|---|---|---|
| 25 | 672904.13 | 555591.55 | SG-28 |
| 26 | 672837.13 | 555600.03 | SG-27 |
| 27 | 672884.82 | 555609.01 | SG-26 |
| 28 | 672891.82 | 555661.30 | SG-33 |
| 29 | 672840.98 | 555658.32 | SG-34 |
| 30 | 672798.23 | 555671.77 | SG-35 |
| 31 | 672478.22 | 555691.60 | SG-36 |
| 32 | 672485.34 | 555631.44 | SG-11 |
| 33 | 672481.51 | 555579.94 | SG-22 |
| 34 | 672527.29 | 555571.91 | SG-21 |
| 35 | 672558.34 | 555589.82 | SB-03 |
| 36 | 672527.97 | 555622.42 | SG-10 |
| 37 | 672578.40 | 555665.26 | SG-32 |
| 38 | 672587.27 | 555658.16 | SG-31 |
| 39 | 672582.86 | 555610.02 | SG-09 |
| 40 | 672576.52 | 555562.15 | SG-20 |
| 41 | 672625.38 | 555552.47 | SG-19 |
| 42 | 672633.80 | 555602.34 | SG-08 |
| 43 | 672605.33 | 555627.86 | SB-02 |
| 44 | 672641.08 | 555648.50 | SG-30 |
| 45 | 672687.85 | 555641.78 | SG-29 |
| 46 | 672681.27 | 555593.17 | SG-07 |
| 47 | 672688.89 | 555583.67 | SB-01 |
| 48 | 672664.58 | 555585.72 | GP-01 |
| 49 | 672675.17 | 555542.66 | SG-18 |
| 50 | 672725.20 | 555533.30 | SG-12 |
| 51 | 672730.47 | 555583.29 | SG-01 |
| 52 | 672757.19 | 555596.83 | SB-04 |
| 53 | 672758.22 | 555598.33 | GP-02 |
| 54 | 672739.40 | 555633.65 | SG-23 |
| 55 | 672789.20 | 555624.86 | SG-24 |
| 56 | 672780.73 | 555575.56 | SG-02 |
| 57 | 672775.50 | 555523.23 | SG-13 |
| 58 | 672821.80 | 555513.56 | SG-14 |
| 59 | 672849.45 | 555538.56 | SB-05 |
| 60 | 672830.08 | 555547.26 | SG-03 |
| 61 | 672837.43 | 555617.21 | SG-25 |
| 62 | 672828.73 | 555629.16 | GP-03 |
| 63 | 672869.40 | 555575.24 | GP-04 |
| 64 | 672878.45 | 555558.94 | SG-04 |
| 65 | 672872.82 | 555503.73 | SG-15 |
| 66 | 672920.43 | 555493.97 | SG-16 |
| 67 | 672928.63 | 555550.12 | SG-05 |
| 68 | 672947.07 | 555555.55 | SB-06 |
| 69 | 672957.24 | 555545.98 | GP-05 |
| 70 | 672976.80 | 555541.75 | SG-06 |
| 71 | 672969.54 | 555483.93 | SG-17 |
| 72 | 672919.09 | 555425.03 | GP-06 |




1"=20'

GRAPHIC SCALE

( IN FEET )
1 inch = 20 ft.

I HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, THAT THIS PLAT WAS PREPARED FROM FIELD NOTES MADE BY ME OR UNDER MY DIRECTION, THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF MEETING OR EXCEEDING THE MINIMUM REQUIREMENTS OF THE STANDARDS FOR LAND SURVEYS IN THE STATE OF NEW MEXICO.

R C. BLACK, RPS #8081 DATE

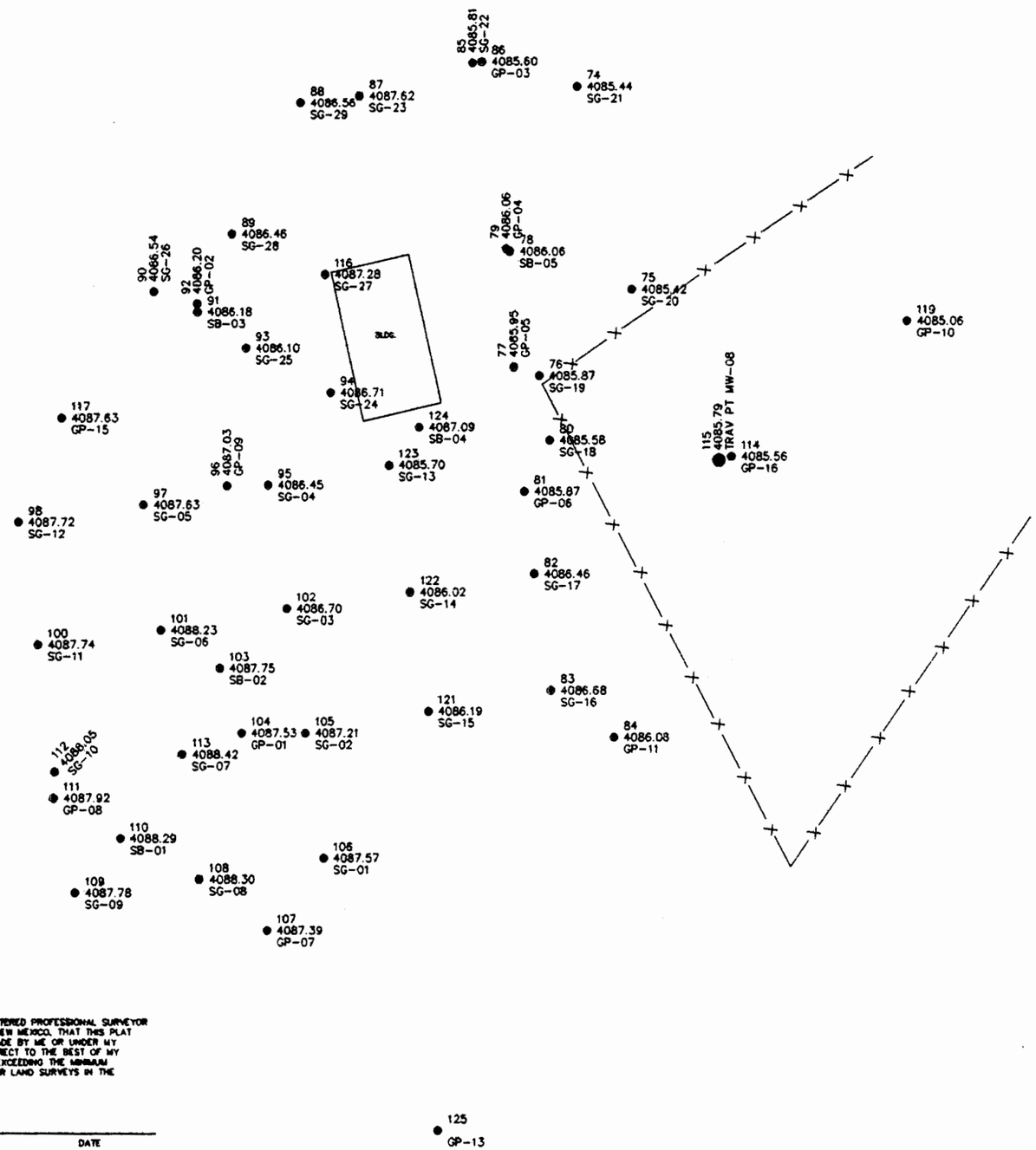
SOUTHWEST ENGINEERING, INC.
475 ARCHULETA ROAD, LAS CRUCES, NEW MEXICO 88005 (505) 526-3381

GROUNDWATER TECHNOLOGY
HOLLOMAN AFB
ALAMOGORDO, NEW MEXICO

| PROJECT NUMBER | DATE |
|---|---|
| 95034 | 5/01/95 |
| FIELD BOOK / DATA FILE / DRAWING NO. | DATA COL. SG-47 / 0503-0011 |
| 1 OF 1 | |

# APPENDIX F-2

## Site AOC-RR




| PT. NO. | NORTHING | EASTING | DISC. |
|---|---|---|---|
| 74 | 672451.94 | 554621.84 | SG-21 |
| 75 | 672371.81 | 554643.87 | SG-20 |
| 76 | 672337.69 | 554606.94 | SG-19 |
| 77 | 672341.14 | 554596.76 | GP-05 |
| 78 | 672386.76 | 554595.09 | SB-05 |
| 79 | 672387.82 | 554593.69 | GP-04 |
| 80 | 672312.28 | 554611.17 | SG-18 |
| 81 | 672292.09 | 554600.99 | GP-06 |
| 82 | 672259.43 | 554604.97 | SG-17 |
| 83 | 672213.41 | 554611.63 | SG-16 |
| 84 | 672194.86 | 554636.84 | GP-11 |
| 85 | 672461.38 | 554580.09 | SG-22 |
| 86 | 672461.88 | 554583.82 | GP-03 |
| 87 | 672448.26 | 554534.65 | SG-23 |
| 88 | 672445.58 | 554510.94 | SG-29 |
| 89 | 672393.89 | 554483.30 | SG-28 |
| 90 | 672371.14 | 554452.43 | SG-26 |
| 91 | 672363.11 | 554469.75 | SB-03 |
| 92 | 672366.31 | 554469.64 | GP-02 |
| 93 | 672348.80 | 554489.04 | SG-25 |
| 94 | 672331.28 | 554523.21 | SG-24 |
| 95 | 672294.79 | 554498.09 | SG-04 |
| 96 | 672294.57 | 554481.48 | GP-09 |
| 97 | 672287.05 | 554448.46 | SG-05 |
| 98 | 672280.21 | 554399.06 | SG-12 |
| 99 | 672200.71 | 554354.37 | GP-14 |
| 100 | 672231.71 | 554406.81 | SG-11 |
| 101 | 672237.39 | 554455.26 | SG-06 |
| 102 | 672245.86 | 554505.64 | SG-03 |
| 103 | 672222.29 | 554478.60 | SB-02 |
| 104 | 672196.67 | 554487.34 | GP-01 |
| 105 | 672196.63 | 554513.08 | SG-02 |
| 106 | 672147.18 | 554520.46 | SG-01 |
| 107 | 672118.49 | 554497.63 | GP-07 |
| 108 | 672138.80 | 554470.40 | SG-08 |
| 109 | 672133.44 | 554421.22 | SG-09 |
| 110 | 672154.96 | 554439.22 | SB-01 |
| 111 | 672170.95 | 554412.91 | GP-08 |
| 112 | 672181.37 | 554413.39 | SG-10 |
| 113 | 672188.26 | 554463.68 | SG-07 |
| 114 | 672305.95 | 554684.02 | GP-16 |
| 116 | 672377.85 | 554520.95 | SG-27 |
| 117 | 672321.40 | 554416.05 | GP-15 |
| 119 | 672359.52 | 554753.79 | GP-10 |
| 120 | 672130.91 | 554808.43 | GP-12 |
| 121 | 672205.16 | 554562.56 | SG-15 |
| 122 | 672252.27 | 554555.37 | SG-14 |
| 123 | 672302.62 | 554546.90 | SG-13 |
| 124 | 672317.51 | 554558.89 | SB-04 |
| 125 | 672038.81 | 554566.02 | GP-13 |

1"=30'

GRAPHIC SCALE

( IN FEET )
1 inch = 30 ft.

I HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, THAT THIS PLAT WAS PREPARED FROM FIELD NOTES MADE BY ME OR UNDER MY DIRECTION, THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF MEETING OR EXCEEDING THE MINIMUM REQUIREMENTS OF THE STANDARDS FOR LAND SURVEYS IN THE STATE OF NEW MEXICO.

WALTER C. BLACK, RPS #8081 DATE

FILE: 95034081 BY: WCB
DATE: 5/12/95 TIME: LATE
AUTOCAD 12 S.2

SOUTHWEST ENGINEERING, INC.
475 ARCHULETA ROAD, LAS CRUCES, NEW MEXICO 88005

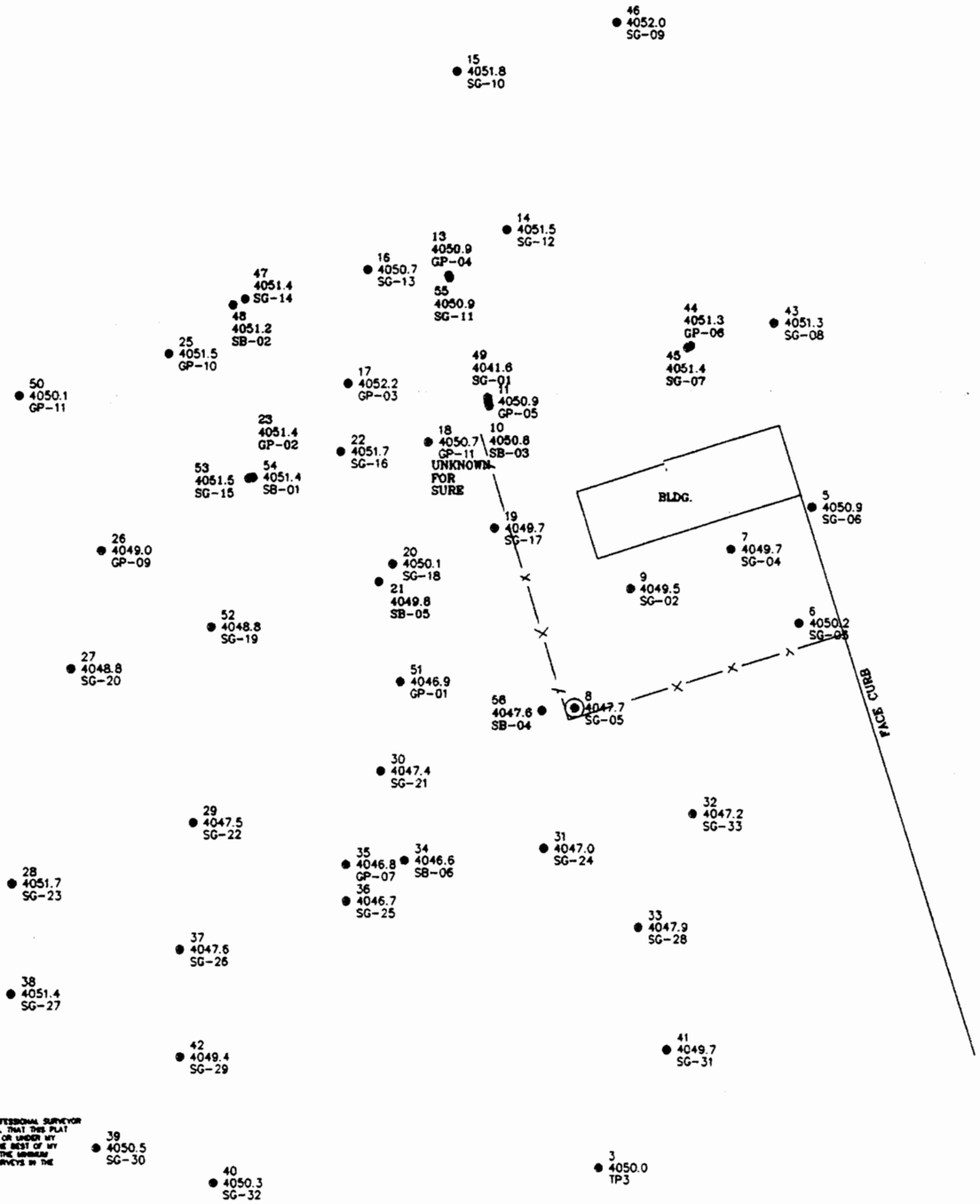
GROUNDWATER TECHNOLOGY
HOLLOMAN AFB
ALAMOGORDO, NEW MEXICO

| PROJECT NUMBER | DATE | |
|---|---|---|
| 95034 | 5/12/95 | |
| FIELD BOOK | DATA COL. | 1 |
| DATA FILE | SD-47A | OF |
| DRAWING NUMBER | 95034DT1 | 1 |

BORTB-245 081494

# APPENDIX F-3

## Site AOC-BBMS




| PT. NO. | NORTHING | EASTING | DISC. |
|---|---|---|---|
| 5 | 668734.40 | 539542.19 | SG-06 |
| 6 | 668704.79 | 539538.78 | SG-03 |
| 7 | 668723.66 | 539521.52 | SG-04 |
| 8 | 668683.08 | 539480.71 | SG-05 |
| 9 | 668713.55 | 539495.26 | SG-02 |
| 10 | 668760.42 | 539458.73 | SB-03 |
| 11 | 668761.49 | 539458.48 | GP-05 |
| 13 | 668793.83 | 539448.28 | GP-04 |
| 14 | 668805.42 | 539463.28 | SG-12 |
| 15 | 668846.03 | 539450.42 | SG-10 |
| 16 | 668795.27 | 539427.30 | SG-13 |
| 17 | 668766.11 | 539422.28 | GP-03 |
| 18 | 668751.21 | 539443.05 | GP-11 |
| 19 | 668729.18 | 539460.09 | SG-17 |
| 20 | 668720.09 | 539433.83 | SG-18 |
| 21 | 668715.52 | 539430.15 | SB-05 |
| 22 | 668748.78 | 539420.35 | SG-16 |
| 23 | 668742.29 | 539397.35 | GP-02 |
| 24 | 668742.00 | 539396.36 | SG-15 |
| 25 | 668773.78 | 539375.44 | GP-10 |
| 26 | 668723.62 | 539358.16 | GP-09 |
| 27 | 668693.30 | 539350.31 | SG-20 |
| 28 | 668638.33 | 539335.21 | SG-23 |
| 29 | 668653.82 | 539361.66 | SG-22 |
| 30 | 668666.98 | 539430.60 | SG-21 |
| 31 | 668647.13 | 539472.69 | SG-24 |
| 32 | 668655.97 | 539511.54 | SG-33 |
| 33 | 668626.97 | 539497.17 | SG-28 |
| 34 | 668644.10 | 539436.70 | SG-06 |
| 35 | 668643.05 | 539421.51 | GP-07 |
| 36 | 668633.73 | 539421.55 | SG-25 |
| 37 | 668621.37 | 539378.17 | SG-26 |
| 38 | 668610.14 | 539334.87 | SG-27 |
| 39 | 668570.33 | 539356.58 | SG-30 |
| 40 | 668561.34 | 539386.76 | SG-32 |
| 41 | 668595.58 | 539504.55 | SG-31 |
| 42 | 668593.73 | 539378.14 | SG-29 |
| 43 | 668781.42 | 539532.57 | SG-08 |
| 44 | 668775.69 | 539511.26 | GP-06 |
| 45 | 668775.18 | 539510.20 | SG-07 |
| 46 | 668858.34 | 539491.62 | SG-09 |
| 47 | 668787.84 | 539395.35 | SG-14 |
| 48 | 668786.27 | 539392.21 | SG-02 |
| 49 | 668762.46 | 539458.36 | SG-01 |
| 50 | 668763.25 | 539337.12 | GP-11 |
| 51 | 668689.89 | 539435.69 | GP-01 |
| 52 | 668703.97 | 539386.48 | SG-19 |
| 53 | 668741.98 | 539396.33 | SG-15 |
| 54 | 668742.23 | 539397.49 | SB-01 |
| 55 | 668793.13 | 539448.52 | SG-11 |
| 56 | 668682.43 | 539472.19 | SB-04 |

1"=20'

GRAPHIC SCALE

( IN FEET )
1 inch = 20 ft.

I HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO. THAT THIS PLAT WAS PREPARED FROM FIELD NOTES MADE BY ME OR UNDER MY DIRECTION, THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF MEETING OR EXCEEDING THE MINIMUM REQUIREMENTS OF THE STANDARDS FOR LAND SURVEYS IN THE STATE OF NEW MEXICO.

WALTER C. BLACK, RPS #9091 DATE

BY: WCB
TIME: EARLY

FILE: 95034OT1
DATE: 5/12/95
AUTOCAD 12 c2

SOUTHWEST ENGINEERING, INC.
475 ARCHULETA ROAD, LAS CRUCES, NEW MEXICO 88005

GROUNDWATER TECHNOLOGY
HOLLOMAN AFB
ALAMOGORDO, NEW MEXICO

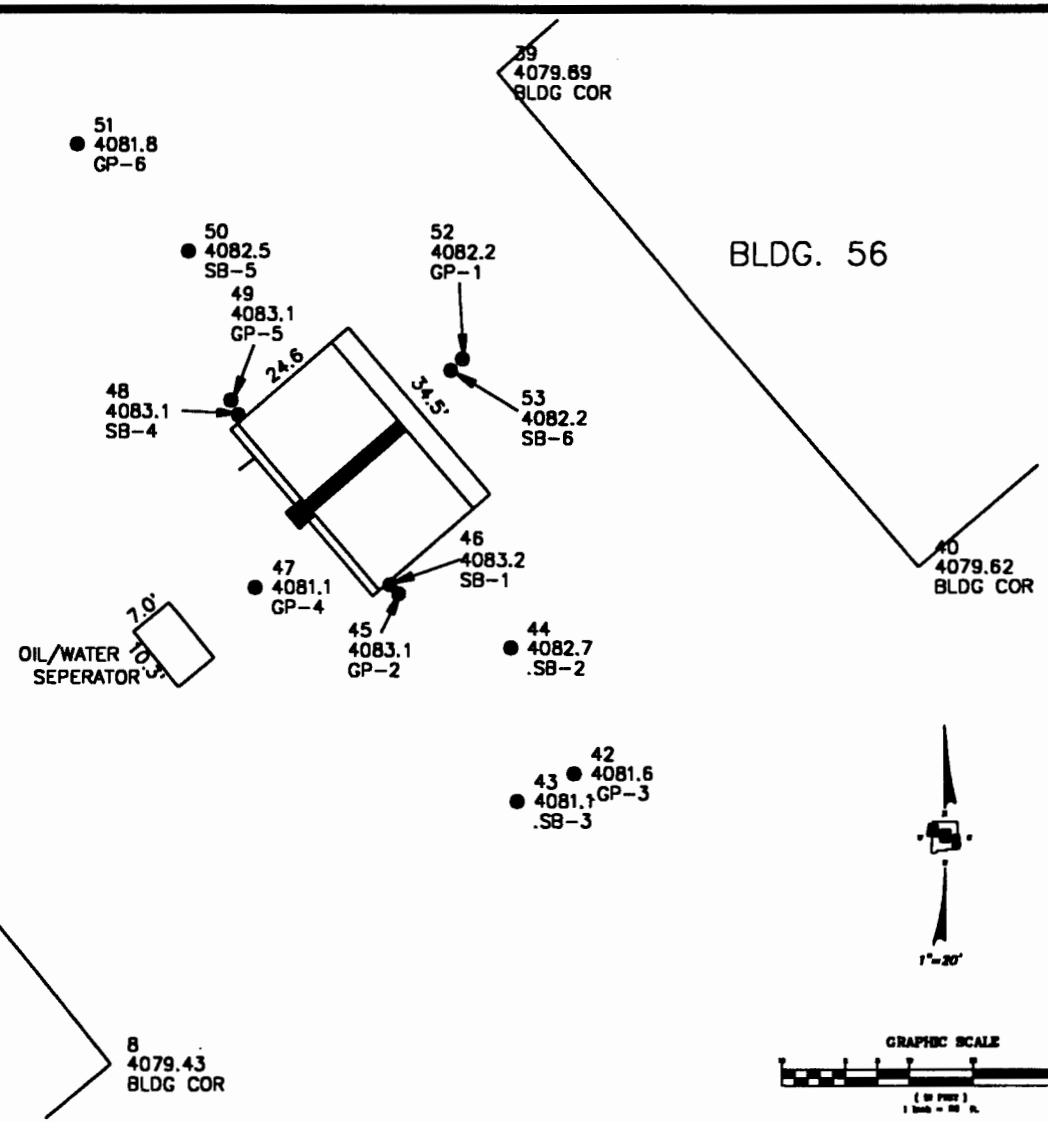
| | | | |
|---|---|---|---|
| PROJECT NUMBER | 95034 | DATE | 5/12/95 |
| FIELD BOOK | PC-48 | 1 OF 1 | |
| DATA FILE | SWMU-34A | | |
| DRAWING NUMBER | 95034OT1 | | |

BORTB-24S 081484

# APPENDIX F-4

## Site SD-15

| POINT | NORTHING | EASTING | DISC. |
|---|---|---|---|
| 39 | 670238.29 | 553817.34 | COR. BLDG 56 |
| 40 | 670160.80 | 553883.78 | COR. BLDG 56 |
| 8 | 670083.03 | 553755.66 | COR. BLDG 49 |
| 28 | 670126.51 | 553720.22 | COR. BLDG 49 |
| 22 | 670155.21 | 553765.05 | COR. SEP. |
| 23 | 670141.93 | 553766.51 | COR. SEP. |
| 37 | 670169.35 | 553783.58 | NW COR. WASH RK. |
| 42 | 670128.34 | 553829.20 | GP-3 |
| 43 | 670124.03 | 553820.16 | SB-3 |
| 44 | 670148.05 | 553819.19 | SB-2 |
| 45 | 670156.59 | 553801.44 | GP-2 |
| 46 | 670158.00 | 553800.10 | SB-1 |
| 47 | 670157.63 | 553778.74 | GP-4 |
| 48 | 670184.76 | 553776.06 | SB-4 |
| 49 | 670187.03 | 553774.93 | GP-5 |
| 50 | 670210.48 | 553768.22 | SB-5 |
| 51 | 670227.07 | 553750.72 | GP-6 |
| 52 | 670193.49 | 553811.67 | GP-1 |
| 53 | 670191.72 | 553809.85 | SB-6 |




I HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, THAT THIS PLAT WAS PREPARED FROM FIELD NOTES MADE BY ME OR UNDER MY DIRECTION, THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF WITHIN OR EXCEEDING THE MINIMUM REQUIREMENTS OF THE STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

WALTER E. BLACK, NPS 8009 DATE

FILE: 95034OT1 BY: WCB
DATE: 4/27/95 TIME: LATER YET
AUTOCAD 12 e2

SOUTHWEST ENGINEERING, INC.
475 ARCHULETA ROAD, LAS CRUCES, NEW MEXICO 88005

GROUNDWATER TECHNOLOGY
BLDG. 55 WASH RACK,HOLLOMAN AFB
ALAMOGORDO, NEW MEXICO

| PROJECT NUMBER | DATE |
|---|---|
| 95034 | 4/27/95 |
| FIELD BOOK | DATA COLL. |
| DATA FILE | BLDG55 |
| DRAWING NO. | 95034OT1 |

1 OF 1

BDR1117S 091494

# APPENDIX G

## Daily Quality Control Reports

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 031 Date: 4-27-95
Contract No.: DACW-45-94D-0003
Project Title & Location: PA/SI Phase II @ HAFB
Weather: _____ Precipitation: _____ In.: ___ Temp.: _____ Min.: _____ Max.: _

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | Geo | 10.5 | GTI | BBMS & AOCRR & SS 06 |
| | | | | GW Sampling & |
| Morales | Driller | 6.5 | RABBA-KISTNER | well Installation |
| Duenez | | 6.5 | | |
| Villa Cas | | 6.5 | | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Drill Rig | 4-26 | 4-27 | | | |
| Support Truck | 4-26 | 4-27 | | | |
| PH meter | 3-18 | 4-27 | | | |
| PID | 3-18 | | | | |
| LEL/O2 | 3-18 | | | | |
| Pump | 4-15 | | | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Installed

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

REVIEWED Site Maps, match sample bottles with sample points

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

pH / Spec - Conductance

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: ( )

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

HSP Tailgate -

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

No Delays Work on schedule

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager 4-27-95
Date

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 030 Date: 4-26-95
Contract No.: DACW 45-94D-0003
Project Title & Location: PASI & HAEB
Weather: Sun + Windy Precipitation: 0 In.: ___ Temp.: 82°F Min.: ___ Max.: ___

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 11 | GTI | SS-06 - ACCBBMS |
| DURNIEZ | Driller | 11 | RABBA-KISTNER | Install Monitor |
| Villegas | ⊥ | 11 | ⊥ | points |
| morales | | 11 | | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| B-61 mobile | 4-26 | 4-26 | 10 | | |
| Support Trc | 4-26 | 4-26 | 10 | | |
| | | | | | |
| PID | 4-26 | 4-26 | 10 | | |
| LEL/O2 | 4-26 | 4-26 | 10 | | |
| | | | | | |
| | | | | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Installed:

6 - GW Sampling Pumps

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

REVIEW Plans

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

None

6. Material Received: (Note inspection results and storage provided).

1" PVC Well Material & Used for installs.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
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| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Tailgate

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

No Delays. Good Progress

**Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.**

CQC System Manager 4/26/95 Date

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 032 Date: FRI 4-28-95

Contract No.: DACW-45-94D-0003

Project Title & Location: PA/SI @ HAFB

Weather: Cldy 75°F Precipitation: _____ In.: ___ Temp.: 75 Min.: _____ Max.: _

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 8.5 | GTI | SS-06 and Demob. |
| | | | | GW-SAMPLING |
| | | | | |
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2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of ~~Safety~~ CALIBRATION Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| GW-Pump - | — | 4/28/95 | 2.5 | — | |
| pH/Conduct meter | — | 4/28/95 | 2.5 | | |
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3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

SAMPLED well pond SS06-GP-03, wells GP-4

GP-5 & GP-6 were dry on Friday but were wet when installed. wells could produce moisture or a few drops of water.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

None

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

pH/Conduct on well

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
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| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

None

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

Wells GP-4, GP-5 & GP-6 did not contain sufficient water for sampling. Tried raising the wells to reset and 8 feet w/ only minor success. Abandoned parts.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager

Date 4/28/95

GROUNDWATER TECHNOLOGY

# DAILY SAFETY MEETING

Project/Site: HAFB PASI Date: 4-26-95

Presented by: SCHICK Title: PM

Topic(s)/Information Reviewed:

(1) TRAFFIC (2) DUST EYES

(3) PINCH POINTS

Comments/Follow-up Actions:

**Sign in:**

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| SCHICK | [illegible] | GTI |
| MANUEL DUEÑEZ | Manuel Duenez | RKCI |
| CARLOS VILLEGAS | Carlos Villegas | RKCI |
| VAL MORALES | Val Morales | RKCI |
| | | |
| | | |
| | | |

Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities.
- Complete form and file with Site Safety Plan.
- Follow-up on any noted items and document resolution of any action items.

GROUNDWATER TECHNOLOGY

# DAILY SAFETY MEETING

Project/Site: HAFB/AOCRR+AOCBOMS Date: 4-27-95

Presented by: SCHICK Title:

Topic(s)/Information Reviewed:

① Pinch points, ② Dust & Debris ③ Traffic

Comments/Follow-up Actions:

**Sign in:**

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| SCHICK | | GTI |
| MANUEL DUEÑEZ | Manuel Dueñez | RKCI |
| VAL MORALES | Val Morales | RKCI |
| CARLOS VILLEGAS | Carlos Villegas | R.K.C.I |
| | | |
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| | | |

Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities.
- Complete form and file with Site Safety Plan.
- Follow-up on any noted items and document resolution of any action items.

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 032 Date: FRI 4-28-95

Contract No.: DACW-45-94D-0003

Project Title & Location: PA/SI @ HAFB

Weather: Cldy 75°F Precipitation: _____ In.: ___ Temp.: 75 Min.: _____ Max.: _

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 8.5 | GTI | SS-06 and Demob. |
| | | | | GW-SAMPLING |
| | | | | |
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2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of ~~Safety~~ CALIBRATION Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| GW-Pump - | — | 4/28/95 | 2.5 | — | |
| pH/Conduct meter | — | 4/28/95 | 2.5 | | |
| | | | | | |
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| | | | | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

SAMPLED Well pond SS06-GP-03, wells GP-4

GP-5 & GP-6 were dry on Friday but were wet when installed. wells could produce moisture or a few drops of water.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

None

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

pH/Conduct on well

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

None

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

Wells GP-4, GP-5 & GP-6 did not contain sufficient water for sampling. Tried raising the wells to repair and 8 feet w/ only minor success. Abandoned points.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager

Date 4/28/95

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 031 Date: 4-27-95

Contract No.: DACW-45-94D-0003

Project Title & Location: PA/SI Phase II @ HAFB

Weather: _____ Precipitation: _____ In.: ___ Temp.: _____ Min.: _____ Max.: _

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 10.5 | GTI | BBMS & AOCRR & SS OC |
| | | | | GW Sampling & |
| Morales | Driller | 6.5 | RABBA-KISTNER | well Installation |
| Duenez | 1 | 6.5 | | |
| Vallecas | 1 | 6.5 | | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Drill Rig | 4-26 | 4-27 | | | |
| Support Truck | 4-26 | 4-27 | | | |
| PH meter | 3-18 | 4-27 | | | |
| PID | 3-18 | 1 | | | |
| LEL/O2 | 3-18 | 1 | | | |
| Pump | 4-15 | | | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Installed

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

REVIEWED Site maps, match sample bottles with sample points

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

pH / Spec - Conductance

6. Material Received: (Note inspection results and storage provided).

None -

7. Submittals Reviewed: ( )

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

HSP Tailgate -

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

No Delays Work on Schedule

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager 4-27-95 Date

GROUNDWATER TECHNOLOGY

# DAILY SAFETY MEETING

Project/Site: HAF-B/Accr+Accbons Date: 4-27-95

Presented by: Schick Title:

Topic(s)/Information Reviewed:

① Pinch points, ② Dust & Debris ③ Traffic

Comments/Follow-up Actions:

**Sign in:**

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Schick | [illegible] | GTI |
| Manuel Duenez | Manuel Duenez | RKCI |
| Val Morales | Val Morales | RKCI |
| Carlos Villegas | Carlos Villegas | R.K.C.I |
| | | |
| | | |
| | | |

Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities.
- Complete form and file with Site Safety Plan.
- Follow-up on any noted items and document resolution of any action items.

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 030 Date: 4-26-95

Contract No.: DACW 45-94D-0003

Project Title & Location: PASI & HAEB

Weather: Sun + Windy Precipitation: 0 In.: ___ Temp.: 82°F Min.: ___ Max.: ___

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 11 | GTI | SS-06 - ACCBBMS |
| DUENIEZ | Driller | 11 | RABBA-KISTNER | Install Monitor |
| Villegas | | 11 | | points |
| morales | | 11 | | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| B-61 mobile | 4-26 | 4-26 | 10 | | |
| Support Trk | 4-26 | 4-26 | 10 | | |
| | | | | | |
| PID | 4-26 | 4-26 | 10 | | |
| LEL/O2 | 4-26 | 4-26 | 10 | | |
| | | | | | |
| | | | | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Installed:

6 - GW Sampling Points

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

REVIEW Plans

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

None

6. Material Received: (Note inspection results and storage provided).

1" PVC well Material & used for installs.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Tailgate

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

No Delays. Good Progress

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications to the best of my knowledge, except as may be noted above.

CQC System Manager

4/26/95
Date

GROUNDWATER TECHNOLOGY

# DAILY SAFETY MEETING

Project/Site: HAFB PASI Date: 4-26-95

Presented by: SCHICK Title: PM

Topic(s)/Information Reviewed:

(1) TRAFFIC (2) DUST EYES

(3) PINCH POINTS

Comments/Follow-up Actions:

## Sign in:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| SCHICK | [illegible] | GTI |
| MANUEL DUENEZ | Manuel Duenez | RKCI |
| CARLOS VILLEGAS | Carlos Villegas | RKCI |
| VAL MORALES | Val Morales | RKCI |
| | | |
| | | |
| | | |

Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities.
- Complete form and file with Site Safety Plan.
- Follow-up on any noted items and document resolution of any action items.

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 029 Date: 4-21-95
Contract No.: DACW-45-94-D-0003
Project Title & Location:
Weather: Sun Precipitation: 0 In.: Temp.: 68 Min.: 45 Max.: 75

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 6.5 | GTI | AOC-BBMS, AOC-RR water sampling / well destruction. |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| PID | 3-16 | 4-21 | 0 | 10 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-21 | 0 | 10 | |
| Portable toilet | 3-21 | 4-21 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Finished sampling for metals at AOC-BBMS and destroyed all

temporary sampling points

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of ~~inspection compared to~~ specification requirements, and corrective actions taken when deficiencies are noted).

Calibrated PID

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

None

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Safety meeting held.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

None.

**Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.**

[signature] 4/21/95

CQC System Manager Date

# SAFETY MEETING

029

SITE: AOC-BBMS, AOC-RR

DATE: 4-21-95

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE,

COMMENTS: Water sampling AOC-BBMS

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | [signature] | GTI |

FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 028 Date: 4-20-95
Contract No.: DAWC-45-94-D-0003
Project Title & Location: Bioventing Initiative / HAFB
Weather: Sun Precipitation: 0 In.: Temp.: Min.: 45 Max.: 75

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 11 | GTI | SD-47, FT-31 |
| | | | | finish surface completions. |
| Deseñez | Driller | 9 | RKI | for wells. |
| Villegas | " | 9 | " | |
| Morales | " | 9 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Drill rig | 4-11/4-20 | 4-20 | 0 | 10 | |
| PID | 3-16 | 4-20 | 1 | 9 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-20 | 0 | 10 | |
| Portable Toilet | 3-21 | 4-20 | 10 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Finished surface completions at SD-47 & FT-31.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrate PID

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

None

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
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8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety meeting held.

10. Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

This concludes the Bioventing Initiative well installation.

**Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.**

CQC System Manager — Date: 4-20-95

# SAFETY MEETING

028

SITE: SD-47 DATE: 4-20-95

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, cement safety, wear gloves & eye protection. Lifting Safety.

COMMENTS:

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | [illegible] | GT.I |
| MANUEL DUENEZ | Manuel Duenez | R.K.C.I. |
| CARLOS VILLEGAS | Carlos Villegas | R.K.C.I. |
| VAL MORALES | Val Morales | R.K.C.I |
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FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 027 Date: 4-19-95
Contract No.: DACW-45-95-D-0003
Project Title & Location: Bioventing Initiative HAFB
Weather: Cold/windy/hail Precipitation: trace In.: 0 Temp.: 40 Min.: 30 Max.: 50

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 11 | GTI | SD-47 Install wells MC02, IW01, & MC04, start surface completions. |
| Deseñez | Driller | 10 | RKI | |
| Villegas | " | 10 | " | |
| Morales | " | 10 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Drill rig | 4-11 | 4-19 | 6 | 4 | |
| PID | 3-16 | 4-19 | 6 | 4 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-19 | 0 | 10 | |
| Portable toilet | 3-21 | 4-19 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Installed wells MC02, IW01, & MC04, and started surface completions.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrate PID

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Collected soil samples for analysis of 418.1, 8020, Inorganics, and physical properties for off-site lab analysis.

6. Material Received: (Note inspection results and storage provided).

None.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
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8. Off-site Surveillance Activities, Including Action Taken:

None.

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety meeting held.

10. Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

None.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and ~~specifications, to the best of~~ my knowledge, except as may be noted above.

CQC System Manager — Date: 4-20-95

# SAFETY MEETING

(027)

SITE: SD-47 DATE: 4/19/95

GIVEN BY: Jim Molesworth

TOPIC: Rig Safety, Level D PPE, lifting Safety

COMMENTS: Over head lines disconnected (de-energized) at 0710 by base electric.

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | [illegible] | GTI |
| MANUEL DUEÑEZ | Manuel Dueñez | RKCI |
| VAL MORALES | Val Morales | R.K.C.I |
| CARLOS VILLEGAS | Carlos Villegas | R-K-C-I |
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FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 026 Date: 4-18-95
Contract No.: DACW-45-94-D-0003
Project Title & Location: Bioventing Initiative HAFB
Weather: Sunny/Windy Precipitation: 0 In.: Temp.: Min.: 42 Max.: 78

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 11 | GTI | SD-47 - install wells |
| | | | | MC01, MC03, MC05, BW01 |
| Deseñez | Driller | 10 | RKI | |
| Villegas | " | 10 | " | |
| Moralles | " | 10 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Drill Rig | 4-11 | 4-18-95 | 10 | | |
| PID | 3-16 | 4-18 | 5 | 5 | |
| LEL $O_2$ $CO_2$ | 3-16 | 4-18 | 0 | 10 | |
| Portable Toilet | 3-21 | 4-18 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Installed wells MC01, MC03, MC05 & BW01 at SD-47.

Collected soil samples for anaylsis of 418.1 & 8020.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrated Instruments

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Samples collected for analysis by an off-site stationary lab.

6. Material Received: (Note inspection results and storage provided).

None.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
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8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Heath & Safety Meeting held.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

~~Bot~~ Had power shut-off by base electricions because we had to be within 10 feet of overhead lines. The power will be turned off at 0700 and back on at 1430 today and tomarrow.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager 4-18-95 Date

# SAFETY MEETING

**SITE:** FT-31 / SD-47 **DATE:** 18 JAN 1995

**GIVEN BY:** G.S. Stevenson.

**TOPIC:** Pressurized system: watch for hoses popping loose; use care w/ Helium bottle, watch for hot copper pipe. Rig safety, Level D PPE, traffic safety in POL Yard!

**COMMENTS:** Also use hearing protection around generator for extended time.

**SIGN IN:**

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Scott Stevenson | [illegible] | GTI |
| Jim Mulsvil | [illegible] | GTI |
| Manuel Duenez | Manuel Duenez | R.K.C.I. |
| Val. Morales | [illegible] | R.K.C.I. |
| Carlos Villegas | [illegible] | R.K.C.I. |
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FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 025 Date: 4-14-95
Contract No.: DACW-45-94-D-0003
Project Title & Location: Bioventing initiative HAFB-FT-31
Weather: Sun Precipitation: 0 In.: Temp.: Min.: 50 Max.: 80

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 7.25 | GTI | FT-31 / well head completion. |
| Desetter | Driller | 7 | RKF | |
| Moralles | " | 7 | " | |
| Villegas | " | 7 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Drill Rig | 4-11 | 4-14 | 7 | 0 | |
| PID | 3-16 | 4-14 | 2 | 5 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-14 | 0 | 8 | |
| Portable Toilet | 3-21 | 4-14 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Completed surface completions at FT-31 with the exception of

IWO1 which will be completed at a later date.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrate Instruments.

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

None

6. Material Received: (Note inspection results and storage provided).

None.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
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8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety meeting held.

10. Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

None.

**Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.**

CQC System Manager — Date 4-18-95

# SAFETY MEETING

(025)

SITE: FT-31 DATE: 4-14-95

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, lifting safety, concrete safety wear eye protection.

COMMENTS:

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | [illegible] | GTI |
| VAL MORALES | Val Morales | R-K-C |
| Carlos Villegas | Carlos Villegas | R-K-C-I |
| MANUEL DUENEZ | Manuel Duenez | RKCI |
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FORM24.PM/#1

(FIRM NAME)
Groundwater Technology Inc.
DAILY QUALITY CONTROL REPORT

Daily Report No.: 024 Date: 4-13-95
Contract No.: DACW-45-94-D-0003
Project Title & Location: Bioventing Initiative HAFB
Weather: Sunny/Windy Precipitation: _____ In.: ___ Temp.: _____ Min.: 45 Max.: 80

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Bokworth | Geo | 12 | GTI | FT-31-/ |
| Vallegas | Driller | 11 | RHI | Drill and install monitoring clusters. |
| Morales | " | 11 | " | |
| Doeter | " | 11 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Drill Rig | 4-11 | 4-13 | 11 | 0 | |
| PID | 3-16 | 4-13 | 4 | 6 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-13 | 0 | 10 | |
| Portable toilet | 3-21 | 4-13 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Drilled and installed Monitor Clusters MC02, MC03

MC04 & MC05 at FT-31

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrated PID, reviewed work plan.

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Collected soil samples for lithologic description and analysis of 418.1, 8020, and inorganics (one per boring) for analysis at a stationary lab.

6. Material Received: (Note inspection results and storage provided).

None.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
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8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety meeting.

10. Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

None.

**Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.**

CQC System Manager — Date: 4-13-95

# SAFETY MEETING

(024)

SITE: FT-31 DATE: 4-13-95

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, Rig Safety.

COMMENTS:

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | [illegible] | GTI |
| CARLOS VILLEGAS | Carlos Villegas | R.K.C.I. |
| VAL MORALES | Val Morales | R-K-C-I |
| MANUEL DUENEZ | Manuel Duenez | RKCI |
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FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 023 Date: 4-12-95
Contract No.: DACW-45-94-D-0003
Project Title & Location: Bioventing mitrative HAFB
Weather: Sunny Precipitation: 0 In.: Temp.: Min.: 45 Max.: 80

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 13 | GTI | FT-31 |
| | | | | install wells IW02, BW01 |
| Villegas | Drillers | 10 | RKI | MC01 |
| Morales | " | 10 | " | |
| Disettez | " | 10 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobil lab | 3-16/4-12 | 4-12 | 0 | 10 | |
| Drill rig | 4-11 | 4-12 | 10 | 0 | |
| PID | 3-16 | 4-12 | 4 | 6 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-12 | 0 | 10 | |
| Portable toilet | 3-21 | 4-12 | 10 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

installed second injection well (IW02), background well (BW01)

and first Monitoring point cluster (MC01)

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrate PID, review workplan.

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

None - all soil samples will be sent to a stationary lab from now on.

6. Material Received: (Note inspection results and storage provided).

None.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
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8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety meeting held.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

None

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager — Date 4-12-95

# SAFETY MEETING

(023)

SITE: # FT-31 DATE: 4-12-95

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, rig safety.

COMMENTS:

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | [illegible] | GT.1 |
| CARLOS VILLEGAS | Carlos Villegas | R.K.C. |
| VAL MORALES | Val Morales | R.K.C. |
| MANUEL DUEÑEZ | Manuel Dueñez | RKCI. |
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FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 022 Date: 4-11-95
Contract No.: DACW-45-94-D-0003
Project Title & Location: HAFB / Bioventing Initiative
Weather: Sunny Precipitation: 0 In.: ___ Temp.: ___ Min.: 45 Max.: 80

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 12 | GTI | FT-31 & SD-47 |
| | | | | unload all supplies for |
| Villegas | Drillers | 10 | RKI | well installations at both |
| Morales | " | 10 | " | sites. Begin work at |
| Diseñez | " | 10 | " | FT-31. |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check ~~4-11~~ | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile lab | 3-16 | 4-11 | 10 | 0 | |
| PID | 3-16 | 4-11 | 4 | 6 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-11 | 0 | 10 | |
| Drill rig | 4-11 | 4-11 | | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Unload all supplies, review work plan with Drillers,

review Health and Safety plan, Drill and install first injection well at FT-31, set up decon area.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrate instruments, review work plan

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

None - All soil samples from now on will be sent to a stationary lab.

6. Material Received: (Note inspection results and storage provided).

All well materials received, inspected and stored inside environmental compound.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
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| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Heath & Safety meeting conducted.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

None

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager — Date 4-11-95

# SAFETY MEETING

(022)

SITE: FT-31 DATE: 4-11-95

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, rig safety

COMMENTS:

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | [illegible] | GTI |
| MANUEL DUEÑEZ | Manuel Dueñez | R.K.C. |
| Carlos Villegas | Carlos Villegas | R.K.C. |
| VAL. MORALES | Val Morales | RKC. |
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FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 021 Date: 4-10-95
Contract No.: DACW-45-94D-0003
Project Title & Location: PA-SI / Bioventing initiative, HAFB
Weather: Sun/Wind Precipitation: 0 In.: Temp.: Min.: 30 Max.: 55

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Maleswarth | Geo | 12 | GTI | AOC-RR / office |
| | | | | Metals sampling Phase II |
| | | | | AOC-RR. Bidvent. preparation. |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobil lab | 3-16 | 4-10- | 2 | 8 | |
| PID | 3-16 | 4-10 | 1 | 9 | |
| LEL, $O_2$, $CO_2$ | 3-16 | 4-10 | 0 | 10 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Finish metals sampling at AOC-RR, Prepare for Bioventing work.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibration of PID

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

None, Lab printing final field reports.

6. Material Received: (Note inspection results and storage provided).

None.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
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| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Safety meeting.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

Could not finish metals sampling at BBMS due to goal day. (day off for BBMS, and I could not get in).

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager — Date 4-10-95

# SAFETY MEETING

SITE: AOC-RR, AOC-BBMS DATE: 4-10-95 0.

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, general safety during water sampling.

COMMENTS: Mobile phone

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | [signature] | GTI |
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FORM24.PM/#1

# Analytical Technologies, Inc.
## Field Analytical Services
## Analytical Results

**#REF!** Groundwater Technology, Inc.
**Project Name/No.:** HAFB/TERC DO#1/WAD#3 8300112201.03.050
**Samples Received:** #####

| ATI ID/ SAMPLE NUMBER | CLIENT ID | Matrix | 8015M (diesel) Units | Date Extracted | Date Analyzed | Dil. | diesel mg/kg | Sur. Rec. % |
|---|---|---|---|---|---|---|---|---|
| 503730 -103 | SS-06-SB-01-6-8 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 120 |
| 503730 -104 | SS-06-SB-01-4-6 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 117 |
| 503730 -105 | SS-06-SB-02-0-2 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 107 |
| 503730 -106 | SS-06-SB-02-6-8 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 130 |
| 503730 -107 | SS-SB03-2-4 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 129 |
| 503730 -108 | SS-SB03-8-10 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 96 |
| 503730 -109 | SS-SB03-8-10D | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 98 |
| 503730 -110 | SS-06-SB-4-6 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 144 |
| 503730 -111 | SS-06-SB-4-8-10 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 113 |
| 503730 -112 | SS-06-SB-5-10-12 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 106 |
| 503730 -113 | SS-06-SB-5-4-6 | S | mg/Kg | 03/24/95 | 03/24/95 | 1 | <20 | 122 |
| 503730 -114 | SS-06-SB06-8-10 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 129 |
| 503730 -115 | SS-06-SB06-4-6 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 88 |
| 503730 -116 | AOCRR-AB-1-6-8 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 105 |
| 503730 -117 | AOCRR-SB-1-10-12 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 98 |
| 503730 -118 | AOCRR-SB-2-8-10 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 110 |
| 503730 -119 | AOCRR-SB-2-2-4D | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 109 |
| 503730 -120 | AOCRR-SB-02-2-4 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 112 |
| 503730 -121 | AOCRR-SB-03-4-6 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 112 |
| 503730 -122 | AOCRR-SB-03-8-10 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 129 |
| 503730 -123 | AOCRR-SB-04-2-4 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 118 |
| 503730 -124 | AOCRR-SB-06-8 | S | mg/Kg | 03/25/95 | 03/25/95 | 1 | <20 | 113 |
| 503730 -125 | AOC-RR-SB05-(2-4) | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | 116 |
| 503730 -126 | AOC-RR-SB05-(6-8) | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | 112 |
| 503730 -127 | AOC-RR-SB06-6-8 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | 103 |
| 503730 -128 | AOC-RR-SB06-2-4 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | 98 |
| 503730 -129 | SD15-SB01-0-2 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | 93 |
| 503730 -130 | SD15-SB01-6-8 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | 108 |
| 503730 -131 | SD15-SB02-2-4 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | 101 |
| 503730 -132 | SD15-SB02-4-6 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | 117 |
| 503730 -133 | SD15-SB03-2-4 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | 94 |

# Analytical Technologies, Inc.
## Field Analytical Services
### Analytical Results

#REF! Groundwater Technology, Inc.
Project Name/No.: HAFB/TERC DO#1/WAD#3 8300112201.03.050
Samples Received: #####

| ATI ID/ SAMPLE NUMBER | CLIENT ID | Matrix | 8015M (diesel) Units | Date Extracted | Date Analyzed | Dil. | diesel mg/kg | Sur. Rec. % |
|---|---|---|---|---|---|---|---|---|
| 503730 -134 | SD15-SB03-2-4D | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | **115** |
| 503730 -135 | SD15-SB03-4-6 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | **92** |
| 503730 -136 | SD15-SB04-2-4 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | **113** |
| 503730 -137 | SD15-SB04-6-8 | S | mg/Kg | 03/27/95 | 03/27/95 | 1 | <20 | **97** |

# Analytical Technologies, Inc.
## Field Analytical Services
## Analytical Results

**#REF!** Groundwater Technology, Inc.
**Project Name/No.:** HAFB/TERC DO#1/WAD#3 8300112201.03.050
**Samples Received:** #####

| ATI ID/ SAMPLE NUMBER | CLIENT ID | Matrix | 8015M (diesel) Units | Date Extracted | Date Analyzed | Dil. | diesel mg/kg | OTP Sur. Rec. % | | | | JP4 | Sur. Rec. % | TOTAL BTEX ug/L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ATI ID/ SAMPLE NUMBER | CLIENT ID | Matrix | Units | 8020/8015M (BTEX/JP4) Date Extracted | Date Analyzed | Dil. | Benzene | Toluene | Ethyl Benzene | Total Xylenes | JP4 | Sur. Rec. % | BTEX ug/L 0.00 |
| 503730 -138 | T38-PZ1-5-7 | S | mg/kg | n/a | 03/29/95 | 1 | <0.05 | <0.05 | <0.05 | 0.93 | 570 | 84 | 0.93 |
| 503730 -139 | T38-PZ2-4-6 | S | mg/kg | n/a | 03/29/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 200 | 108 | 11.49 |
| 503730 -140 | T38-PZ3-4-6 | S | mg/kg | n/a | 03/29/95 | 1 | <0.05 | 0.79 | 4.4 | 6.3 | 1100 | 79 | 11.49 |
| 503730 -141 | T38-PZ4-4-6 | S | mg/kg | n/a | 03/29/95 | 1 | 1.1 | 0.39 | 0.79 | 1.1 | <20 | 96 | **14.87** |
| 503730 -142 | T38-PZ5-4-6 | S | mg/kg | n/a | 03/29/95 | 1 | 32 | 19 | 41 | 46 | 220 | 87 | 138.00 |
| 503730 -143 | T38-PZ6-6-8. | S | mg/kg | n/a | 03/29/95 | 1 | 0.95 | <0.05 | <0.05 | 0.6 | <20 | 73 | 1.55 |
| 503730 -144 | T38-PZ7-4-6 | S | mg/kg | n/a | 03/29/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | <20 | 98 | 0.00 |
| 503730 -145 | T38-PZ8-6-8 | S | mg/kg | n/a | 03/29/95 | 1 | 79 | 0.64 | 4 | 6.5 | <20 | 128 | 90.14 |
| 503730 -146 | T38-PZ9-6-8 | S | mg/kg | n/a | 03/29/95 | 1 | 71 | <0.05 | <0.05 | 0.9 | 37 | 101 | 71.90 |
| 503730 -147 | T38-PZ10-6-8 | S | mg/kg | n/a | 03/29/95 | 1 | 85 | 47 | 133 | 210 | 28000 | 122 | 475.00 |
| 503730 -148 | T38-PZ11-6-8 | S | mg/kg | n/a | 03/29/95 | 1 | 27 | 19 | 44 | 57 | 120000 | 94 | **147.00** |
| 503730 -149 | T38-PZ12-6-8 | S | mg/kg | n/a | 03/29/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | <20 | 95 | 0.00 |
| 503730 -150 | T38-PZ13-6-8 | S | mg/kg | n/a | 03/29/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 32 | 83 | 0.00 |
| 503730 -151 | T38-PZ14-6-8 | S | mg/kg | n/a | 03/29/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | <20 | 89 | 0.00 |
| 503730 -152 | T38-PZ15-6-8 | S | mg/kg | n/a | 03/29/95 | 1 | 140 | 81 | 180 | 170 | 132000 | 71 | 571.00 |
| 503730 -153 | T38-PZ16-6-8 | S | mg/kg | n/a | 03/29/95 | 1 | 99 | 60 | 220 | 250 | 9200 | 123 | 629.00 |

**Analytical Technologies, Inc.**
**Field Analytical Services**
**Analytical Results**

**#REF!** **Groundwater Technology, Inc.**
**Project Name/No.:** **HAFB/TERC DO#1/WAD#3 8300112201.03.050**
**Samples Received:** **#####**

| ATI ID/ SAMPLE NUMBER | CLIENT ID | Matrix | 8015M (diesel) Units | Date Extracted | Date Analyzed | Dil. | diesel mg/kg | OTP Sur. Rec. % |
|---|---|---|---|---|---|---|---|---|
| 503730 -154 | SD15-SB5-0-2 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 83 |
| 503730 -155 | SD15-SB5-4-6 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 96 |
| 503730 -156 | SD15-SB6-2-4 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 89 |
| 503730 -157 | SD15-SB6-4-6 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 97 |
| 503730 -158 | AOC-BBMS-SB1-0-2 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 92 |
| 503730 -159 | AOC-BBMS-SB14-6 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 92 |
| 503730 -160 | AOC-BBMS-SB2-2-4 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 79 |
| 503730 -161 | AOC-BBMS-SB2-4-6 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 94 |
| 503730 -162 | AOC-BBMS-SB3-0-2 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 86 |
| 503730 -163 | AOC-BBMS-SB1-4-6 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 92 |
| 503730 -164 | AOC-BBMS-SB4-0-2 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 77 |
| 503730 -165 | AOC-BBMS-SB4-2-4 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 91 |
| 503730 -166 | AOC-BBMS-SB5-0-2 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 91 |
| 503730 -167 | AOC-BBMS-SB5-2-4 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 90 |
| 503730 -168 | AOC-BBMS-SB6-0-2 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 100 |
| 503730 -169 | AOC-BBMS-SB6-0-2D | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 103 |
| 503730 -170 | AOC-BBMS-SB6-2-4 | S | mg/Kg | 03/30/95 | 03/30/95 | 1 | <20 | 83 |

| | | | | | |
|---|---|---|---|---|---|
| #REF! | | | Groundwater Technology, Inc. | | |
| Project Name/No.: | | | HAFB/TERC DO#1/WAD#3 830011 | | |
| Samples Received: | | | 04/04/95 | | |
| | | | | | |
| | | | | | |
| ATI | CLIENT | pH | ANALYSI | MATRIX | |
| ACC. # | ID | | DATE | | |
| 503730-129 | SD15-SB01-0-2 | 6.20 | 3/27/95 | SOIL | |
| 503730-130 | SD15-SB01-6-8 | 5.75 | 3/27/95 | SOIL | |
| 503730-131 | SD15-SB02-2-4 | 6.38 | 3/27/95 | SOIL | |
| 503730-132 | SD15-SB02-4-6 | 6.74 | 3/27/95 | SOIL | |
| 503730-133 | SD15-SB03-2-4 | 7.29 | 3/27/95 | SOIL | |
| 503730-134 | SD15-SB03-2-4D | 7.33 | 3/27/95 | SOIL | |
| 503730-135 | SD15-SB03-4-6 | 7.41 | 3/27/95 | SOIL | |
| 503730-136 | SD15-SB04-2-4 | 7.55 | 3/27/95 | SOIL | |
| 503730-137 | SD15-SB04-6-8 | 7.53 | 3/27/95 | SOIL | |
| 503730-154 | SD15-SB05-0-2 | 7.91 | 3/29/95 | SOIL | |
| 503730-155 | SD15-SB05-4-6 | 7.70 | 3/29/95 | SOIL | |
| 503730-156 | SD15-SB06-2-4 | 7.53 | 3/29/95 | SOIL | |
| 503730-157 | SD15-SB06-4-6 | 7.58 | 3/29/95 | SOIL | |
| 503730-171 | SD15-GP-1 | 7.35 | 3/30/95 | WATER | |
| 503730-172 | SD15-GP-2 | 7.24 | 3/30/95 | WATER | |
| 503730-173 | SD15-GP-3 | 7.19 | 3/30/95 | WATER | |
| 503730-174 | SD15-GP-3D | 7.08 | 3/30/95 | WATER | |
| 503730-175 | SD15-GP-4 | 7.66 | 3/30/95 | WATER | |
| 503730-176 | SD15-GP-5 | 7.69 | 3/30/95 | WATER | |
| 503730-177 | SD15-GP-6 | 7.10 | 3/30/95 | WATER | |
| 503730-178 | AOC-BBMS-GP-1 | 7.75 | 4/4/95 | WATER | |
| 503730-179 | AOC-BBMS-GP-5 | 7.75 | 4/4/95 | WATER | |
| 503730-181 | AOC-BBMS-GP-4 | 7.95 | 4/4/95 | WATER | |
| 503730-182 | AOC-BBMS-GP-6 | 7.87 | 4/4/95 | WATER | |
| 503730-183 | AOC-RR-GP-01 | 7.45 | 4/4/95 | WATER | |
| 503730-184 | AOC-RR-GP-02 | 7.72 | 4/4/95 | WATER | |
| 503730-185 | AOC-RR-GP-03 | 7.63 | 4/4/95 | WATER | |
| 503730-186 | AOC-RR-GP-04 | 7.67 | 4/4/95 | WATER | |
| 503730-187 | AOC-RR-GP-05 | 7.29 | 4/4/95 | WATER | |
| 503730-188 | AOC-RR-GP-06 | 7.25 | 4/4/95 | WATER | |
| 503730-189 | SS-06-GP-03 | 7.56 | 4/4/95 | WATER | |
| 503730-190 | AOC-BBMS-GP-03 | 7.57 | 4/4/95 | WATER | |
| 503730-191 | AOC-BBMS-GP-05 | 7.87 | 4/4/95 | WATER | |
| 503730- 242 | AOC-RR-GP07 | 7.20 | 4/7/95 | WATER | |
| 503730- 243 | AOC-RR-GP08 | 7.35 | 4/7/95 | WATER | |
| 503730- 244 | AOC-RR-GP09 | 7.64 | 4/7/95 | WATER | |
| 503730- 245 | AOC-RR-GP11 | 7.39 | 4/7/95 | WATER | |
| 503730- 246 | AOC-RR-GP07D | 7.17 | 4/7/95 | WATER | |
| 503730- 247 | AOC-BBMS-GP07 | 7.71 | 4/7/95 | WATER | |
| 503730- 248 | AOC-BBMS-GP08 | 7.79 | 4/7/95 | WATER | |
| 503730- 249 | AOC-BBMS-GP10 | 7.54 | 4/7/95 | WATER | |
| 503730- 250 | AOC-BBMS-GP11 | 7.84 | 4/7/95 | WATER | |
| 503730- 251 | AOC-BBMS-GP07D | 7.70 | 4/7/95 | WATER | |

# Analytical Technologies, Inc.
## Field Analytical Services
## Analytical Results

**#REF!** Groundwater Technology, Inc.
**Project Name/No.:** HAFB/TERC DO#1/WAD#3 8300112201.03.050
**Samples Received:** 3/19-28/95

| ATI ID/ SAMPLE NUMBER | CLIENT ID | | Matrix | Units | 8020/8015M (BTEX/JP4) Date Extracted | Date Analyzed | Dil. | Benzene | Toluene | Ethyl Benzene | Total Xylenes | JP4 | Sur. Rec. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ATI ID/ SAMPLE NUMBER | CLIENT ID | Matrix | Units | 8020/8015M (BTEX/JP4) Date Extracted | Date Analyzed | Dil. | Benzene | Toluene | Ethyl Benzene | Total Xylenes | JP4 | Sur. Rec. % | BTEX ug/L 0.00 |
| 503730- 192 | FT-31-SG01-4-6 | SV | ug/L | | 04/04/95 | 1 | <0.05 | 2.2 | 1.6 | 5.6 | <20 | 103 | 9.40 |
| 503730- 193 | FT-31-SG01-9-11 | SV | ug/L | | 04/04/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | <20 | 116 | 13.40 |
| 503730- 194 | FT-31-SG01-14-16 | SV | ug/L | | 04/04/95 | 1 | <0.05 | 3.9 | 4.8 | 4.7 | <20 | 100 | 13.40 |
| 503730- 195 | FT-31-SG01-16-17 | SV | ug/L | | 04/04/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | <20 | 91 | **13.40** |
| 503730- 196 | FT-31-SG02-4-6 | SV | ug/L | | 04/04/95 | 1 | <0.05 | 0.67 | 1.4 | <0.05 | <20 | 105 | 2.07 |
| 503730- 197 | FT-31-SG01-9-11 | SV | ug/L | | 04/04/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | <20 | 89 | 0.00 |
| 503730- 198 | FT-31-SG01-14-15 | SV | ug/L | | 04/04/95 | 1 | <0.05 | 0.99 | 0.93 | <0.05 | <20 | 116 | 1.92 |
| 503730- 199 | FT-31-SG03-4-6 | SV | ug/L | | 04/05/95 | 1 | 3.6 | 3.3 | 5 | 22 | <20 | 122 | 33.90 |
| 503730- 200 | FT-31-SG03-9-11 | SV | ug/L | | 04/05/95 | 1 | <0.05 | 1.5 | <0.05 | 1.4 | <20 | 110 | 2.90 |
| 503730- 201 | FT-31-SG03-14-16 | SV | ug/L | | 04/05/95 | 1 | <0.05 | 1.4 | <0.05 | 1.3 | <20 | 121 | 2.70 |
| 503730- 202 | FT-31-SG03-16-17 | SV | ug/L | | 04/05/95 | 1 | 3.8 | 4.9 | <0.05 | 2.9 | 250 | 120 | **11.60** |
| 503730- 203 | FT-31-SG04-4-6 | SV | ug/L | | 04/05/95 | 1 | <0.05 | 1 | <0.05 | 1.1 | 46 | 103 | 2.10 |
| 503730- 204 | FT-31-SG04-9-11 | SV | ug/L | | 04/05/95 | 10 | <0.05 | 2.1 | 4.8 | 140 | 3000 | 272 M.I. | 146.90 |
| 503730- 205 | FT-31-SG04-11-12 | SV | ug/L | | 04/05/95 | 10 | <0.05 | 1.4 | 1.5 | 25 | 1700 | 119 | **27.90** |
| 503730- 206 | FT-31-SG07-4-6 | SV | ug/L | | 04/05/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | <20 | 113 | 0.00 |
| 503730- 207 | FT-31-SG07-9-11 | SV | ug/L | | 04/05/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 55 | 97 | 0.00 |
| 503730- 208 | FT-31-SG07-14-16 | SV | ug/L | | 04/05/95 | 1 | <0.05 | 0.81 | <0.05 | <0.05 | 80 | 106 | 0.81 |
| 503730- 209 | FT-31-SG06-4-6 | SV | ug/L | | 04/05/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 120 | 110 | 0.00 |
| 503730- 210 | FT-31-SG06-9-11 | SV | ug/L | | 04/05/95 | 1 | <0.05 | 0.89 | <0.05 | <0.05 | 160 | 103 | 0.89 |
| 503730- 211 | FT-31-SG06-14-16 | SV | ug/L | | 04/05/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 180 | 109 | 0.00 |
| 503730- 212 | FT-31-SG06-18-19 | SV | ug/L | | 04/05/95 | 1 | <0.05 | 1.1 | <0.05 | <0.05 | 230 | 95 | 1.10 |
| 503730- 213 | FT-31-SG05-3-4 | SV | ug/L | | 04/05/95 | 1000 | 59000 | 45000 | 9200 | 13000 | 1040000 | 78 | 126200.00 |
| 503730- 214 | SD-47-SG01-4-6 | SV | ug/L | | 04/06/95 | 1 | 7.5 | 8.9 | 4.8 | 23 | 240 | 79 | 44.20 |
| 503730- 215 | SD-47-SG01-10-12 | SV | ug/L | | 04/06/95 | 1 | 2 | 3.6 | 1.8 | 2.6 | 280 | 95 | 10.00 |
| 503730- 216 | SD-47-SG02-4-6 | SV | ug/L | | 04/06/95 | 1 | 1.2 | 2.4 | <0.05 | 1.5 | 570 | 93 | 5.10 |
| 503730- 217 | SD-47-SG02-10-12 | SV | ug/L | | 04/06/95 | 1 | 2.3 | 4.6 | <0.05 | 2.5 | 900 | 93 | 9.40 |
| 503730- 218 | SD-47-SG03-4-6 | SV | ug/L | | 04/06/95 | 1000 | 3900 | 4000 | 3800 | 22000 | 160000 | 83 | 33700.00 |
| 503730- 219 | SD-47-SG03-9-11 | SV | ug/L | | 04/06/95 | 1000 | 560 | 1700 | 1600 | 3900 | 130000 | 87 | 7760.00 |

# Analytical Technologies, Inc.
## Field Analytical Services
## Analytical Results

**#REF!** Groundwater Technology, Inc.
**Project Name/No.:** HAFB/TERC DO#1/WAD#3 8300112201.03.050
**Samples Received:** 3/19-28/95

| ATI ID/ SAMPLE NUMBER | CLIENT ID | | Matrix | Units | 8020/8015M (BTEX/JP4) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Date Extracted | Date Analyzed | Dil. | Benzene | Toluene | Ethyl Benzene | Total Xylenes | JP4 | Sur. Rec. % |
| 503730- 220 | SD-47-SG04-4-6 | SV | ug/L | | 04/06/95 | 1 | 31 | 150 | 130 | 340 | 2700 | 130 | 651.00 |
| 503730- 221 | SD-47-SG04-8-10 | SV | ug/L | | 04/06/95 | 10 | 3400 | 980 | 4200 | 3100 | 43000 | 121 | 11680.00 |
| 503730- 222 | SD-47-SG05-4-6 | SV | ug/L | | 04/07/95 | 1 | 1 | <0.05 | <0.05 | 2.1 | 320 | 111 | 3.10 |
| 503730- 223 | SD-47-SG05-8-10 | SV | ug/L | | 04/07/95 | 100 | 8800 | 2300 | 14000 | 15000 | 540000 | 115 | 40100.00 |
| 503730- 224 | SD-47-SG06-3-5 | SV | ug/L | | 04/07/95 | 1 | <0.05 | 1.2 | <0.05 | <0.05 | 160 | 79 | 1.20 |
| 503730- 225 | SD-47-SG06-7-9 | SV | ug/L | | 04/07/95 | 10 | 150 | 76 | 330 | 230 | 6800 | 105 | 786.00 |

# Analytical Technologies, Inc.
## Field Analytical Services
## Analytical Results

**#REF!** Groundwater Technology, Inc.
**Project Name/No.:** HAFB/TERC DO#1/WAD#3 8300112201.03.050
**Samples Received:** 3/19-28/95

| ATI ID/ SAMPLE NUMBER | CLIENT ID | Matrix | Units | 8020/8015M (BTEX/JP4) Date Extracted | Date Analyzed | Dil. | Benzene | Toluene | Ethyl Benzene | Total Xylenes | JP4 | Sur. Rec. % | TOTAL BTEX ug/L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ATI ID/ SAMPLE NUMBER | CLIENT ID | Matrix | Units | 8020/8015M (BTEX/JP4) Date Extracted | Date Analyzed | Dil. | Benzene | Toluene | Ethyl Benzene | Total Xylenes | JP4 | Sur. Rec. % | TOTAL BTEX ug/L |
| 503730 -226 | SD-47-SG07-3-5 | SV | ug/L | | 04/07/95 | 1 | 3.8 | 1.4 | 11 | 2.5 | 300 | 100 | **18.70** |
| 503730 -227 | SD-47-SG07-7-9 | SV | ug/L | | 04/07/95 | 10 | 11 | 5 | 190 | 150 | 3700 | 90 | 356.00 |
| 503730 -228 | SD-47-SG08-3-5 | SV | ug/L | | 04/07/95 | 1 | <0.05 | <0.05 | 3.3 | <0.05 | 200 | 80 | 3.30 |
| 503730 -229 | SD-47-SG08-7-9 | SV | ug/L | | 04/07/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 210 | 81 | 0.00 |
| 503730 -230 | SD-47-SG09-3-5 | SV | ug/L | | 04/07/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 200 | 93 | 0.00 |
| 503730 -231 | SD-47-SG09-7-9 | SV | ug/L | | 04/07/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 270 | 86 | 0.00 |
| 503730 -232 | SD-47-SG10-3-5 | SV | ug/L | | 04/07/95 | 1 | <0.05 | 1.8 | <0.05 | 1.2 | 260 | 104 | 3.00 |
| 503730 -233 | SD-47-SG10-7-9 | SV | ug/L | | 04/07/95 | 1 | <0.05 | 1.6 | <0.05 | <0.05 | 320 | 93 | 1.60 |
| 503730 -234 | SD-47-SG11-3-5 | SV | ug/L | | 04/07/95 | 1 | 14 | <0.05 | 21 | <0.05 | 190 | 89 | 35.00 |
| 503730 -235 | SD-47-SG11-7-9 | SV | ug/L | | 04/07/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 220 | 85 | 0.00 |
| 503730 -236 | SD-47-SG12-3-5 | SV | ug/L | | 04/08/95 | 1 | 6.9 | 10 | 7.1 | 31 | 110 | 103 | 55.00 |
| 503730 -237 | SD-47-SG12-7-9 | SV | ug/L | | 04/08/95 | 1 | <0.05 | 1.8 | <0.05 | 2.8 | 160 | 111 | 4.60 |
| 503730 -238 | SD-47-SG13-3-5 | SV | ug/L | | 04/08/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 220 | 110 | 0.00 |
| 503730 -239 | SD-47-SG13-7-9 | SV | ug/L | | 04/08/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 120 | 100 | 0.00 |
| 503730 -240 | SD-47-SG14-3-5 | SV | ug/L | | 04/08/95 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | 200 | 115 | **0.00** |
| 503730 -241 | SD-47-SG14-7-9 | SV | ug/L | | 04/08/95 | 1 | <0.05 | 1.5 | <0.05 | 3.9 | 410 | 116 | **5.40** |

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 020 Date: 4-8-95
Contract No.: DACW-45-94D-0003
Project Title & Location: PA/SI HAFB
Weather: Sun Precipitation: 0 In.: Temp.: 65 Min.: 45 Max.: 70

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 5 | GTI | AOC-RR & Office |
| | | | | Metals sampling / paper work. |
| | | | | Phase II water sampling. |
| Leschinsky | Lab | 6 | ATI | |
| Smith | Lab. | 6 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile lab | 3-16 | 4-7 | 6 | | |
| PID | 3-16 | 4-8 | 1 | | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-7 | 6 | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Check easy points at AOC-RR for sampling, review CDAP for

bioventing initiative, review data.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibration of PID

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Lab continuing to run water samples from Phase II for 8240

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Safety meeting held.

10. Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

None

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager — Date 4-8-95

# SAFETY MEETING

SITE: AOC-RR DATE: 4-8-95 020

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, general safety.

COMMENTS: Working by myself today. Have mobil phone for emergencies. Water sampling.

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | [signature] | GTI |
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FOHM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 019 Date: 4/7/95
Contract No.: DACW-45-94-D0003
Project Title & Location: WAFB / PA/SI
Weather: Sun Precipitation: 0 In.: Temp.: Hot Min.: 60 Max.: 80+

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 11 | GTI | AOC-RR & AOC-BBMS |
| | | | | Phase II G.W. sampling. |
| Steerman | DPT OPR | 8 | Geo Env. | |
| Schell | " " | 8 | " " | |
| Leschenski | Lab | 10 | ATI | |
| Smith | " | 10 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile lab | 3-16 | 4/7/95 | 12 | | |
| PID | 3-16 | 4-7 | 4 | 6 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-7 | 0 | 8 | |
| DPT rig. | 3-17/4-7 | 4-7 | 8 | 0 | |
| Portable bathroom | 3-21 | 4-7 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Set 5 easy points for groundwater sampling at AOC-RR & AOC-BBMS.

One easy point was dry at each site, so only 4 G.W. sampling points could be used.

- VOC samples were collected from all eight new ~~ea~~ easy points. Four (4) metals samples were collected. The remainder of the samples will be collected by monday 4-10-95, (groundwater recharge permitting).

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrated instruments.

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Eight G.W. samples with 2 duplicates were submitted to the mobile lab for analysis of 8240 & pH.

6. Material Received: (Note inspection results and storage provided).

None.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None.

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety meeting held.

10. Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

Geo Environmental finished their work and left the site today. The mobile lab has a few more water samples to run.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

[signature] 4-7-95

CQC System Manager Date

# SAFETY MEETING

SITE: AOC-RR / AOC BBMS DATE: 4-7-95 (019)

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, rig, traffic & Lab Safety.

COMMENTS: Start Phase II G.W. dissolved plume delineation at AOC-RR & AOC-BBMS

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | | GTI |
| R Lesczensky | | GTI |
| Kenoal Smith | | ATF |
| Jeff Steirman | | LDEQ |
| J. Schell | | GEO |
| | | |
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| | | |

FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 018 Date: 4-6-95
Contract No.: DACW-45-94-D0003
Project Title & Location: PA/SI
Weather: Sun Precipitation: 0 In.: Temp.: Min.: 50 Max.: 80

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 10 | GTI | SD-47 Soil gas survey. |
| Steerman | DPT OPR | 8 | Geo Env. | |
| Schell | DPT OPR | 8 | " | |
| Leschensky | Lab | 12 | ATI | |
| Smith | Lab | 12 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile lab | 3-16 | 4-6 | 12 | 0 | |
| DPT Rig | 3-17 | 4-6 | 8 | 3 | |
| PID/LEL/$O_2$/$CO_2$ | 3-16 | 4-6 | 5 | 3 | |
| Portable Toilet | 3-21 | 4-6 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Soil gas survey at SD-47 (FT-31 & SD-47) completed for soil gas survey.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrate Instruments.

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Air samples from SD-47 (SG06 → SG14) submitted to mobile lab for analysis of 8015/8020. (TPH/BTEX)

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety Meeting held on start of day.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

- Tried to use an electric auger to drill down at refusal depth at SS-06, however the electric auger was unable to penetrate the hard soil.
- The plan now to get the required number of water samples from SS-06 is to use the HSA rig next week.
- Reviewed plans for Phase II delineations of GDL at AOC-RR and AOC-BBMS.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager — Date 4-6-95

# SAFETY MEETING

018

SITE: HAFB SD-47 DATE: 4/6/95

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, rig, traffic & Lab Safety

COMMENTS:

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | | OTI |
| Kendall Smith | | ATI |
| Paul Leschensky | | ATI |
| J. Schell | | CEG |
| J. STEERMAN | | GEG |
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FORM24.PM/#1

(FIRM NAME)
Groundwater Technology, Inc.
DAILY QUALITY CONTROL REPORT

Daily Report No.: 017 Date: 4-5-95
Contract No.: DACW-45-94-D-0003
Project Title & Location: PA/SI DAW - HAFB
Weather: Sun/cloud Precipitation: 0 In.: ___ Temp.: ~~75~~ Min.: ~~80~~ 45 Max.: 80

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 11 | GTI | FT-31, SD-47 |
| | | | | Soil gas survey. |
| Steerman | DPT OPR | 10 | Geo Env. | |
| Schell | DPT OPR | 10 | " | |
| | | | | |
| Leschensky | lab | 12 | ATI | |
| Smith | Lab. | 12 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check ~~[illegible]~~ | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile lab | 3-16 | 4-5 | 12 | 0 | |
| DPT Rig | 3-17 | 4-5 | 10 | 0 | |
| PID | 3-16 | 4-5 | 10 | 0 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-5 | 10 | 0 | |
| Potable Toilet | 3-21 | 4-5 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

FT-31 & SD-47 Soil gas survey & air sampling.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrate Instruments

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Analysis of air samples from soil gas survey.
TPH 8015/8020 BTEX

☆ Water sample results from SD-15, BBMS, and AOC-RR. attached.

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Daily morning safety meeting.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

None

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager 4-5-96
Date

# SAFETY MEETING

017

SITE: FT-31 & SD-47 DATE: 4-5-95

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, Rig Safety, traffic Safety, lab safety.

COMMENTS:

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | | GTI |
| JEFF STEERMAN | | GEO |
| J. Schell | | GEO |
| P. LESCHENSKY | | ATI |
| KENDALL SMITH | | ATI |
| | | |
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FORM24.PM/#1

| VOLATILE COMPOUNDS | REPORTING LIMITS | SAMPLE IDENTIFICATION AOC-RR-GP01 | AOC-RR-GP02 | AOC-RR-GP03 | AOC-RR-GP04 | AOC-RR-GP05 |
|---|---|---|---|---|---|---|
| ACETONE | 20 | BDL | BDL | BDL | BDL | BDL |
| BENZENE | 5 | **3000** | BDL | BDL | BDL | **36** |
| BROMODICHLOROMETHANE | 5 | BDL | BDL | BDL | BDL | BDL |
| BROMOFORM | 5 | BDL | BDL | BDL | BDL | BDL |
| BROMOMETHANE | 10 | BDL | BDL | BDL | BDL | BDL |
| 2-BUTANONE (MEK) | 20 | BDL | BDL | BDL | BDL | BDL |
| CARBON DISULFIDE | 5 | BDL | BDL | BDL | BDL | BDL |
| CARBON TETRACHLORIDE | 5 | BDL | BDL | BDL | BDL | BDL |
| CHLOROBENZENE | 5 | BDL | BDL | BDL | BDL | BDL |
| CHLOROETHANE | 10 | BDL | BDL | BDL | BDL | BDL |
| 2-CHLOROETHYL VINYL ETHER | 10 | BDL | BDL | BDL | BDL | BDL |
| CHLOROFORM | 5 | BDL | BDL | BDL | BDL | BDL |
| CHLOROMETHANE | 10 | BDL | BDL | BDL | BDL | BDL |
| DIBROMOMETHANE | 5 | BDL | BDL | BDL | BDL | BDL |
| 1,2-DICHLOROETHANE | 5 | **380** | BDL | BDL | **9** | **194** |
| CIS-1,2-DICHLOROETHENE | 5 | BDL | BDL | BDL | BDL | BDL |
| TRANS-1,2-DIHCLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL |
| 1,1-DICHLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL |
| 1,1-DICHLOROETHENE | 5 | BDL | BDL | BDL | BDL | BDL |
| 1,2-DICHLOROPROPANE | 5 | BDL | BDL | BDL | BDL | **20** |
| CIS-1,3-DICHLOROPROPENE | 5 | BDL | BDL | BDL | BDL | BDL |
| TRANS-1,3-DICHLOROPROPENE | 5 | BDL | BDL | BDL | BDL | BDL |
| ETHYL BENZENE | 5 | **260** | BDL | BDL | **24** | **30** |
| 2-HEXANONE | 20 | BDL | BDL | BDL | BDL | BDL |
| METHYLENE CHLORIDE | 5 | BDL | BDL | BDL | BDL | BDL |
| 4-METHYL-2-PENTANONE(MIBK) | 20 | BDL | BDL | BDL | BDL | BDL |
| STYRENE | 5 | BDL | BDL | BDL | BDL | BDL |
| 1,1,2,2-TETRACHLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL |
| TETRACHLOROETHENE | 5 | BDL | BDL | BDL | BDL | BDL |
| TOLUENE | 5 | **1200** | BDL | BDL | BDL | **8** |
| 1,1,1-TRICHLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL |
| 1,1,2-TRICHLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL |
| TRICHLOROETHENE | 5 | BDL | BDL | BDL | BDL | BDL |
| VINYL ACETATE | 20 | BDL | BDL | BDL | BDL | BDL |
| VINYL CHLORIDE | 10 | BDL | BDL | BDL | BDL | BDL |
| XYLENES (TOTAL) | 5 | **1200** | BDL | BDL | BDL | **49** |
| **SURROGATES** | **RECOVERY LIMITS** | | | | | |
| 1,2-DICHLOROETHANE-D4 | 76-114 | 95 | 96 | 97 | 88 | 102 |
| TOLUENE-D8 | 88-110 | 102 | 100 | 104 | 101 | 101 |
| BROMOFLUOROBENZENE | 86-115 | 104 | 100 | 103 | 100 | 97 |

*ALL SAMPLE CONCENTRSTIONS ARE EXPRESSED IN PPB (ug/L

| VOLATILE COMPOUNDS | REPORTING LIMITS | SAMPLE ID AOC-RR-GP06 | AOC-RR-GP05D |
|---|---|---|---|
| ACETONE | 20 | BDL | |
| BENZENE | 5 | **870** | |
| BROMODICHLOROMETHANE | 5 | BDL | |
| BROMOFORM | 5 | BDL | |
| BROMOMETHANE | 10 | BDL | |
| 2-BUTANONE (MEK) | 20 | BDL | |
| CARBON DISULFIDE | 5 | BDL | |
| CARBON TETRACHLORIDE | 5 | BDL | |
| CHLOROBENZENE | 5 | BDL | |
| CHLOROETHANE | 10 | BDL | |
| 2-CHLOROETHYL VINYL ETHER | 10 | BDL | |
| CHLOROFORM | 5 | BDL | |
| CHLOROMETHANE | 10 | BDL | |
| DIBROMOMETHANE | 5 | BDL | |
| 1,2-DICHLOROETHANE | 5 | **440** | |
| CIS-1,2-DICHLOROETHENE | 5 | BDL | |
| TRANS-1,2-DIHCLOROETHANE | 5 | BDL | |
| 1,1-DICHLOROETHANE | 5 | BDL | |
| 1,1-DICHLOROETHENE | 5 | BDL | |
| 1,2-DICHLOROPROPANE | 5 | **15** | |
| CIS-1,3-DICHLOROPROPENE | 5 | BDL | |
| TRANS-1,3-DICHLOROPROPENE | 5 | BDL | |
| ETHYL BENZENE | 5 | **1000** | |
| 2-HEXANONE | 20 | BDL | |
| METHYLENE CHLORIDE | 5 | BDL | |
| 4-METHYL-2-PENTANONE(MIBK) | 20 | BDL | |
| STYRENE | 5 | BDL | |
| 1,1,2,2-TETRACHLOROETHANE | 5 | BDL | |
| TETRACHLOROETHENE | 5 | BDL | |
| TOLUENE | 5 | **90** | |
| 1,1,1-TRICHLOROETHANE | 5 | BDL | |
| 1,1,2-TRICHLOROETHANE | 5 | BDL | |
| TRICHLOROETHENE | 5 | BDL | |
| VINYL ACETATE | 20 | BDL | |
| VINYL CHLORIDE | 10 | BDL | |
| XYLENES (TOTAL) | 5 | **560** | |
| **SURROGATES** | **RECOVERY LIMITS** | | |
| 1,2-DICHLOROETHANE-D4 | 76-114 | 85 | |
| TOLUENE-D8 | 88-110 | 101 | |
| BROMOFLUOROBENZENE | 86-115 | 96 | |

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| VOLATILE COMPOUNDS | REPORTING LIMITS | SAMPLE IDENTIFICATION | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | SD-15-GP01 | SD-15-GP02 | SD-15-GP03 | SD-15-GP03D | SD-15-GP04 | SD-15-GP05 | SD-15-GP06 |
| ACETONE | 20 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BENZENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BROMODICHLOROMETHANE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BROMOFORM | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| BROMOMETHANE | 10 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 2-BUTANONE (MEK) | 20 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| CARBON DISULFIDE | 5 | BDL | BDL | BDL | BDL | BDL | **20** | BDL |
| CARBON TETRACHLORIDE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| CHLOROBENZENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| CHLOROETHANE | 10 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 2-CHLOROETHYL VINYL ETHER | 10 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| CHLOROFORM | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| CHLOROMETHANE | 10 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| DIBROMOMETHANE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 1,2-DICHLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| CIS-1,2-DICHLOROETHENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| ANS-1,2-DIHCLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| ,1-DICHLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 1,1-DICHLOROETHENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 1,2-DICHLOROPROPANE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| CIS-1,3-DICHLOROPROPENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| TRANS-1,3-DICHLOROPROPENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| ETHYL BENZENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 2-HEXANONE | 20 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| METHYLENE CHLORIDE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 4-METHYL-2-PENTANONE(MIBK) | 20 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| STYRENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 1,1,2,2-TETRACHLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| TETRACHLOROETHENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| TOLUENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 1,1,1-TRICHLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| 1,1,2-TRICHLOROETHANE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| TRICHLOROETHENE | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| VINYL ACETATE | 20 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| VINYL CHLORIDE | 10 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| XYLENES (TOTAL) | 5 | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| **SURROGATES** | **RECOVERY LIMITS** | | | | | | | |
| 1,2-DICHLOROETHANE-D4 | 76-114 | 91 | 89 | 93 | 87 | 90 | 96 | 91 |
| TOLUENE-D8 | 88-110 | 100 | 104 | 102 | 105 | 103 | 105 | 102 |
| OMOFLUOROBENZENE | 86-115 | 94 | 92 | 97 | 98 | 97 | 98 | 104 |

*ALL SAMPLE CONCENTRSTIONS ARE EXPRESSED IN PPB (ug/L).

| VOLATILE COMPOUNDS | REPORTING LIMITS | SAMPLE IDENTIFICATION AOC-BBMS-GP01 | AOC-BBMS-GP02 | AOC-BBMS-GP03 | AOC-BBMS-GP04 |
|---|---|---|---|---|---|
| ACETONE | 20 | BDL | BDL | BDL | BDL |
| BENZENE | 5 | BDL | **30** | BDL | BDL |
| BROMODICHLOROMETHANE | 5 | BDL | BDL | BDL | BDL |
| BROMOFORM | 5 | BDL | BDL | BDL | BDL |
| BROMOMETHANE | 10 | BDL | BDL | BDL | BDL |
| 2-BUTANONE (MEK) | 20 | BDL | BDL | BDL | BDL |
| CARBON DISULFIDE | 5 | BDL | BDL | BDL | BDL |
| CARBON TETRACHLORIDE | 5 | BDL | BDL | BDL | BDL |
| CHLOROBENZENE | 5 | BDL | BDL | BDL | BDL |
| CHLOROETHANE | 10 | BDL | BDL | BDL | BDL |
| 2-CHLOROETHYL VINYL ETHER | 10 | BDL | BDL | BDL | BDL |
| CHLOROFORM | 5 | BDL | BDL | BDL | BDL |
| CHLOROMETHANE | 10 | BDL | BDL | BDL | BDL |
| DIBROMOMETHANE | 5 | BDL | BDL | BDL | BDL |
| 1,2-DICHLOROETHANE | 5 | BDL | BDL | BDL | BDL |
| CIS-1,2-DICHLOROETHENE | 5 | BDL | BDL | BDL | BDL |
| TRANS-1,2-DIHCLOROETHANE | 5 | BDL | BDL | BDL | BDL |
| 1,1-DICHLOROETHANE | 5 | BDL | BDL | BDL | BDL |
| 1,1-DICHLOROETHENE | 5 | BDL | BDL | BDL | BDL |
| 1,2-DICHLOROPROPANE | 5 | BDL | BDL | BDL | BDL |
| CIS-1,3-DICHLOROPROPENE | 5 | BDL | BDL | BDL | BDL |
| TRANS-1,3-DICHLOROPROPENE | 5 | BDL | BDL | BDL | BDL |
| ETHYL BENZENE | 5 | BDL | **300** | BDL | BDL |
| 2-HEXANONE | 20 | BDL | BDL | BDL | BDL |
| METHYLENE CHLORIDE | 5 | BDL | BDL | BDL | BDL |
| 4-METHYL-2-PENTANONE(MIBK) | 20 | BDL | BDL | BDL | BDL |
| STYRENE | 5 | BDL | BDL | BDL | BDL |
| 1,1,2,2-TETRACHLOROETHANE | 5 | BDL | BDL | BDL | BDL |
| TETRACHLOROETHENE | 5 | BDL | BDL | BDL | BDL |
| TOLUENE | 5 | BDL | **6** | BDL | BDL |
| 1,1,1-TRICHLOROETHANE | 5 | BDL | BDL | BDL | BDL |
| 1,1,2-TRICHLOROETHANE | 5 | BDL | BDL | BDL | BDL |
| TRICHLOROETHENE | 5 | BDL | BDL | BDL | BDL |
| VINYL ACETATE | 20 | BDL | BDL | BDL | BDL |
| VINYL CHLORIDE | 10 | BDL | BDL | BDL | BDL |
| XYLENES (TOTAL) | 5 | BDL | **47** | BDL | BDL |
| **SURROGATES** | **RECOVERY LIMITS** | | | | |
| 1,2-DICHLOROETHANE-D4 | 76-114 | 85 | 91 | 99 | 91 |
| TOLUENE-D8 | 88-110 | 103 | 102 | 100 | 103 |
| BROMOFLUOROBENZENE | 86-115 | 94 | 101 | 105 | 94 |

*ALL SAMPLE CONCENTRSTIONS ARE EXPRESSED IN PP

| VOLATILE COMPOUNDS | REPORTING LIMITS | SAMPLE ID AOC-BBMS-GP05 | AOC-BBMS-GP05D | AOC-BBMS-GP06 |
|---|---|---|---|---|
| ACETONE | 20 | BDL | BDL | BDL |
| BENZENE | 5 | BDL | BDL | BDL |
| BROMODICHLOROMETHANE | 5 | BDL | BDL | BDL |
| BROMOFORM | 5 | BDL | BDL | BDL |
| BROMOMETHANE | 10 | BDL | BDL | BDL |
| 2-BUTANONE (MEK) | 20 | BDL | BDL | BDL |
| CARBON DISULFIDE | 5 | BDL | BDL | BDL |
| CARBON TETRACHLORIDE | 5 | BDL | BDL | BDL |
| CHLOROBENZENE | 5 | BDL | BDL | BDL |
| CHLOROETHANE | 10 | BDL | BDL | BDL |
| 2-CHLOROETHYL VINYL ETHER | 10 | BDL | BDL | BDL |
| CHLOROFORM | 5 | BDL | BDL | BDL |
| CHLOROMETHANE | 10 | BDL | BDL | BDL |
| DIBROMOMETHANE | 5 | BDL | BDL | BDL |
| 1,2-DICHLOROETHANE | 5 | BDL | BDL | BDL |
| CIS-1,2-DICHLOROETHENE | 5 | BDL | BDL | BDL |
| TRANS-1,2-DIHCLOROETHANE | 5 | BDL | BDL | BDL |
| 1,1-DICHLOROETHANE | 5 | BDL | BDL | BDL |
| 1,1-DICHLOROETHENE | 5 | BDL | BDL | BDL |
| 1,2-DICHLOROPROPANE | 5 | BDL | BDL | BDL |
| CIS-1,3-DICHLOROPROPENE | 5 | BDL | BDL | BDL |
| TRANS-1,3-DICHLOROPROPENE | 5 | BDL | BDL | BDL |
| ETHYL BENZENE | 5 | BDL | BDL | BDL |
| 2-HEXANONE | 20 | BDL | BDL | BDL |
| METHYLENE CHLORIDE | 5 | BDL | BDL | BDL |
| 4-METHYL-2-PENTANONE(MIBK) | 20 | BDL | BDL | BDL |
| STYRENE | 5 | BDL | BDL | BDL |
| 1,1,2,2-TETRACHLOROETHANE | 5 | BDL | BDL | BDL |
| TETRACHLOROETHENE | 5 | BDL | BDL | BDL |
| TOLUENE | 5 | BDL | BDL | BDL |
| 1,1,1-TRICHLOROETHANE | 5 | BDL | BDL | BDL |
| 1,1,2-TRICHLOROETHANE | 5 | BDL | BDL | BDL |
| TRICHLOROETHENE | 5 | BDL | BDL | BDL |
| VINYL ACETATE | 20 | BDL | BDL | BDL |
| VINYL CHLORIDE | 10 | BDL | BDL | BDL |
| XYLENES (TOTAL) | 5 | BDL | BDL | BDL |
| **SURROGATES** | **RECOVERY LIMITS** | | | |
| 1,2-DICHLOROETHANE-D4 | 76-114 | 97 | 94 | 88 |
| TOLUENE-D8 | 88-110 | 100 | 104 | 104 |
| BROMOFLUOROBENZENE | 86-115 | 96 | 97 | 99 |

B (ug/L).

(FIRM NAME)
Groundwater Technology
DAILY QUALITY CONTROL REPORT

Daily Report No.: 016 Date: 4-4-95
Contract No.: DACW-45-94-D-0003
Project Title & Location: PA/SI LAD, HAFB
Weather: Sun/cloud Precipitation: Trace In.: ___ Temp.: ___ Min.: 40 Max.: 68

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 13.5 | GTI | SD-47, FT-31 Soil gas Survey |
| Steerman | DPT OPR | 8 | GEO ENV. | |
| Schell | DPT OPR | 8 | " | |
| Leschensky | Lab | 10 | ATI | |
| Smith | Lab | 10 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile lab | 3-16 | 4-4 | 10 | 0 | |
| DPT Rig | 3-17 | 4-4 | 8 | 0 | |
| PID | 3-16 | 4-4 | 4 | 6 | |
| LEL/$O_2$/$CO_2$ | 3-16 | 4-4 | 4 | 6 | |
| Portable toilet | 3-21 | 4-4 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

SD-47 / FT-31 Air Sampling. (Soil gas survey)

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrate Instruments

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Soil gas samples from FT-31- SG01 and SG02
TPH 8015/ Btex 8020.

6. Material Received: (Note inspection results and storage provided).

None.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Daily morning Safety meeting

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

Delays at SD-47 due to line not marked. Digging permit issued on March 24, but they forgot to mark the underground lines.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager 4-4-95 Date

# SAFETY MEETING

016.

SITE: HAFB SD-47 DATE: 4-4-95

GIVEN BY: Jim Molesworth

TOPIC: Level D PPE, rig safety, traffic safety, lab safety.

COMMENTS:

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| Jim Molesworth | | GTI |
| JEFF STEERMAN | | GEO |
| J. Schell | | GEO |
| P. LESCHENSKY | | ATI |
| KENDALL SMITH | | ATI |
| | | |
| | | |
| | | |
| | | |
| | | |

FORM24.PM/#1

Groundwater Technology, Inc.
(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 015 Date: 4-3-95
Contract No.: DACW-45-94-D-0003
Project Title & Location: PA/SI WAD, HAFB
Weather: Sun/cloudy Precipitation: 0 In.: ___ Temp.: ~~45~~ Min.: 45 Max.: 65

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Molesworth | Geo | 11 | GTI | SS-06, AOC-RR, AOC-BBMS. |
| Steerman | DPT-OPR | 9 | GEO-Envr. | Groundwater Sampling. |
| Schell | DPT-OPR | 9 | " | |
| Leschensky | Lab | 8 | ATI | |
| Smith | Lab | 8 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile lab | 3-16 | 4-3 | 12 | | |
| DPT-Rig | 3-17 | 4-3 | 0 | 10 | |
| PID | 3-16 | 4-3 | 2 | 8 | |
| LEL/$O_2$ | 3-16 | 4-3 | 0 | 10 | |
| Portable toilet | 3-21 | 4-3 | 10 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Collected groundwater samples from SS-06, AOC-RR & AOC-BBMS

- Collected the last VOC sample from BBMS-GP03 and all remaining Metals samples and destroyed the easy points by pulling the tubing and filling with bentonite.
- Collected the remaining samples from AOC-RR
- Collected only one sample from SS-06, all other wells were dry after >24 hrs of time.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrated instruments.

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

8240 VOC for water.

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety meeting on site.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

5 of 6 easy points for Groundwater sampling were dry at SS-06. Tried to punch 2 more times at each location but hit refusal each time. Only collected one sample at SS-06 from GP-03. All others dry.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager — Date 4-3-95

Groundwater Technology Inc.
(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 014 Date: 4-2-95
Contract No.: DACW-45-94-D-0003
Project Title & Location: PA/SI WPAFB
Weather: Sun Precipitation: 0 In.: Temp.: 45 Min.: 65 Max.:

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Mbleworth | Geo | 10 | GTI | SS-06, AOC-RR |
| | | | | set easy points for |
| Steerman | DPT-DPR | 9 | GEO Envir. | water sampling. |
| Schell | DPT-ORR | 9 | " | Water sample at AOC-RR. |
| | | | | GP1-GP6 VOAs only. |
| Leschensky | Lab | 4 | ATI | |
| Smith | Lab | 4 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobil lab | 3-16 | 4-2 | 12 | 0 | |
| DPT Rig | 3-17 | 4-2 | 10 | 0 | |
| PID | 3-16 | 4-2 | ~~10~~ 2 | 8 | |
| LEL/O2 | 3-16 | 4-2 | 0 | 10 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Drove easy points with DPT rig at SS-06 and AOC-RR for

Water sampling purposes- Collected VOC samples from AOC-RR, but not enough water for metals samples, will have to let recharge.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrated instruments.

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Submitted water samples from AOC-RR for analysis of 8240.

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety meeting held.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

Groundwater recharge continues to be very slow and collecting the samples is difficult.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager

4-2-95
Date

Groundwater Technology Inc.
(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 013 DATE: 3-31-95
Contract No. DACW-45-94-D-0003
Project Title & Location: PA/SI WAD HAFB
Weather: Sun Precipitation: 0 in. ____ Temp.: ____ Min: 45 Max. 68

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER: | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| Schick | Geo | 10 | GTI | GW-Samples @ SS-06, |
| Molesworth | Geo | 10 | GTI | AOC-RR, AOC-BBMS |
| | | | | PA/SI at HAFB |
| Steerman | DPT-OPR | 9 | GEO. Envir. | |
| Sobell | DPT-OPR | 9 | " " | |
| Leschensky | LAB | 12 | ATI | |
| Smith | LAB | 12 | " | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile Lab | 3-16 | 3-31 | 12 | 0 | |
| DPT-Rig | 3-17 | 3-31 | 9 | 0 | |
| PID | 3-16 | 3-31 | 4 | 6 | |
| LEL/$O_2$ | 3-16 | 3-31 | 0 | 10 | |
| Portable toilet | 3-21 | NA | 8 | 0 | |

FIGURE 3-7
DAILY CONSTRUCTION QUALITY CONTROL REPORT

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

- Set one "easy point" (groundwater sampling point) at SS-06 and AOC-RR and both were dry. The DPT rig went to refusal at both sites. They will be checked again on 4-2-95 for water.

- Set Six easy points at AOC-BBMS and collected 5 out of 6 VOC samples and 2 of 6 Metals samples. Will retry on 4-3-95 to collect the rest of the samples. Groundwater recharge is very slow.

4. Control Activities Performed:

Preparatory Inspections: (Identify feature of work and attach minutes).

Initial Inspections: (Identify feature of work and attach minutes).

Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrated Intruments

5. Tests Performed and Test Results: (Identify test requirement by paragraph number in specifications and/or sheet number in plans).

Lab results for the day will be ready on 4-2-95

6. Material Received: (Note inspection results and storage provided).

None

**FIGURE 3-7**

**DAILY CONSTRUCTION QUALITY CONTROL REPORT**

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Offsite Surveillance Activities, Including Action Taken:

None.

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health and Safety meeting held.

10. Remarks: (Instructions received or given. Conflict(s) in Plans and/or specifications. Delays encountered.).

None.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager — Date: 3-31-95

**FIGURE 3-7**
**DAILY CONSTRUCTION QUALITY CONTROL REPORT**

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 012 DATE: 3-30-95
Contract No. DACW-[redacted]45-94D-0003
Project Title & Location:
Weather: Sun Precipitation: 0 in. ____ Temp.: ____ Min: 42 Max. 60

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER: | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 10 | GTI | GW-Sampling @ |
| Molosworth | GEO | 10 | ⊥ | SD-15, Soil @ |
| | | | | BBMO3. PA/SI |
| Steerman | DPT-OPR | 8 | GEO-ENV. | |
| Schell | DPT-OPR | 8 | ⊥ | at HAFB. |
| | | | | |
| HESCHENSKY | LAB | 12 | ATI | |
| Smith | LAB | 12 | ⊥ | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile Lab | 3-16 | 3-30 | 12 | 0 | |
| DPT-R16 | 3-17 | 3-30 | 8 | 2 | |
| PID | 3-16 | 3-30 | 4 | 6 | |
| LEL/O2 | 3-16 | 3-30 | 0 | 10 | |

**FIGURE 3-7**
**DAILY CONSTRUCTION QUALITY CONTROL REPORT**

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Sampled 6 Groundwater point @ SD15

Sampled 2 - Soil boring points @ BBMS

4. Control Activities Performed: 0

Preparatory Inspections: (Identify feature of work and attach minutes).

Initial Inspections: (Identify feature of work and attach minutes).

Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

CALIBRATED INSTRUMENTS

5. Tests Performed and Test Results: (Identify test requirement by paragraph number in specifications and/or sheet number in plans).

LAB RESULTS ATTACHED

6. Material Received: (Note inspection results and storage provided).

None

**FIGURE 3-7**

**DAILY CONSTRUCTION QUALITY CONTROL REPORT**

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Offsite Surveillance Activities, Including Action Taken:

None.

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

HSP TAIL GATE

10. Remarks: (Instructions received or given. Conflict(s) in Plans and/or specifications. Delays encountered.).

None

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager — Date 3-30-95

**FIGURE 3-7**
**DAILY CONSTRUCTION QUALITY CONTROL REPORT**

| VOLATILE COMPOUNDS | REPORTING LIMITS | SAMPLE IDENTIFICATION | | | |
|---|---|---|---|---|---|
| | | AOC-RR-SB01-6-8 | AOC-RR-SB01-10-12 | AOC-RR-SB02-8-10 | AOC-RR-SB02-2-4D |
| ACETONE | 500 | BDL | BDL | BDL | BDL |
| BENZENE | 50 | BDL | BDL | BDL | BDL |
| BROMODICHLOROMETHANE | 50 | BDL | BDL | BDL | BDL |
| BROMOFORM | 500 | BDL | BDL | BDL | BDL |
| BROMOMETHANE | 500 | BDL | BDL | BDL | BDL |
| 2-BUTANONE (MEK) | 500 | BDL | BDL | BDL | BDL |
| CARBON DISULFIDE | 50 | BDL | BDL | BDL | BDL |
| CARBON TETRACHLORIDE | 50 | BDL | BDL | BDL | BDL |
| CHLOROBENZENE | 50 | BDL | BDL | BDL | BDL |
| CHLOROETHANE | 50 | BDL | BDL | BDL | BDL |
| 2-CHLOROETHYL VINYL ETHER | 500 | BDL | BDL | BDL | BDL |
| CHLOROFORM | 50 | BDL | BDL | BDL | BDL |
| CHLOROMETHANE | 500 | BDL | BDL | BDL | BDL |
| DIBROMOMETHANE | 50 | BDL | BDL | BDL | BDL |
| 1,2-DICHLOROETHANE | 50 | BDL | BDL | BDL | BDL |
| CIS-1,2-DICHLOROETHENE | 50 | BDL | BDL | BDL | BDL |
| TRANS-1,2-DIHCLOROETHANE | 50 | BDL | BDL | BDL | BDL |
| 1,1-DICHLOROETHANE | 50 | BDL | BDL | BDL | BDL |
| 1,1-DICHLOROETHENE | 50 | BDL | BDL | BDL | BDL |
| 1,2-DICHLOROPROPANE | 50 | BDL | BDL | BDL | BDL |
| CIS-1,3-DICHLOROPROPENE | 50 | BDL | BDL | BDL | BDL |
| TRANS-1,3-DICHLOROPROPENE | 50 | BDL | BDL | BDL | BDL |
| ETHYL BENZENE | 50 | BDL | BDL | BDL | BDL |
| 2-HEXANONE | 500 | BDL | BDL | BDL | BDL |
| METHYLENE CHLORIDE | 300 | BDL | BDL | BDL | BDL |
| 4-METHYL-2-PENTANONE(MIBK) | 500 | BDL | BDL | BDL | BDL |
| STYRENE | 50 | BDL | BDL | BDL | BDL |
| 1,1,2,2-TETRACHLOROETHANE | 50 | BDL | BDL | BDL | BDL |
| TETRACHLOROETHENE | 50 | BDL | BDL | BDL | BDL |
| TOLUENE | 50 | BDL | BDL | BDL | BDL |
| 1,1,1-TRICHLOROETHANE | 50 | BDL | BDL | BDL | BDL |
| 1,1,2-TRICHLOROETHANE | 50 | BDL | BDL | BDL | BDL |
| TRICHLOROETHENE | 50 | BDL | BDL | BDL | BDL |
| VINYL ACETATE | 50 | BDL | BDL | BDL | BDL |
| VINYL CHLORIDE | 50 | BDL | BDL | BDL | BDL |
| XYLENES (TOTAL) | 50 | BDL | BDL | BDL | BDL |
| **SURROGATES** | **RECOVERY LIMITS** | | | | |
| 1,2-DICHLOROETHANE-D4 | 70-121 | 107 | 108 | 106 | 100 |
| TOLUENE-D8 | 84-138 | 103 | 103 | 102 | 105 |
| BROMOFLUOROBENZENE | 59-113 | 106 | 100 | 103 | 107 |

| VOLATILE COMPOUNDS | REPORTING LIMITS | SAMPLE IDENTIFICATION | | | |
|---|---|---|---|---|---|
| | | AOC-RR-SB02-2-4 | AOC-RR-SB03-4-6 | AOC-RR-SB03-8-10 | AOC-RR-SB04-2-4 |
| ACETONE | 500 | | BDL | BDL | BDL |
| BENZENE | 50 | | BDL | BDL | BDL |
| BROMODICHLOROMETHANE | 50 | | BDL | BDL | BDL |
| BROMOFORM | 500 | | BDL | BDL | BDL |
| BROMOMETHANE | 500 | | BDL | BDL | BDL |
| 2-BUTANONE (MEK) | 500 | | BDL | BDL | BDL |
| CARBON DISULFIDE | 50 | | BDL | BDL | BDL |
| CARBON TETRACHLORIDE | 50 | | BDL | BDL | BDL |
| CHLOROBENZENE | 50 | | BDL | BDL | BDL |
| CHLOROETHANE | 50 | | BDL | BDL | BDL |
| 2-CHLOROETHYL VINYL ETHER | 500 | | BDL | BDL | BDL |
| CHLOROFORM | 50 | | BDL | BDL | BDL |
| CHLOROMETHANE | 500 | | BDL | BDL | BDL |
| DIBROMOMETHANE | 50 | | BDL | BDL | BDL |
| 1,2-DICHLOROETHANE | 50 | | BDL | BDL | BDL |
| CIS-1,2-DICHLOROETHENE | 50 | | BDL | BDL | BDL |
| TRANS-1,2-DIHCLOROETHANE | 50 | | BDL | BDL | BDL |
| 1,1-DICHLOROETHANE | 50 | | BDL | BDL | BDL |
| 1,1-DICHLOROETHENE | 50 | | BDL | BDL | BDL |
| 1,2-DICHLOROPROPANE | 50 | | BDL | BDL | BDL |
| CIS-1,3-DICHLOROPROPENE | 50 | | BDL | BDL | BDL |
| TRANS-1,3-DICHLOROPROPENE | 50 | | BDL | BDL | BDL |
| ETHYL BENZENE | 50 | | BDL | BDL | BDL |
| 2-HEXANONE | 500 | | BDL | BDL | BDL |
| METHYLENE CHLORIDE | 300 | | BDL | BDL | BDL |
| 4-METHYL-2-PENTANONE(MIBK) | 500 | | BDL | BDL | BDL |
| STYRENE | 50 | | BDL | BDL | BDL |
| 1,1,2,2-TETRACHLOROETHANE | 50 | | BDL | BDL | BDL |
| TETRACHLOROETHENE | 50 | | BDL | BDL | BDL |
| TOLUENE | 50 | | BDL | BDL | BDL |
| 1,1,1-TRICHLOROETHANE | 50 | | BDL | BDL | BDL |
| 1,1,2-TRICHLOROETHANE | 50 | | BDL | BDL | BDL |
| TRICHLOROETHENE | 50 | | BDL | BDL | BDL |
| VINYL ACETATE | 50 | | BDL | BDL | BDL |
| VINYL CHLORIDE | 50 | | BDL | BDL | BDL |
| XYLENES (TOTAL) | 50 | | BDL | BDL | BDL |
| **SURROGATES** | **RECOVERY LIMITS** | | | | |
| 1,2-DICHLOROETHANE-D4 | 70-121 | RE-RUN | 106 | 107 | 105 |
| TOLUENE-D8 | 84-138 | | 101 | 108 | 107 |
| BROMOFLUOROBENZENE | 59-113 | | 97 | 107 | 107 |

| VOLATILE COMPOUNDS | REPORTING LIMITS | SAMPLE IDENTIFICATION | | | |
|---|---|---|---|---|---|
| | | AOC-RR-SB04-6-8 | AOC-RR-SB05-2-4 | AOC-RR-SB05-6-8 | AOC-RR-SB06-6-8 |
| ACETONE | 500 | BDL | BDL | BDL | |
| BENZENE | 50 | BDL | BDL | BDL | |
| BROMODICHLOROMETHANE | 50 | BDL | BDL | BDL | |
| BROMOFORM | 500 | BDL | BDL | BDL | |
| BROMOMETHANE | 500 | BDL | BDL | BDL | |
| 2-BUTANONE (MEK) | 500 | BDL | BDL | BDL | |
| CARBON DISULFIDE | 50 | BDL | BDL | BDL | |
| CARBON TETRACHLORIDE | 50 | BDL | BDL | BDL | |
| CHLOROBENZENE | 50 | BDL | BDL | BDL | |
| CHLOROETHANE | 50 | BDL | BDL | BDL | |
| 2-CHLOROETHYL VINYL ETHER | 500 | BDL | BDL | BDL | |
| CHLOROFORM | 50 | BDL | BDL | BDL | |
| CHLOROMETHANE | 500 | BDL | BDL | BDL | |
| DIBROMOMETHANE | 50 | BDL | BDL | BDL | |
| 1,2-DICHLOROETHANE | 50 | BDL | BDL | BDL | |
| CIS-1,2-DICHLOROETHENE | 50 | BDL | BDL | BDL | |
| TRANS-1,2-DIHCLOROETHANE | 50 | BDL | BDL | BDL | |
| 1,1-DICHLOROETHANE | 50 | BDL | BDL | BDL | |
| 1,1-DICHLOROETHENE | 50 | BDL | BDL | BDL | |
| 1,2-DICHLOROPROPANE | 50 | BDL | BDL | BDL | |
| CIS-1,3-DICHLOROPROPENE | 50 | BDL | BDL | BDL | |
| TRANS-1,3-DICHLOROPROPENE | 50 | BDL | BDL | BDL | |
| ETHYL BENZENE | 50 | BDL | BDL | BDL | |
| 2-HEXANONE | 500 | BDL | BDL | BDL | |
| METHYLENE CHLORIDE | 300 | BDL | BDL | BDL | |
| 4-METHYL-2-PENTANONE(MIBK) | 500 | BDL | BDL | BDL | |
| STYRENE | 50 | BDL | BDL | BDL | |
| 1,1,2,2-TETRACHLOROETHANE | 50 | BDL | BDL | BDL | |
| TETRACHLOROETHENE | 50 | BDL | BDL | BDL | |
| TOLUENE | 50 | BDL | BDL | BDL | |
| 1,1,1-TRICHLOROETHANE | 50 | BDL | BDL | BDL | |
| 1,1,2-TRICHLOROETHANE | 50 | BDL | BDL | BDL | |
| TRICHLOROETHENE | 50 | BDL | BDL | BDL | |
| VINYL ACETATE | 50 | BDL | BDL | BDL | |
| VINYL CHLORIDE | 50 | BDL | BDL | BDL | |
| XYLENES (TOTAL) | 50 | BDL | BDL | BDL | |
| **SURROGATES** | **RECOVERY LIMITS** | | | | |
| 1,2-DICHLOROETHANE-D4 | 70-121 | 101 | 99 | 105 | RE-RUN |
| TOLUENE-D8 | 84-138 | 105 | 103 | 105 | |
| BROMOFLUOROBENZENE | 59-113 | 103 | 101 | 105 | |

| VOLATILE COMPOUNDS | REPORTING LIMITS | AOC-RR-SB06-2-4 |
|---|---|---|
| ACETONE | 500 | BDL |
| BENZENE | 50 | BDL |
| BROMODICHLOROMETHANE | 50 | BDL |
| BROMOFORM | 500 | BDL |
| BROMOMETHANE | 500 | BDL |
| 2-BUTANONE (MEK) | 500 | BDL |
| CARBON DISULFIDE | 50 | BDL |
| CARBON TETRACHLORIDE | 50 | BDL |
| CHLOROBENZENE | 50 | BDL |
| CHLOROETHANE | 50 | BDL |
| 2-CHLOROETHYL VINYL ETHER | 500 | BDL |
| CHLOROFORM | 50 | BDL |
| CHLOROMETHANE | 500 | BDL |
| DIBROMOMETHANE | 50 | BDL |
| 1,2-DICHLOROETHANE | 50 | BDL |
| CIS-1,2-DICHLOROETHENE | 50 | BDL |
| TRANS-1,2-DIHCLOROETHANE | 50 | BDL |
| 1,1-DICHLOROETHANE | 50 | BDL |
| 1,1-DICHLOROETHENE | 50 | BDL |
| 1,2-DICHLOROPROPANE | 50 | BDL |
| CIS-1,3-DICHLOROPROPENE | 50 | BDL |
| TRANS-1,3-DICHLOROPROPENE | 50 | BDL |
| ETHYL BENZENE | 50 | BDL |
| 2-HEXANONE | 500 | BDL |
| METHYLENE CHLORIDE | 300 | BDL |
| 4-METHYL-2-PENTANONE(MIBK) | 500 | BDL |
| STYRENE | 50 | BDL |
| 1,1,2,2-TETRACHLOROETHANE | 50 | BDL |
| TETRACHLOROETHENE | 50 | BDL |
| TOLUENE | 50 | BDL |
| 1,1,1-TRICHLOROETHANE | 50 | BDL |
| 1,1,2-TRICHLOROETHANE | 50 | BDL |
| TRICHLOROETHENE | 50 | BDL |
| VINYL ACETATE | 50 | BDL |
| VINYL CHLORIDE | 50 | BDL |
| XYLENES (TOTAL) | 50 | BDL |
| **SURROGATES** | **RECOVERY LIMITS** | |
| 1,2-DICHLOROETHANE-D4 | 70-121 | 97 |
| TOLUENE-D8 | 84-138 | 108 |
| BROMOFLUOROBENZENE | 59-113 | 109 |

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 011 Date: 3-29-95

Contract No.: DACW-45-94D-0003 011

Project Title & Location:

Weather: Sun Windy Precipitation: _____ In.: ___ Temp.: _____ Min.: _____ Max.: _

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| molesworth | | 10 | GTI | T-38 Test Cell. |
| SCHICK | | 10 | | |
| | | | | |
| STEELMAN | | 10 | GEO-ENV. | |
| SCHELL | | 10 | I | |
| | | | | |
| LESCHENSKY | | 12 | ATI | |
| SMITH | | 12 | I | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile Lab | 3-16 | 3-29 | 10 | — | |
| DPT-Rig | 3-17 | 3-29 | 10 | — | |
| | | | | — | |
| PID | 3-16 | 3-29 | 10 | — | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Installed 16 DPT boreholes and collected soil samples at T-38 test Cell

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

FOD Check on vehicles
Calibration.

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

16 TPH on JP-4 and BTEX tests

6. Material Received: (Note inspection results and storage provided).

None.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken: 0

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

HTS Tailgate

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

① Could not install 2-inch well screens as planned.
② Installed punch holes and secured for PSH as standing
③ Attempted to install points with W. Heff's Equipment

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager Date

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 010 Date: 28 MARCH 95 010 TUES.

Contract No.: DACW-45 94D- 0003

Project Title & Location: PA/SI @ 4-Sites HAFB, NM

Weather: Windy Precipitation: _____ In.: ___ Temp.: _____ Min.: _____ Max.: _

Cool 60°F

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 11 | GTI | T-38 Test Cell |
| MOLESWORTH | GEO | 10 | GTI | Soil Sampling |
| STEERMAN | DPT-OPR | 9 | GEO-Env. | |
| SCHELL | DPT-OPR | 9 | GEO-ENV | |
| WESCHENSKY | Chemist | 12 | ATI | |
| SMITH | Chemist | 12 | ATI | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile LAB | | | | | |
| DPT-RIG | | | | | |
| PID | | | | | |
| LEL/O2 | | | | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

① Installed 16 Punch hole to determine extent of PSH southward west of MW-7 at the T-38 test Cell.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Instrument Calibration

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

16 Soil Analysis for TPH and BTEX

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken: 0

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

HTS tailgate meeting

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

① ~~[illegible]~~ Unsuccessful installating Piezometers.

② Decided/with approval. to just punch DPT holes and collect soil samples

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge except as may be noted above.

CQC System Manager

Date 3-28-95

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 009 Date: 3-27-95 mm.

Contract No.: DACW-45-94D-0003

Project Title & Location: PA/SI @ BOC-RR & SD-15

Weather: Cool 78°F Precipitation: _____ In.: ____ Temp.: _____ Min.: _____ Max.: _

WINDY IN THE AFTERNOON.

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 10 | GTI | SD-15 & AOCRR |
| Moleswich | GEO | 2 | GTI | Soil Sampling |
| LESCHENSKY | LAB | | ATI | |
| SMITH | LAB | | ATI | |
| | | | | |
| STEERMAN | DPT-OPR | | GEO-ENV | |
| SCHELL | DPT-OPR | | GEO ENV | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| mobile LAB | 3-16 | 3-27 | 12 | | |
| DPT RIG | 3-17 | 3-27 | 9 | 1 | |
| PID | 3/16 | 3-27 | 10 | | |
| LEL/O2 | 3-16 | 3-27 | 10 | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

① Finished SB-5 & SB-6 @ AOCRR

② Started & Completed Borings SB-1 through SB-4 at SD-15

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Instrument Calibration

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

① Soil Analysis -
SS-06 ND for TPH & 8240

6. Material Received: (Note inspection results and storage provided).

Well Material for Piezometers at T-38
Stored at T-38

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

TAILGATE SAFETY MEETING

10. Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

① no Delays

② BEGIN T-38 TEST CELL WORK TUESday

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager Date

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

SAT.

Daily Report No.: 008 Date: 3-25-95

Contract No.: DACW-45-94D-0003

Project Title & Location: PASI DO#1 WAD#3 SS-06 & AOCRR

Weather: Windy >30mph Precipitation: _____ In.: ___ Temp.: 60 Min.: _____ Max.: _

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 10 | GTI | Soil Sampling w/ DPT @ |
| SCHELL | DPT-OPR | 9.5 | GEO-ENV | SS-06 & AOC RR |
| STEERMAN | DPT OPR | 9.5 | GEO ENV | |
| SMITH | Chemist | 12 | ATI | |
| LESCHENSKY | Chemist | 12 | ATI | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobile Lab | 3-16 | 3-25 | 12 | 0 | |
| DPT-R16 | 3-17 | 3-25 | 8 | 0 | |
| PID | 3-16 | 3-25 | 8 | 0 | |
| LEL/O2 | 3-16 | 3-25 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

① Collected soil samples w/ DPT R16 at SS-06 & AOC-RR 5 borings.

② Analyzed soil samples for TPH by 8015

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

① Instrument calibration

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

① HEASPACE Screening of soils w/ PID

② Analysis of Soils for TPH-diesel by 8015

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

TAILGATE H+S Meeting

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

① MAS SPEC still not available. 8240 Analysis will be delayed until at least Sunday.

② DPT Crew took the day off at the request of their employer

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager 3-25-95 Date

# SAFETY MEETING

**SITE:** HAFB SS-06.

**DATE:** 03-23-95 FRI

**GIVEN BY:** SCHICK

**TOPIC:** ① LEVEL D. ② WATCH for Traffic ③ Drink fluids. LAB - ① Safety glasses and standard protocol.

**COMMENTS:**

**SIGN IN:**

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| SCHICK | | GTI |
| Leschensky | | ATI |
| JEFF STEERMAN | | GEO |
| Jerry Schell | | GEO |
| KENDALL SMITH | | ATI |

FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 0067 Date: 03-24-95
Contract No.: DACW-45-94D-0003
Project Title & Location: PASI DO#1 WAD 3,5,9
Weather: _____ Precipitation: _____ In.: ___ Temp.: _____ Min.: _____ Max.: _

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 11 | GTI | 55-06 Soil Sampling |
| STEERMAN | DPT-OPR | 9 | GEO-ENV. | |
| SCHELL | DPT-OPR | 9 | " | |
| LESCHENSKY | ATI | 11 | ATI | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| mobile LAB | 3-16 | 3-24 | 11 | 0 | |
| DPT | 3-17 | 3-24 | 8 | 2 | |
| PID | 3-16 | 3-24 | 8 | 2 | |
| LEL/O2 | 3-16 | 3-24 | 8 | 2 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

SAMPLED FIVE DPT SOIL BORINGS
AT SS-06. 54 lineal feet -

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Checked workplan prior to beginning work

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

~~PID~~ Screened all samples w/ PID Then Submitted 2 from each boring for analysis

6. Material Received: (Note inspection results and storage provided).

~~LEL~~ $CO_2/O_2$ meter - ok - @ 218.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken: 0

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

TAILGATE

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

① OK to drill / DPT Soil Samples @ AOCRR

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager Date

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 005 Date: 22 MAR 95

Contract No.: DACW-45-94D-0003

Project Title & Location: PA/SI @ BBMS DO#1 WAD#9

Weather: Sunny 870-80°F Precipitation: 0 In.: ___ Temp.: ___ Min.: ___ Max.: ___

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 10 | GTI | Soil GAS Survey @ BBMS - |
| STEERMAN | DPT-OPR | 9 | GEO-ENV. | |
| SCHELL | DPT-OPR | 9 | | |
| LESCHENSKY | LAB/CHEMIST | 12 | ATI. | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| DPT R16 | 3-18 | 3-22 | 7 | 2 | 0 |
| Mobile LAB | 3-17 | 3-22 | 12 | 0 | |
| PID | 3-17 | 3-22 | 0 | 10 | |
| LEL/O2 | 3-17 | 3-22 | 10 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

INSTALLED/SAMPLED 20 Soil Gas points at Blue Base AOC/BBMS-

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Calibrated PID and LEL

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

Soil Gas analyses for 8015/8020

6. Material Received: (Note inspection results and storage provided).

Filters for PID.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

Checked on future use of 0.45 µ for PA&I DPT GROUNDWATER samples.

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Health & Safety Tailgate

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

~~Prob~~ PID filter wet due to water in soil Gas hole -L. Ordered new filters.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager Date

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 0067 Date: 03-24-95
Contract No.: DACW-45-94D-0063
Project Title & Location: PASI DO#1 WAD 3,5,9
Weather: _____ Precipitation: _____ In.: ___ Temp.: _____ Min.: _____ Max.: _

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 11 | GTI | 55-06 Soil Sampling |
| STEERMAN | DPT-OPR | 9 | GEO-ENV. | |
| SCHELL | DPT-OPR | 9 | " | |
| LESCHENSKY | ATI | 11 | ATI | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| mobile LAB | 3-16 | 3-24 | 11 | 0 | |
| DPT | 3-17 | 3-24 | 8 | 2 | |
| PID | 3-16 | 3-24 | 8 | 2 | |
| LEL/O2 | 3-16 | 3-24 | 8 | 2 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

SAMPLED FIVE DPT SOIL BORINGS
AT SS-06. 54 lineal feet -

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Checked workplan prior to beginning work

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

~~Ap~~ Screened all samples w/ PID Then Submitted 2 from each boring for analysis

6. Material Received: (Note inspection results and storage provided).

~~LEL~~ $CO_2/O_2$ meter - ok - @ 218.

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken: 0

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

TAILGATE

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

① OK to drill / DPT Soil Samples @ AOCRR

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager Date

# SAFETY MEETING

SITE: HAFB SS-06.

DATE: 03-23-95 FRI

GIVEN BY: SCHICK

TOPIC: ① LEVEL D. ② WATCH for Traffic ③ Drink fluids.
LAB - ① Safety glasses and standard protocol.

COMMENTS:

SIGN IN:

| NAME | SIGNATURE | COMPANY |
|---|---|---|
| SCHICK | | GTI |
| Leschensky | | ATI |
| JEFF STEERMAN | | GEO |
| Jerry Schell | | GEO |
| KENDALL SMITH | | ATI |
| | | |
| | | |
| | | |
| | | |
| | | |

FORM24.PM/#1

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 004 Date: 21 MAR 95 004

Contract No.: DACW-45-94D-0003

Project Title & Location: PAS # 10 DO#1 WAD #5 & 9

Weather: Sunny 80s°F Precipitation: 0 In.:___ Temp.:_____ Min.:_____ Max.:_

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHYK | GEO | 11 | | AOC-RR- Soil GAS Survey |
| MOLESWORTH | GEO | 10 | | |
| STEERMAN | DPT-OPR | 9 | | |
| SCHEZL | DPT-OPR. | 9 | | |
| LESCHENSKY | LAB TECH | 13 | ATI | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| MOBILE LAB | 3-17 | 3-21 | 13 | | |
| PID | 3-17 | 3-21 | 5 | | 3 |
| DPT R16 | 3-18 | | | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Installed 24 Soil Vapor points at AOC-RR -

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

Consult work plan. Collected Equipment Blank

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

24-Soil vapor 8015/8020 analyses

6. Material Received: (Note inspection results and storage provided).

-0-

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

TAILGATE Meeting

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

24- Soil Vapor points
Cleaned final electrical for AOC-BBMS.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager Date

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: D003 Date: 20 MAR 95

Contract No.: DACW-45-94D-0003

Project Title & Location: PASI @ SS-06 & AOC-RR WAD #3, & 5 & DO #1

Weather: Sunny 85°F Precipitation: 0 In.:___ Temp.:_____ Min.:_____ Max.:_

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 10 | GTI | SS-06 & AOC-RR |
| STEERMAN | DPT-OPERATOR | 10 | GEO-Env | Soil Gas. |
| SCHELL | " | 10 | " | |
| LESCHENSKY | Chemist | 11.5 | ATI | |
| Makeswortr | GEO | 10 | GTI | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| Mobil LAB | 3-17 | 3-20 | 10 | 0 | |
| DPT-RIG | 3-18 | 3-20 | 6 | 3 | 3 |
| PID | 3-17 | 3-20 | 8 | 0 | |
| LEL/O2 | 3-17 | 3-20 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

Collected 18 Soil Gas Samples

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

EQUIPMENT BLANK

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

SOILGAS TESTING - SEE ATTACHED RESULTS

6. Material Received: (Note inspection results and storage provided).

DPT SOIL GAS TIP HOLDER - USED IMMEDIATELY

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
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| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

TAILGATE SAFETY - Eye WASH Set-up.

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

DPT RIG PTO BROKEN - DELAYED 6 to 8 Soil GAS SAMPLES.

RIG REPAIRED BY DARK NEW PARTS ORDERED

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

3-20-95

CQC System Manager Date

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 002 Date: 03-18-95
Contract No.: DACW-45-94D-0003
Project Title & Location: WAD#1 DO#3 DA/SI @ SS-06
Weather: Sun Precipitation: 0 In.: Temp.: Min.: Max.:

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | GEO | 10 | GTI | SS-06 - SOIL GAS SURVEY |
| | | | | |
| SCHELL | DPT-OPR. | 10 | GEO-ENV. | " |
| STEERMAN | DPT-OPR | 10 | GEO-ENV. | " |
| | | | | |
| BARBER | ATI-LAB | 12.5 | ATI | " |
| LESCHENSKY | ATI-LAB | 12.5 | ATI | " |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| DPT-R16 | 3-18-95 | 3-18-95 | 8.5 | 0 | |
| MOBIL LAB | 3-17-95 | 3-17-95 | 12.5 | 0 | |
| PID | 3-17-95 | 3-19-95 | 8 | 0 | |
| LEL/O2 | 3-17-95 | 3-19-95 | 8 | 0 | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

SOIL GAS SURVEY AT 28 LOCATIONS. SS-06

GAS SAMPLES COLLECTED FROM 5.5 FT.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

EQUIPMENT BLANK
DUPLICATE SAMPLES

5. Tests Performed and Test Results: (Identify test requirement byu paragraph number in specifications and/or sheet number in plans).

28 SOIL GAS SAMPLES, plus QA blanks.

6. Material Received: (Note inspection results and storage provided).

NONE

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

NONE

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

HSP - TAILGATE. POSTED EMERGENCY #'S AT THE LAB TRAILER DOOR.

10. Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

GOOD EFFORT TODAY. NO DELAYS.

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager

3-19-95
Date

(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: 001 Date: 3-18-95
Contract No.: DACW-45-94D-0013 DO#1 WAD 3.59
Project Title & Location: PASI WAD
Weather: Sun 80° Precipitation: 0 In.:___ Temp.:_____ Min.:_____ Max.:_

1. Contract/Subcontractors and Area of Responsibility:

| NUMBER | TRADE | HOURS | EMPLOYER | LOCATION/DESCRIPTION WORK |
|---|---|---|---|---|
| SCHICK | LEAD | 8 | GTI | SS-06 PROJ OVERSIGHT/HSP |
| STEERMAN | DPT-OPERATOR | 0 | GEO | SS-06 - Soil GAS |
| SCHELL | DPT-OPERATOR | 0 | GEO | SS-06 - Soil GAS |
| | | | | |
| BARBER | Chemist | 8 | ATI | LAB/MOBIL |
| LESCHENSKY | Chemist | 8 | ATI | " |
| | | | | |
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| | | | | |
| | | | | |
| | | | | |

2. Operating Plant or Equipment. (Not hand tools)

| Plant/Equipment | Date of Arrival/ Departure | Date of Safety Check | Hours Used | Hours Idle | Hours Repair |
|---|---|---|---|---|---|
| MOBIL LAB | 3-18-95 | 3-17-95 | 0 | 8 | |
| DPT-R16 | 3-18-95 | 3-18-95 | 0 | 8 | |
| SUPPORT TRAILER | 3-18-95 | 3-18-95 | 0 | 8 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

None Geo-DPT didnt receive cell equipment.

4. Control Activities Performed:
Preparatory Inspections: (Identify feature of work and attached minutes).
Initial Inspections: (Identify feature of work and attach minutes).
Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

REVIEWED HSP. CHECKED FOR FIRE EXTINGUISHERS.

5. Tests Performed and Test Results: (Identify test requirement by paragraph number in specifications and/or sheet number in plans).

None

6. Material Received: (Note inspection results and storage provided).

SOIL/WATER SAMPLE CONTAINERS FOR METALS BY GTEL

7. Submittals Reviewed: 0

| (a) Submittal No. | (b) Spec/Plan Reference | (c) By Whom | (d) Action |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

8. Off-site Surveillance Activities, Including Action Taken:

NONE

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

HSP KICK-OFF MEETING DAILY TAILGATE (ATTACHED)

10.Remarks: (Instructions received or given. Conflicts(s) in Plans and/or specifications. Delays encountered.).

No work TODAY GEO-Environmental didn't receive all equipment. EQUIPMENT will arrive tomorrow

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQC System Manager 3-18-95 Date

# APPENDIX H

## USACE-MRD QA Sample Laboratory Results

RECEIVED

JUN 2 6 1995

MRD Lab Project No. 3269

2 JUN 1995

DEPARTMENT OF THE ARMY
MISSOURI RIVER DIVISION, CORPS OF ENGINEERS
DIVISION LABORATORY
OMAHA, NEBRASKA 68102

**Subject:** Quality Assurance Test Results

**Project:** Holloman AFB 4 Site PA/SI, Alomogordo, NM
**Intended Use:** IRP-AF-ACC PA/SI
**Source of Material:**

**Submitted by:** Mark Mercier, CEMRO-ED-EA
**Date Sampled:** 20 Mar-27 Apr 95 **Date Received:** 30 Mar-2 May 95
**Method of Test or Specification:** See attached test result sheets

**References:** Omaha District Request No. ENE 5401 dated 13 Oct 94

-- REMARKS --

1. Review comments for project data are presented on the following pages.

2. Sample receipt information and analytical data are provided in the following parts of the report.

   Part A: Sample Receipt Information (1 page)
   Part B: Chain-of-Custody Information (12 pages)
   Part C: Quality Assurance Test Results (113 pages)

3. The Quality Assurance Test Results are attached; if you have any questions please contact Shel McGuire at (402)444-4313. Do not release this information to the contractor until the contractor's analytical data, including method quality control, has been submitted. The Chemical Quality Assurance Report will be completed within thirty days of receipt of the contractor's data package.

Submitted by:

Douglas B. Taggart

DOUGLAS B. TAGGART
Director, MRD Laboratory

SM for LP 5-31-95
Percifield/glm/444-4313

# TEST RESULTS

## 1. SUMMARY

MRD Laboratory compiled the data package according to the USACE HTW minimum chemistry reporting requirements as specified in ER 1110-1-263 (dated 1 Oct 90). MRD Laboratory and Environmental Chemical Corporation (ECC) performed the analyses using EPA methods. Proper quality control procedures were followed and documented. The method quality control results outlined below support the usability of the data.

## 2. DISCUSSION

a. Four soil and fourteen water samples were received by MRD Laboratory between 30 Mar 95 and 02 May 95. The samples were analyzed for one or more of the following:
   - Volatile organics (VOA) by EPA method 8240.
   - Total petroleum hydrocarbons (TPH) by a modified EPA method 8015.
   - Metals by EPA method: 7060 for arsenic; 7421 for lead; 7740 for selenium; 7470 for mercury; and 6010 for aluminum, antimony, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, nickel, potassium, silver, sodium, thallium, vanadium, and zinc.
   - pH by EPA method 150.1.

   Method 150.1 is from EPA 600/4-79-020 (1983) "Methods for Chemical Analysis of Water and Wastes." The methods are from SW-846 (1986), "Test Methods for Evaluation of Solid Waste."

   Part "A" of this report lists all of the samples received.

b. The following shipping and chain-of-custody errors were noted for the sample shipments received by MRD Laboratory.

   1) The coolers that arrived on 31 Mar 95, 07 Apr 95 and 02 May 95 had no custody seals.

   2) The coolers that arrived on 30 Mar 95 and 31 Mar 95 had no time sampled on the bottle labels.

   3) Analysis on sample AOC-BBMS-SP1D was cancelled because the sample was received at 15.7°C.

   4) For the coolers that arrived on 30 Mar 95, 03 Apr 95 and 02 May 95 the trip blank was not listed on the chain-of-custody.

   5) For the cooler that arrived on 31 Mar 95 an insufficient amount of sample was received for metals and modified 8015.

   6) Samples SS-06-GP03D and AOC-RR-GP01D arrived with bubbles in the VOA container.

Part "B" of this report contains the chain-of-custody information.

c. The samples were analyzed by MRD Laboratory and ECC.

Part "C" of this report lists the analytical test results.

3. METHOD QUALITY CONTROL

a. VOA:
   1) Surrogate spike recoveries were within acceptable limits.
   2) The method blanks all contained the common laboratory contaminant methylene chloride found at 1.3-1.7 µg/L.
   3) Laboratory duplicate results matched the results from the original field samples.
   4) Matrix spike/matrix spike duplicate (MS/MSD) recoveries were within acceptable limits. Relative percent differences (RPD) for MS/MSD recoveries were generally within acceptable limits, except in one instance where the RPD for benzene was slightly high due to low spike amount.
   5) Laboratory control sample (LCS) recoveries were within acceptable limits.
   6) Holding times were generally met, except in one batch where they were exceeded by one day.

b. Metals:
   1) Method blanks were generally free of contamination, except in a few instances where aluminum, iron, and calcium were detected in the blank.
   2) Laboratory duplicate results matched the results from the original field samples, except in one instance where the RPD for iron was 30.8%.
   3) The MS/MSD recoveries were generally within acceptable limits, except three instances where 1) the recoveries for antimony were low; 2) the MS recovery for barium was 58%; and 3) the recoveries for lead were 133% and 148%. RPD for MS/MSD recoveries were within acceptable limits, except for one case where the RPD for barium was 34.7%.
   4) LCS recoveries were within acceptable limits.
   5) Holding times were met.

c. TPH:
   1) Surrogate spike recoveries were within acceptable limits.
   2) Method blanks were free of contamination.
   3) Laboratory duplicate results matched the results from the original field samples.
   4) The MS/MSD recoveries were within acceptable limits. RPD for MS/MSD recoveries were within acceptable limits.
   5) LCS recoveries were within acceptable limits.
   6) The holding time for TPH extraction was exceeded by 6 days.

A1

PART A

SAMPLE RECEIPT INFORMATION

| QA/QC Table # | Customer Sample # | Date Sampled | Matrix | MRD Lab # Assigned | Tests Assigned | QA Test Results Page Number |
|---|---|---|---|---|---|---|
| | TB-16 | 20 Mar 95 | Water | 950330-110 | VOA (Cancelled) | |
| | TRIP BLANK | 20 Mar 95 | Water | 950410-004 | VOA | C1 |
| 001 | SS06-SB06-8-10 | 25 Mar 95 | Soil | 950330-111 | VOA (to ECC) | C7 |
| | | | | 950330-112 | Metals | C39-C42 |
| 002 | AOCRR-SB05-2-4 | 27 Mar 95 | Soil | 950330-113 | Metals | C42-C44 |
| | | | | 950330-114 | VOA (to ECC) | C8 |
| 003 | SD15-SB02-4-6 | 27 Mar 95 | Soil | 950330-115 | VOA (to ECC) | C9 |
| | | | | 950330-116 | pH | C113 |
| | | | | 950330-116 | Metals | C45-C47 |
| 004 | AOC-BBMS-SB1-4-6 | 29 Mar 95 | Soil | 950331-027 | VOA (to ECC) | C14 |
| | | | | 950331-028 | Metals | C48-C50 |
| | | | | 950331-028 | Modified 8015 | C108 |
| 005 | SD15-GP-3 | 30 Mar 95 | Water | 950405-002 | VOA (Cancelled) | |
| | | | | 950405-003 | Metals | C67-C69 |
| 006 | AOCBBMS-GP1D | 31 Mar 95 | Water | 950405-004 | Metals | C70-C72 |
| | | | | 950405-005 | VOA (Cancelled) | |
| 007 | AOC-BBMS-GP06D | 31 Mar 95 | Water | 950410-009 | Metals | C79-C81 |
| 008 | AOC-RR-GP01D | 02 Apr 95 | Water | 950410-005 | VOA | C2 |
| 009 | SS-06-GP03D | 02 Apr 95 | Water | 950410-006 | VOA | C19 |
| | | | | 950410-007 | Metals | C73-C75 |
| 010 | AOC-RR-GP05D | 03 Apr 95 | Water | 950410-008 | Metals | C76-C78 |
| 011 | AOC-RR-GP07D | 07 Apr 95 | Water | 950412-021 | Metals | C82-C84 |
| | | | | 950412-022 | VOA | C20 |
| 012 | AOC-BBMS-GP07D | 07 Apr 95 | Water | 950412-023 | Metals | C85-C87 |
| | | | | 950412-024 | VOA | C21 |
| | TB-23 | 07 Apr 95 | Water | 950412-025 | VOA | C22 |
| | TB-21 | 10 Apr 95 | Water | 950502-012 | VOA | C28 |
| 013 | AOCRR-GP-13 | 27 Apr 95 | Water | 950502-010 | VOA | C33 |
| 014 | SS06-GP-2 | 27 Apr 95 | Water | 950502-011 | VOA | C34 |

PART B

CHAIN-OF-CUSTODY INFORMATION

| Page No. | Chain-of-Custody No. | Date Signed |
|---|---|---|
| B1 | 36906 | 29 Mar 95 |
| B3 | 36909 | 30 Mar 95 |
| B5 | 39941 | 31 Mar 95 |
| B7 | 39942 | 05 Apr 95 |
| B9 | 39945 | 10 Apr 95 |
| B11 | 40407 | 01 May 95 |

B2

COOLER RECEIPT FORM

LIMS# 3269 MRD Cooler # — Number of Coolers 1 Contractor Cooler GTEL

PROJECT: Holloman Date received: 3/30/95

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 3/30/95 C-of-C Number: 36906

by (print) Sherry Swink (sign) Sherry Swink

1. Did cooler come with a shipping slip (air bill, etc.)? ..... YES NO

If YES, enter carrier name & air bill number here: AIRX: 234 527 5645

2. Were custody seals on outside of cooler? ..... YES NO

How many & where: 2 front, seal date: 3/29/95, seal name illegible

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO
4. Did you screen samples for radioactivity using the Geiger Counter..... YES NO
5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... YES NO
6. Were custody papers filled out properly (ink, signed, etc.)? TB not on C-O-C ..... YES NO
7. Did you sign custody papers in the appropriate place? ..... YES NO
8. Was project identifiable from custody papers? ..... YES NO
9. Type of ice: reg (not bagged) Temperature: 6.5 Date temperature measured: 3/30/95
10. Describe type of packing in cooler: bubble wrap / foam
11. Were all bottles sealed in separate plastic bags? ..... YES NO

B. LOG-IN PHASE: Date samples were logged-in: 3/30/95

by (print) Sherry Swink (sign) Sherry Swink

12. Did all bottles arrive unbroken & were labels in good condition? ..... YES NO
13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... YES NO (not)
14. Did all bottle labels agree with custody papers? ..... YES NO
15. Were correct containers used for the tests indicated? ..... YES NO
16. Were correct preservatives added to samples? ..... YES NO
17. Was a sufficient amount of sample sent for tests indicated? ..... YES NO
18. Was headspace absent in Volatile samples? If NO, list by QA#: Trip blank ..... YES NO 3/30/95

QA # (cont.) sent with soil samples (soil VOA's only 1/2 full)

19. Were the custody papers checked against the sample receipt form? By whom? KP Date: 3/30/95

**GTEL** ENVIRONMENTAL LABORATORIES INC

~~4211 MAY AVE.~~
~~WICHITA, KS 67209~~
~~(316) 945-2624~~
~~(800) 633-7936~~

USACE MRD LAB
OMAHA, NE

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

AIRBORNE # 2345275343

36909

Company Name: GROUNDWATER TECHNOLOGY

Phone #: (505) 242-3143

FAX #: (505) 242-1103

Company Address: 2501 Yale BLVD SE ALBUQUERQUE, NM 87106

Site Location: Holloman AFB, NM

Project Manager: S. BROTHERS

Client Project ID: (#) 830012207 (NAME) PA/SI at 4-sites

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): J. Molesworth

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | OTHER: TPH/8015 w/ Diesel | TAL metals | VOC by 8240 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-BBMS-SB1-4-6 | | 2 | | X | | | | | | | | X | X | | 3/29/95 | 1700 | | | | | | | | | | | | | | | | | | | | X | X | X |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other _____
Business Days ☐

**Special Handling**
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ _____

SPECIAL DETECTION LIMITS
PER COAP

SPECIAL REPORTING REQUIREMENTS

FAX ☐

REMARKS: LIMS # 3269
Small sample volume due to poor sample recovery in the field & sample technique

Lab Use Only Lot #:

Storage Location

Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| Sampler: [signature] | 3/30/95 | 1300 | Airborne # 2345275343 |
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | Date | Time | Received by Laboratory: Waybill # |

B4

COOLER RECEIPT FORM

LIMS# 3269 MRD Cooler # 1 Number of Coolers 1 Contractor Cooler GTEL

PROJECT: Holloman Date received: 3/31/95

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 3/31/95 C-of-C Number: 36909

by (print) Shelly Swink (sign) Shelly Swink

1. Did cooler come with a shipping slip (air bill, etc.)? ..... (YES) NO

   If YES, enter carrier name & air bill number here: AIRX: 234 527 5343

2. Were custody seals on outside of cooler? ..... YES (NO)

   How many & where: none, ~~seal date:~~ _____, ~~seal name~~ _____

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES (NO)
4. Did you screen samples for radioactivity using the Geiger Counter..... (YES) NO
5. Were custody papers sealed in a plastic bag ~~& taped inside to the lid~~? not ..... YES (NO)
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
7. Did you sign custody papers in the appropriate place? ..... (YES) NO
8. Was project identifiable from custody papers? ..... (YES) NO
9. Type of ice: reg Temperature: <4.0 Date temperature measured: 3/31/95
10. Describe type of packing in cooler: bubble bags
11. Were all bottles sealed in separate plastic bags? ..... (YES) NO

ice not bagged

B. LOG-IN PHASE: Date samples were logged-in: 3/31/96

by (print) Shelly Swink (sign) Shelly Swink

12. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO
13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? not ..... YES (NO)
14. Did all bottle labels agree with custody papers? ..... (YES) NO
15. Were correct containers used for the tests indicated? ..... (YES) NO
16. Were correct preservatives added to samples? ..... ~~YES NO~~
17. Was a sufficient amount of sample sent for tests indicated? Container for metals & EDB was only 1/3 full ..... (YES) NO
18. Was headspace absent in Volatile samples? If NO, list by QA#: _____ YES ~~NO~~

    QA # (cont.) _____

19. Were the custody papers checked against the sample receipt form? By whom? RP Date: 4/3/95

**GTEL** ENVIRONMENTAL LABORATORIES INC

~~4211 MAY AVE~~
~~WICHITA, KS 67209~~
~~(316) 945-2024~~
~~(800) 633-7936~~

USACE-MRD LAB
OMAHA, NE

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

39941

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103
Company Address: 2501 YALE BLVD ALBUQUERQUE, NM 87106
Site Location: Holloman AFB
Project Manager: S. Brothers / C. Schick
Client Project ID: (#) 83UD12201
(NAME) PA/SI JD#1 WAD355
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): J. Molesworth

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | VOC's Meth 8240 | TAL Metals 6000, 7000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SD15-GP-3 | | 5 | X | | | | | | X | X | | X | | | 3/30 | 1400 | | | | | | | | | | | | | | | | | | | X | X | |
| AOCBBMS-GPID | | 5 | X | | | | | | X | X | | X | | | 3/31 | 1100 | | | | | | | | | | | | | | | | | | | X | X | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other ____
Business Days ☐

**Special Handling**
GTEL Contact ____
Quote/Contract # ____
Confirmation # ____
P.O. # ____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ ____

SPECIAL DETECTION LIMITS
PER CDAP

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS: LIMS # 3269
DACW 45-94D-0003 SWTERC

Lab Use Only Lot #:
Storage Location
Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| [signature] | 3/31/95 | 1300 | |
| Relinquished by: | Date | Time | Received by: |
| | | | |
| Relinquished by: | | Time | Received by Laboratory: [signature] 4/1/95 |

marked for Sat Delivery

B6

COOLER RECEIPT FORM

LIMS# 3269 MRD Cooler # — Number of Coolers 1 Contractor Cooler GTEL

PROJECT: Holloman Date received: 4/3/95

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 4/3/95 C-of-C Number: 39941

by (print) Sherry Swink (sign) Sherry Swink

1. Did cooler come with a shipping slip (air bill, etc.)? ..... YES NO

   If YES, enter carrier name & air bill number here: AIRX 234 527 5542

2. Were custody seals on outside of cooler? ..... YES NO

   How many & where: 2 (1 ea side), seal date: 3/31/95, seal name illegible

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO

4. Did you screen samples for radioactivity using the Geiger Counter ..... YES NO

5. Were custody papers sealed in a plastic bag & taped not inside to the lid? ..... YES NO

6. Were custody papers filled out properly (ink, signed, etc.)? TB not on C-O-C ..... YES NO

7. Did you sign custody papers in the appropriate place? ..... YES NO

8. Was project identifiable from custody papers? ..... YES NO

9. Type of ice: melted reg Temperature: 15.7 Date temperature measured: 4/3/95

10. Describe type of packing in cooler: foam

11. Were all bottles sealed in separate plastic bags? ..... YES NO

B. LOG-IN PHASE: Date samples were logged-in: 4/5/95

by (print) Sherry Swink (sign) Sherry Swink

12. Did all bottles arrive unbroken & were labels in good condition? ..... YES NO

13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... YES NO

14. Did all bottle labels agree with custody papers? ..... YES NO

15. Were correct containers used for the tests indicated? ..... YES NO

16. Were correct preservatives added to samples? ..... YES NO

17. Was a sufficient amount of sample sent for tests indicated? ..... YES NO

18. Was headspace absent in Volatile samples? If NO, list by QA#: 1 - ACBBMS-GPID YES NO

    QA # (cont.) NOA cancelled because they were rec'd at 15.7°C per Project Chemist

19. Were the custody papers checked against the sample receipt form? By whom? LP Date: 4/6/95

**GTEL** ENVIRONMENTAL LABORATORIES INC

~~4211 MAY AVE.~~
WICHITA, KS 67209
~~(316) 945-2624~~
~~(800) 633-7936~~

USACE MRD-LAB
OMAHA, NE

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

39942

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103

Company Address: 2501 Yale Blvd. SE
ALBUQUERQUE, NM 87106

Site Location: Holloman AFB

Project Manager: S. Brothers

Client Project ID: (#) PA/SI
(NAME) 830012201

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): J. Molesworth

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | OTHER: TAL metals | 8240 VOCs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-RR-GP01D | | 4 | ✓ | | | | | | ✓ | | | ✓ | | | 4-2-95 | 1045 | | | | | | | | | | | | | | | | | | | | X |
| AOC-RR-GP05D | | 1 | ✓ | | | | | | | ✓ | | ✓ | | | 4-3-95 | 0945 | | | | | | | | | | | | | | | | | | | X | |
| SS-06-GP03D | | 5 | ✓ | | | | | | ✓ | ✓ | | ✓ | | | 4-2-95 | 1330 | | | | | | | | | | | | | | | | | | | X | X |
| Trip blank | | 1 | ✓ | | | | | | ✓ | | | ✓ | | | 3-20-95 | 1100 | | | | | | | | | | | | | | | | | | | | X |
| AOC-BBMS-GP06D | | 1 | ✓ | | | | | | | ✓ | | | | | 3-31-95 | 1815 | | | | | | | | | | | | | | | | | | | X | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other _____
Business Days ☐

**Special Handling**
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ _____

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS

FAX ☐

REMARKS: LIMS# 3269
DACW-45-94D 0003 SW TERC

Lab Use Only Lot #:

Storage Location

Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| [signature] | 4-5-95 | 1300 | Airborne # 2345275446 |
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | | Time | Received by Laboratory: [signature] 4/7/95 |

Waybill #

B8

COOLER RECEIPT FORM

LIMS# 32609 MRD Cooler # — Number of Coolers 1 Contractor Cooler GTEL

PROJECT: Holloman Date received: 4/7/95

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 4/7/95 C-of-C Number: 39942

by (print) Sherry Swink (sign) Sherry Swink

1. Did cooler come with a shipping slip (air bill, etc.)? ..... (YES) NO

   If YES, enter carrier name & air bill number here: ARX 234 527 5446

2. Were custody seals on outside of cooler? ..... YES (NO)

   How many & where: _____, seal date: _____, seal name_____

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES (NO)
4. Did you screen samples for radioactivity using the Geiger Counter..... (YES) NO
5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... (YES) NO
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
7. Did you sign custody papers in the appropriate place? ..... (YES) NO
8. Was project identifiable from custody papers? ..... (YES) NO
9. Type of ice: unbagged regular Temperature: <4.0 Date temperature measured: 4/7/95
10. Describe type of packing in cooler: bubble wrap
11. Were all bottles sealed in separate plastic bags? ..... (YES) NO

B. LOG-IN PHASE: Date samples were logged-in: 4/10/95

by (print) Sherry Swink (sign) Sherry Swink

12. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO
13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO
14. Did all bottle labels agree with custody papers? ..... (YES) NO
15. Were correct containers used for the tests indicated? ..... (YES) NO
16. Were correct preservatives added to samples? ..... (YES) NO
17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
18. Was headspace absent in Volatile samples? If NO, list by QA#: 1-SS-067-P03D YES (NO)

    4/10/95

    QA # (cont.) 2-AOC-RR-~~15~~ P01D

19. Were the custody papers checked against the sample receipt form? By whom? RP Date: 4/10/95

**GTEL** ENVIRONMENTAL LABORATORIES INC

~~4211 MAY AVE.~~
~~WICHITA, KS 67209~~
~~(316) 945-2624~~
~~(800) 633-7936~~

USACE MRD-LAB
Omaha, NE

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

39945

Company Name: Groundwater Technology, Inc.

Phone #: (505) 242-3113

FAX #: (505) 242-1103

Company Address: 2501 Yale Blvd SE Albuquerque, NM 87106

Site Location: HAFB

Project Manager: Sara Brothers

Client Project ID: (#) PA/SI

(NAME) 830012201

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Jim Molesworth

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL Metals | 8240 VOCs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOC-RR-GP07D | | 5 | X | | | | | | X | X | | | | | 4/7/95 | 1045 | | | | | | | | | | | | | | | | | | | | X | X |
| AOC-BBMS-GP07D | | 5 | X | | | | | | X | X | | | | | 4/7/95 | 1245 | | | | | | | | | | | | | | | | | | | | X | X |
| Trip blank | | 1 | X | | | | | | X | | | | | | 3/13/95 | 1100 | | | | | | | | | | | | | | | | | | | | | X |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other _____
Business Days ☐

**Special Handling**
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ _____

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☒

REMARKS: LIM # 3269
DACW-45-94D-0003 SW TERC

Lab Use Only Lot #:

Storage Location

Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| [signature] | 4/10/95 | 1300 | Airborne # 2345276544 |
| | | | |
| | | | |

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| Relinquished by: | Date | Time | Received by Laboratory: |
|---|---|---|---|
| | 4 -95 | 1445 | David E. Sal[illegible] |

Waybill #

BIC

COOLER RECEIPT FORM

LIMS# 3269 MRD Cooler # _____ Number of Coolers 1 Contractor Cooler W-704

PROJECT: Holloman AFB - 4 Site PA/SI Date received: 4-11-95

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 4-11-95 C-of-C Number: 39945

by (print) David E. Splichal (sign) David E. Splichal

1. Did cooler come with a shipping slip (air bill, etc.)? ..... (YES) NO

If YES, enter carrier name & air bill number here: Airborne Express 2345276544

2. Were custody seals on outside of cooler? ..... (YES) NO

How many & where: one - front, seal date: 4-10-95 seal name J. Molesworth

3. Were custody seals unbroken and intact at the date and time of arrival? ..... (YES) NO

4. Did you screen samples for radioactivity using the Geiger Counter..... YES (NO)

5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... (YES) NO

6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO

7. Did you sign custody papers in the appropriate place? ..... (YES) NO

8. Was project identifiable from custody papers? "HAFB" w/LIMS# ..... (YES) NO

9. Type of ice: regular Temperature: <1°C Date temperature measured: 4-11-95

10. Describe type of packing in cooler: plastic bag (garbage) filled with ice; samples intermixed. very cold

11. Were all bottles sealed in separate plastic bags? ..... (YES) NO

B. LOG-IN PHASE: Date samples were logged-in: 4-12-95

by (print) Tim Meyer (sign) Tim Meyer

12. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO

13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO

14. Did all bottle labels agree with custody papers? ..... (YES) NO

15. Were correct containers used for the tests indicated? ..... (YES) NO

16. Were correct preservatives added to samples? ..... (YES) NO

17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO

18. Was headspace absent in Volatile samples? If NO, list by QA#: Not checked due to large amount of sediments ~~YES NO~~

QA # (cont.) _____

19. Were the custody papers checked against the sample receipt form? By whom? RP Date: 4/12/95

**GTEL** ENVIRONMENTAL LABORATORIES INC

~~4211 MAY AVE.~~
~~WICHITA, KS 67209~~
~~(316) 945-2624~~
~~(800) 699-7936~~

MRD LAB
420 S. 18th St
OMAHA, NE

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

40407

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103
Company Address: 2501 Yale BLVD SE ALBUQUERQUE, NM 87106
Site Location: Holloman AFB
Project Manager: S. BROTHERS GTI, S. PEARSON - USACECE
Client Project ID: (#) (NAME) PA/SI Phase II
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Charles W. Schick

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | ~~[illegible]~~ CWS | X Volatiles by 8240 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOCRR-GP-13 | | 3 | X | | | | | | X | X | | X | | | 4/27 | 810 A | | | | | | | | | | | | | | | | | | | | | | | |
| SS06-GP-2 | | 3 | X | | | | | | X | X | | X | | | 4/27 | 330 P | | | | | | | | | | | | | | | | | | | | | | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other _____
Business Days ☐

**Special Handling**
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐ NCDAP

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS: LIMS # 3269
Analyze per CDAP
DANIEL LAKIN

Lab Use Only Lot #:
Storage Location
Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| Sampler | 5-1-95 | 1300 | |
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | 5-[illegible]-95 | 1095 | Received by Laboratory: |

Waybill #

GTEL ENVIRONMENTAL LABORATORIES INC

~~4211 MAY AVE.~~
~~WICHITA, KS 67209~~
~~(316) 945-2624~~
~~(800) 639-7936~~

MRD LAB
420 S. 18th St
OMAHA, NE

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

40407

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103
Company Address: 2501 Yale BLVD SE ALBUQUERQUE, NM 87106
Site Location: Holloman AFB
Project Manager: S. BROTHERS GTI, S. PEARSON - USACECE
Client Project ID: (#) (NAME) PA/SI Phase II
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Charles W. Schick

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | ~~[illegible]~~ CWS | Volatiles by 8240 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ACCRR-GP-13 | | 3 | X | | | | | | X | X | | X | | | 4/27 | 810 A | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-GP-2 | | 3 | X | | | | | | X | X | | X | | | 4/27 | 330 P | | | | | | | | | | | | | | | | | | | X | | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other_____
Business Days ☐

**Special Handling**
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☒ CDAP

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS

FAX ☐

REMARKS: LIMS # 3269
Analyze per CDAP
DANIEL LAKIN

Lab Use Only Lot #:
Storage Location
Work Order #:

**CUSTODY RECORD**

| | Date | Time | |
|---|---|---|---|
| Relinquished by Sampler: | 5-1-95 | 1300 | Received by: |
| Relinquished by: | | | Received by: |
| Relinquished by: | 5-2-95 | 0915 | Received by Laboratory: Waybill # |

GTEL ENVIRONMENTAL LABORATORIES INC

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~~WICHITA, KS 67209~~
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~~(800) 693-7036~~

MRD LAB
420 S. 18th St
OMAHA, NE

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

40407

Company Name: GROUNDWATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103
Company Address: 2501 Yale BLVD SE ALBUQUERQUE, NM 87106
Site Location: Holloman AFB
Project Manager: S. BROTHERS GTI, S. PEARSON - USACECE
Client Project ID: (#) (NAME) PA/SI Phase II
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Charles W. Schick

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | ~~[illegible]~~ CWS | VOCs by 8240 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOCRR-GP-13 | | 3 | X | | | | | | X | X | | X | | | 4/27 | 810 A | | | | | | | | | | | | | | | | | | | | X | | | |
| SS06-GP-2 | | 3 | X | | | | | | X | X | | X | | | 4/27 | 330 P | | | | | | | | | | | | | | | | | | | | X | | | |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other _____
Business Days ☐

**Special Handling**
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☒ CDAP

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS: LIMS # 3269
Analyze per CDAP
DANIEL LAKIN

Lab Use Only Lot #:
Storage Location
Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| Sampler | 5-1-95 | 1300 | |
| Relinquished by: | Date | Time | Received by: |
| | | | |
| Relinquished by: | Date | Time | Received by Laboratory: |
| | 5-2-95 | 0915 | Waybill # |

B1

COOLER RECEIPT FORM

LIMS# 3269 MRD Cooler # _____ Number of Coolers 1 Contractor Cooler GTEL

PROJECT: Vollman AFB Date received: 5-2-95

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 5-2-95 C-of-C Number: 40407

by (print) Beth Belling (sign) Beth Belling

1. Did cooler come with a shipping slip (air bill, etc.)? ..... YES NO

   If YES, enter carrier name & air bill number here: Fed Ex 3691577993

2. Were custody seals on outside of cooler? ..... YES NO

   How many & where: _____, seal date: _____, seal name _____

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO
4. Did you screen samples for radioactivity using the Geiger Counter..... YES NO
5. Were custody papers sealed in a plastic bag & taped inside to the lid? not taped ..... YES NO
6. Were custody papers filled out properly (ink, signed, etc.)? TB not on C-O-C ..... YES NO NA 5/2
   only 2 containers sent for VOCs samples
7. Did you sign custody papers in the appropriate place? ..... YES NO
8. Was project identifiable from custody papers? ..... YES NO
9. Type of ice: Regular Temperature: <4.0° Date temperature measured: 5-2-95
10. Describe type of packing in cooler: Bubblewrap
11. Were all bottles sealed in separate plastic bags? ..... YES NO
    Water in bottom of cooler, in bag with sample, foam holders were soaked.

B. LOG-IN PHASE: Date samples were logged-in: 5/2/95

by (print) Sherry Swink (sign) Sherry Swink

12. Did all bottles arrive unbroken & were labels in good condition? ..... YES NO
13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... YES NO
14. Did all bottle labels agree with custody papers? TB not on CoC ..... YES NO NA 5/2
15. Were correct containers used for the tests indicated? ..... YES NO
16. Were correct preservatives added to samples? ..... YES NO
17. Was a sufficient amount of sample sent for tests indicated? ..... YES NO
18. Was headspace absent in Volatile samples? If NO, list by QA#: _____ YES NO

    QA # (cont.) _____

19. Were the custody papers checked against the sample receipt form? By whom? LP Date: 5/4/95

# PART C

## QUALITY ASSURANCE TEST RESULTS

C1

DEPARTMENT OF THE ARMY, Corps of Engineers
Missouri River Division Laboratory, Omaha, Nebraska

## Volatile Organics Analysis

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 20 Mar 95
**Date Sample Received:** 07 Apr 95
**Date Analyzed:** 12 Apr 95
**Analyst:** Leuschen
**GC/MS File ID:** water1701017
**Instrument ID:** GCMSA
**Batch ID:** 950411w1

**Customer Sample No:** TRIP BLANK
**MRD Lab Sample No:** 950410-H004
**Sample Container(s):** 1-40 mL vial
**Sample Matrix:** Water
**EPA Method:** SW-846, Method 8240
**Dilution Factor:** 1.00
**pH:** 2

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | u | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 98 | 76-114 | 50 |
| 37. | Toluene-d8 | 101 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 100 | 86-115 | 50 |

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 19 April 95

C2

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

## Volatile Organics Analysis

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 02 Apr 95
**Date Sample Received:** 07 Apr 95
**Date Analyzed:** 12 Apr 95
**Analyst:** Leuschen
**GC/MS File ID:** water1501015
**Instrument ID:** GCMSA
**Batch ID:** 950411w1

**Customer Sample No:** AOC-RR-GP01D
**MRD Lab Sample No:** 950410-H005
**Sample Container(s):** 4-40 mL vials
**Sample Matrix:** Water w/seds
**EPA Method:** SW-846, Method 8240
**Dilution Factor:** 25.00
**pH:** 2

| | Analyte | Result | | Units | Detection Limits |
|---|---|---|---|---|---|
| 1. | Chloromethane | u | | µg/L | 250 |
| 2. | Bromomethane | u | | µg/L | 250 |
| 3. | Vinyl Chloride | u | | µg/L | 250 |
| 4. | Chloroethane | u | | µg/L | 250 |
| 5. | Dichloromethane | 50 | JB | µg/L | 50 |
| 6. | Acetone | u | | µg/L | 1250 |
| 7. | Carbon Disulfide | u | | µg/L | 50 |
| 8. | 1,1-Dichloroethene | u | | µg/L | 50 |
| 9. | 1,1-Dichloroethane | u | | µg/L | 50 |
| 10. | 1,2-Dichloroethene (total) | u | | µg/L | 50 |
| 11. | Chloroform | u | | µg/L | 50 |
| 12. | 2-Butanone | u | | µg/L | 1250 |
| 13. | 1,2-Dichloroethane | 180 | | µg/L | 50 |
| 14. | 1,1,1-Trichloroethane | u | | µg/L | 50 |
| 15. | Carbon Tetrachloride | u | | µg/L | 50 |
| 16. | Vinyl Acetate | u | | µg/L | 625 |
| 17. | Dichlorobromomethane | u | | µg/L | 50 |
| 18. | 1,2-Dichloropropane | u | | µg/L | 50 |
| 19. | cis-1,3-Dichloropropene | u | | µg/L | 50 |
| 20. | Trichloroethene | u | | µg/L | 50 |
| 21. | Dibromochloromethane | u | | µg/L | 50 |
| 22. | Benzene | 4200 | | µg/L | 50 |
| 23. | 1,1,2-Trichloroethane | u | | µg/L | 50 |
| 24. | trans-1,3-Dichloropropene | u | | µg/L | 50 |
| 25. | Bromoform | u | | µg/L | 50 |
| 26. | 4-Methyl-2-Pentanone | u | | µg/L | 625 |
| 27. | 2-Hexanone | u | | µg/L | 625 |
| 28. | 1,1,2,2-Tetrachloroethane | u | | µg/L | 50 |
| 29. | Tetrachloroethene | u | | µg/L | 50 |
| 30. | Toluene | 1300 | | µg/L | 50 |
| 31. | Chlorobenzene | u | | µg/L | 50 |
| 32. | Ethylbenzene | 250 | | µg/L | 50 |
| 33. | Styrene | u | | µg/L | 50 |
| 34. | meta-Xylene | 360 | | µg/L | 50 |
| 35. | ortho-/para-Xylene | 550 | | µg/L | 50 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 97 | 76-114 | 50 |
| 37. | Toluene-d8 | 100 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 98 | 86-115 | 50 |

**Tentatively Identified Compounds: (Estimated Concentration)**

| | | |
|---|---|---|
| C5 to C8 hydrocarbons | 820 | µg/L |
| 1-ethyl-3-methyl benzene | 180 | µg/L |

**Laboratory Comments:**
B: Analyte also detected at "J" level in the method blank.

u: Below Detection Limit J: Estimated Concentration

**Approved By:** David E. Spilichal **Date:** 19 April 95

C3

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

**Volatile Organics Analysis**

**QC Identifier:** Instrument/Method Blank
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950411-Q010
**GC/MS File ID:** water1301013
**Sequence ID:** 950125w

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 11 Apr 95
**Batch ID:** 950411w1

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | 1.7 J | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 96 | 76-114 | 50 |
| 37. | Toluene-d8 | 99 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 99 | 86-115 | 50 |

**Laboratory Comments:**
J: Estimated concentration.

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 19 April 95

C4

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

## Volatile Organics Analysis

**QC Identifier:** Laboratory Matrix Duplicate
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950410-H001
**Client Sample #:** Batch Specific
**GC/MS File ID:** water0801008

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 11 Apr 95
**Sequence ID:** 950125w
**Batch ID:** 950411w1

| Analyte | RESULTS (µg/L) Run #1 Result | Run #2 Result | RPD | Detection Limit |
|---|---|---|---|---|
| Chloromethane | u | u | | 10 |
| Bromomethane | u | u | | 10 |
| Vinyl Chloride | u | u | | 10 |
| Chloroethane | u | u | | 10 |
| Dichloromethane | u | u | | 2.0 |
| Acetone | 4250 | 4640 | 9 | 50 |
| Carbon Disulfide | u | u | | 2.0 |
| 1,1-Dichloroethene | u | u | | 2.0 |
| 1,1-Dichloroethane | u | u | | 2.0 |
| 1,2-Dichloroethene (total) | u | u | | 2.0 |
| Chloroform | u | u | | 2.0 |
| 2-Butanone | u | u | | 50 |
| 1,2-Dichloroethane | u | u | | 2.0 |
| 1,1,1-Trichloroethane | u | u | | 2.0 |
| Carbon Tetrachloride | u | u | | 2.0 |
| Vinyl Acetate | u | u | | 25 |
| Dichlorobromomethane | u | u | | 2.0 |
| 1,2-Dichloropropane | u | u | | 2.0 |
| cis-1,3-Dichloropropene | u | u | | 2.0 |
| Trichloroethene | u | u | | 2.0 |
| Dibromochloromethane | u | u | | 2.0 |
| Benzene | 56.1 | 57.0 | 2 | 2.0 |
| 1,1,2-Trichloroethane | u | u | | 2.0 |
| trans-1,3-Dichloropropene | u | u | | 2.0 |
| Bromoform | u | u | | 2.0 |
| 4-Methyl-2-Pentanone | u | u | | 25 |
| 2-Hexanone | u | u | | 25 |
| 1,1,2,2-Tetrachloroethane | u | u | | 2.0 |
| Tetrachloroethene | u | u | | 2.0 |
| Toluene | 2.2 | 2.3 | 4 | 2.0 |
| Chlorobenzene | u | u | | 2.0 |
| Ethylbenzene | 9.2 | 10.1 | 9 | 2.0 |
| Styrene | u | u | | 2.0 |
| meta-Xylene | 9.5 | 9.9 | 4 | 2.0 |
| ortho-/para-Xylene | 19.9 | 21.1 | 6 | 2.0 |

| Surrogate Standard | Recovery (%) Run #1 | Run #2 | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 107 | 76-114 | 50 |
| Toluene-d8 | 98 | 101 | 88-110 | 50 |
| p-Bromofluorobenzene | 98 | 104 | 86-115 | 50 |

u: Below Detection Limit
RPD: Relative Percent Difference (Acceptable RPD = 25%)

Approved By: David E. Splichal Date: 19 April 95

C 5

DEPARTMENT OF THE ARMY, Corps of Engineers
Missouri River Division Laboratory, Omaha, Nebraska

## Volatile Organics Analysis

**QC Identifier:** Matrix Spike/Matrix Spike Duplicate
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950410-H001
**Client Sample #:** Batch Specific
**MS File ID:** water0901009
**MSD File ID:** water1001010

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 11 Apr 95
**Sequence ID:** 950125w
**Batch ID:** 950411w1

| Analyte | Sample Result | Spike Added | RESULTS (µg/L) Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD | QC Limits RPD | %Rec |
|---|---|---|---|---|---|---|---|---|---|
| DCE | u | 20.0 | 24.4 | 122 | 24.4 | 122 | 0 | 14 | 61-145 |
| TCE | u | 20.0 | 21.2 | 106 | 20.9 | 105 | 1 | 14 | 71-120 |
| BNZ | 56.1 | 20.0 | 79.7 | 118 | 77.1 | 105 | 12(*) | 11 | 76-127 |
| TOL | 2.2 | 20.0 | 22.9 | 104 | 23.0 | 104 | 0 | 13 | 76-125 |
| CLB | u | 20.0 | 20.9 | 105 | 20.6 | 103 | 2 | 13 | 75-130 |

u = Below Detection Limit
MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD = (|MS - MSD|x100)/((MS + MSD)/2)

Compound Identification:

DCE = 1,1-Dichloroethene
TCE = Trichloroethene
BNZ = Benzene
TOL = Toluene
CLB = Chlorobenzene

| Surrogate Standard Compound | MS Percent Recovered | MSD Percent Recovered | Acceptable Range | Amount of Spike(µg/L) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 107 | 76-114 | 50 |
| Toluene-d8 | 100 | 97 | 88-110 | 50 |
| p-Bromofluorobenzene | 101 | 100 | 86-115 | 50 |

**Approved By:** David E. Splichal **Date:** 19 April 95

NOTE: RPD is slightly high for benzene due to the low spike amount used in comparison to the amount found native to the sample. If the RPD is calculated from the amounts found (not percent recoveries) the RPD value is 3.

C6

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

**Volatile Organics Analysis**

**QC Identifier:** Laboratory Control Sample
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**LCS ID:** DB00067
**GC/MS File ID:** water0501005
**Sequence ID:** 950125w

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 11 Apr 95
**Batch ID:** 950411w1

| Analyte | RESULTS (µg/L) Result | True Value | Acceptable Range | Detection Limit |
|---|---|---|---|---|
| Vinyl Chloride | 25.5 | 20.0 | 0.2-50.2 | 10.0 |
| 1,1-Dichloroethene | 21.7 | 20.0 | 0.2-46.8 | 2.0 |
| Chloroform | 20.8 | 20.0 | 10.2-27.6 | 2.0 |
| 1,2-Dichloroethane | 22.7 | 20.0 | 9.8-31.0 | 2.0 |
| 1,1,1-Trichloroethane | 19.8 | 20.0 | 10.4-32.4 | 2.0 |
| Carbon Tetrachloride | 19.2 | 20.0 | 14.0-28.0 | 2.0 |
| Bromodichloromethane | 19.9 | 20.0 | 7.0-31.0 | 2.0 |
| Trichloroethene | 19.4 | 20.0 | 14.2-31.4 | 2.0 |
| Dibromochloromethane | 19.4 | 20.0 | 10.6-29.8 | 2.0 |
| Benzene | 20.3 | 20.0 | 7.4-30.2 | 2.0 |
| Bromoform | 16.3 | 20.0 | 9.0-33.8 | 2.0 |

| Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | 76-114 | 50 |
| Toluene-d8 | 100 | 88-110 | 50 |
| p-Bromofluorobenzene | 101 | 86-115 | 50 |

Acceptable ranges found in Method #8240A, Page 32, Table 6, Column 5.

**Approved By:** David E. Splichal **Date:** 19 April 95

C7

# ENVIRONMENTAL CHEMICAL CORPORATION

SAMPLE NUMBER

**950330-H111**

Customer: US ARMY CORPS OF ENGINEERS
Source: Holloman AFB 4 Site PA/SI
WORK ORDER: 1695
Location: SS06-SB06-8-10
**Analysis:** VOLATILE EPA 8240

Matrix:(soil/water) SOIL
Sample Weight: 4.97 g
Extract Volume: 5.0 mL

Lab Sample I.D.: 20828-001
Date Sampled: 03/25/95
Date Received: 03/31/95

Column:(packed/cap) Packed
Percent Solid: 81 %
Dilution Factor: 1
Lab Notebook No: 465 Pg.13

Date Analyzed: 04/04/95
**Preparation Batch:** VS0403-2
**Instrument Batch:** V0404-2

**SAMPLE RESULTS**

| | CAS NO. | COMPOUND | DETECTION LIMITS (µg/kg) | RESULTS | FLAG |
|---|---|---|---|---|---|
| 1. | 74-87-3 | Chloromethane | 10.1 | U | |
| 2. | 74-83-9 | Bromomethane | 5.4 | U | |
| 3. | 75-01-4 | Vinyl Chloride | 5.7 | U | |
| 4. | 75-00-3 | Chloroethane | 5.5 | U | |
| 5. | 75-09-2 | Methylene Chloride | 3.6 | U | |
| 6. | 67-64-1 | Acetone | 18.7 | U | |
| 7. | 75-15-0 | Carbon Disulfide | 20.4 | U | |
| 8. | 75-35-4 | 1,1-Dichloroethene | 3.8 | U | |
| 9. | 75-34-3 | 1,1-Dichloroethane | 3.0 | U | |
| 10. | 540-59-0 | 1,2-Dichloroethene | 3.9 | U | |
| 11. | 67-66-3 | Chloroform | 2.9 | U | |
| 12. | 107-06-2 | 1,2-Dichloroethane | 1.7 | U | |
| 13. | 78-93-3 | 2-Butanone | 29.2 | U | |
| 14. | 71-55-6 | 1,1,1-Trichloroethane | 3.6 | U | |
| 15. | 56-23-5 | Carbon Tetrachloride | 3.8 | U | |
| 16. | 75-27-4 | Bromodichloromethane | 2.8 | U | |
| 17. | 78-87-5 | 1,2-Dichloropropane | 3.0 | U | |
| 18. | 10061-01-5 | cis-1,3-Dichloropropene | 3.7 | U | |
| 19. | 79-01-6 | Trichloroethene | 3.3 | U | |
| 20. | 124-48-1 | Dibromochloromethane | 2.4 | U | |
| 21. | 79-00-5 | 1,1,2-Trichloroethane | 2.5 | U | |
| 22. | 71-43-2 | Benzene | 3.2 | U | |
| 23. | 10061-02-6 | trans-1,3-Dichloropropene | 2.9 | U | |
| 24. | 75-25-2 | Bromoform | 2.2 | U | |
| 25. | 108-10-1 | 4-Methyl-2-Pentanone | 20.3 | U | |
| 26. | 591-78-6 | 2-Hexanone | 30.9 | U | |
| 27. | 127-18-4 | Tetrachloroethene | 3.5 | U | |
| 28. | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.6 | U | |
| 29. | 108-88-3 | Toluene | 5.3 | U | |
| 30. | 108-90-7 | Chlorobenzene | 2.6 | U | |
| 31. | 100-41-4 | Ethylbenzene | 3.5 | U | |
| 32. | 100-42-5 | Styrene | 2.5 | U | |
| 33. | 1330-20-7 | Xylene (total) | 3.3 | U | |

| | SURROGATE STANDARD | RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|---|
| 34. | 1,2-Dichloroethane-d4 | 105 | 70-121 | 50.3 |
| 35. | Toluene-d8 | 102 | 81-117 | 50.3 |
| 36. | Bromofluorobenzene | 100 | 74-121 | 50.3 |

U: Below Detection Limit

C8

# ENVIRONMENTAL CHEMICAL CORPORATION

SAMPLE NUMBER

**950330-H114**

Customer: US ARMY CORPS OF ENGINEERS
Source: Holloman AFB 4 Site PA/SI
Location: AOCRR-SB05-2-4
**Analysis:** **VOLATILE EPA 8240**

WORK ORDER: 1695

Matrix:(soil/water) SOIL
Sample Weight: 5.06 g
Extract Volume: 5.0 mL

Lab Sample I.D.: 20828-002
Date Sampled: 03/27/95
Date Received: 03/31/95

Column:(packed/cap) Packed
Percent Solid: 77 %
Dilution Factor: 1
Lab Notebook No: 465 Pg.13

Date Analyzed: 04/04/95
**Preparation Batch:** VS0403-2
**Instrument Batch:** V0404-2

**SAMPLE RESULTS**

| | CAS NO. | COMPOUND | DETECTION LIMITS (µg/kg) | RESULTS | FLAG |
|---|---|---|---|---|---|
| 1. | 74-87-3 | Chloromethane | 10.4 | U | |
| 2. | 74-83-9 | Bromomethane | 5.6 | U | |
| 3. | 75-01-4 | Vinyl Chloride | 5.9 | U | |
| 4. | 75-00-3 | Chloroethane | 5.7 | U | |
| 5. | 75-09-2 | Methylene Chloride | 3.7 | U | |
| 6. | 67-64-1 | Acetone | 19.4 | U | |
| 7. | 75-15-0 | Carbon Disulfide | 21.1 | U | |
| 8. | 75-35-4 | 1,1-Dichloroethene | 3.9 | U | |
| 9. | 75-34-3 | 1,1-Dichloroethane | 3.1 | U | |
| 10. | 540-59-0 | 1,2-Dichloroethene | 4.0 | U | |
| 11. | 67-66-3 | Chloroform | 3.0 | U | |
| 12. | 107-06-2 | 1,2-Dichloroethane | 1.8 | U | |
| 13. | 78-93-3 | 2-Butanone | 30.2 | U | |
| 14. | 71-55-6 | 1,1,1-Trichloroethane | 3.7 | U | |
| 15. | 56-23-5 | Carbon Tetrachloride | 3.9 | U | |
| 16. | 75-27-4 | Bromodichloromethane | 2.9 | U | |
| 17. | 78-87-5 | 1,2-Dichloropropane | 3.1 | U | |
| 18. | 10061-01-5 | cis-1,3-Dichloropropene | 3.8 | U | |
| 19. | 79-01-6 | Trichloroethene | 3.5 | U | |
| 20. | 124-48-1 | Dibromochloromethane | 2.5 | U | |
| 21. | 79-00-5 | 1,1,2-Trichloroethane | 2.6 | U | |
| 22. | 71-43-2 | Benzene | 3.3 | U | |
| 23. | 10061-02-6 | trans-1,3-Dichloropropene | 3.0 | U | |
| 24. | 75-25-2 | Bromoform | 2.3 | U | |
| 25. | 108-10-1 | 4-Methyl-2-Pentanone | 20.9 | U | |
| 26. | 591-78-6 | 2-Hexanone | 31.9 | U | |
| 27. | 127-18-4 | Tetrachloroethene | 3.6 | U | |
| 28. | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.7 | U | |
| 29. | 108-88-3 | Toluene | 5.4 | U | |
| 30. | 108-90-7 | Chlorobenzene | 2.7 | U | |
| 31. | 100-41-4 | Ethylbenzene | 3.6 | U | |
| 32. | 100-42-5 | Styrene | 2.6 | U | |
| 33. | 1330-20-7 | Xylene (total) | 3.4 | U | |

| | SURROGATE STANDARD | RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|---|
| 34. | 1,2-Dichloroethane-d4 | 105 | 70-121 | 49.4 |
| 35. | Toluene-d8 | 97 | 81-117 | 49.4 |
| 36. | Bromofluorobenzene | 102 | 74-121 | 49.4 |

U: Below Detection Limit

C9

# ENVIRONMENTAL CHEMICAL CORPORATION

SAMPLE NUMBER

**950330-H115**

Customer: US ARMY CORPS OF ENGINEERS
Source: Holloman AFB 4 Site PA/SI
Location: SD15-SB02-4-6
**Analysis:** VOLATILE EPA 8240

WORK ORDER: 1695

Matrix:(soil/water) SOIL
Sample Weight: 5.06 g
Extract Volume: 5.0 mL

Lab Sample I.D.: 20828-003
Date Sampled: 03/27/95
Date Received: 03/31/95

Column:(packed/cap) Packed
Percent Solid: 74 %
Dilution Factor: 1
Lab Notebook No: 465 Pg.13

Date Analyzed: 04/04/95
**Preparation Batch:** VS0403-2
**Instrument Batch:** V0404-2

**SAMPLE RESULTS**

| | CAS NO. | COMPOUND | DETECTION LIMITS (µg/kg) | RESULTS | FLAG |
|---|---|---|---|---|---|
| 1. | 74-87-3 | Chloromethane | 10.8 | U | |
| 2. | 74-83-9 | Bromomethane | 5.8 | U | |
| 3. | 75-01-4 | Vinyl Chloride | 6.1 | U | |
| 4. | 75-00-3 | Chloroethane | 5.9 | U | |
| 5. | 75-09-2 | Methylene Chloride | 3.8 | U | |
| 6. | 67-64-1 | Acetone | 20.2 | U | |
| 7. | 75-15-0 | Carbon Disulfide | 22.0 | U | |
| 8. | 75-35-4 | 1,1-Dichloroethene | 4.1 | U | |
| 9. | 75-34-3 | 1,1-Dichloroethane | 3.3 | U | |
| 10. | 540-59-0 | 1,2-Dichloroethene | 4.2 | U | |
| 11. | 67-66-3 | Chloroform | 3.1 | U | |
| 12. | 107-06-2 | 1,2-Dichloroethane | 1.9 | U | |
| 13. | 78-93-3 | 2-Butanone | 31.4 | U | |
| 14. | 71-55-6 | 1,1,1-Trichloroethane | 3.9 | U | |
| 15. | 56-23-5 | Carbon Tetrachloride | 4.1 | U | |
| 16. | 75-27-4 | Bromodichloromethane | 3.0 | U | |
| 17. | 78-87-5 | 1,2-Dichloropropane | 3.2 | U | |
| 18. | 10061-01-5 | cis-1,3-Dichloropropene | 4.0 | U | |
| 19. | 79-01-6 | Trichloroethene | 3.6 | U | |
| 20. | 124-48-1 | Dibromochloromethane | 2.6 | U | |
| 21. | 79-00-5 | 1,1,2-Trichloroethane | 2.7 | U | |
| 22. | 71-43-2 | Benzene | 3.5 | U | |
| 23. | 10061-02-6 | trans-1,3-Dichloropropene | 3.1 | U | |
| 24. | 75-25-2 | Bromoform | 2.4 | U | |
| 25. | 108-10-1 | 4-Methyl-2-Pentanone | 21.8 | U | |
| 26. | 591-78-6 | 2-Hexanone | 33.2 | U | |
| 27. | 127-18-4 | Tetrachloroethene | 3.7 | U | |
| 28. | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.8 | U | |
| 29. | 108-88-3 | Toluene | 5.7 | U | |
| 30. | 108-90-7 | Chlorobenzene | 2.8 | U | |
| 31. | 100-41-4 | Ethylbenzene | 3.7 | U | |
| 32. | 100-42-5 | Styrene | 2.7 | U | |
| 33. | 1330-20-7 | Xylene (total) | 3.6 | U | |

| | SURROGATE STANDARD | RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|---|
| 34. | 1,2-Dichloroethane-d4 | 112 | 70-121 | 49.4 |
| 35. | Toluene-d8 | 97 | 81-117 | 49.4 |
| 36. | Bromofluorobenzene | 103 | 74-121 | 49.4 |

U: Below Detection Limit

C10

# ENVIRONMENTAL CHEMICAL CORPORATION

**QUALITY CONTROL**

SAMPLE NUMBER

**N/A**

Customer: **US ARMY CORPS OF ENGINEERS**

Source: Holloman AFB 4 Site PA/SI

WORK ORDER: 1695

Location: N/A

**Analysis:** **VOLATILE EPA 8240**

| | | | |
|---|---|---|---|
| Matrix:(soil/water) | Soil | Lab Sample I.D.: | BLANK |
| Sample Weight: | 5.0 g | Date Sampled: | N/A |
| Extract Volume: | 5.0 mL | Date Received: | N/A |
| Column:(packed/cap) | Packed | Date Analyzed: | 04/03/95 |
| Percent Solid: | 100 % | **Preparation Batch:** | VS0403-2 |
| Dilution Factor: | 1 | **Instrument Batch:** | V0403-2 |
| Lab Notebook No: | 465 Pg.12 | | |

**BLANK**

| CAS NO. | COMPOUND | DETECTION LIMITS (µg/kg) | RESULTS | FLAG |
|---|---|---|---|---|
| | | | | |

**ALL COMPOUNDS ARE BELOW DETECTION LIMIT.**

| SURROGATE STANDARD | RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | 70-121 | 50.0 |
| Toluene-d8 | 100 | 81-117 | 50.0 |
| Bromofluorobenzene | 106 | 74-121 | 50.0 |

C11

# ENVIRONMENTAL CHEMICAL CORPORATION

**QUALITY CONTROL**

SAMPLE NUMBER

**N/A**

Customer: US ARMY CORPS OF ENGINEERS

Source: N/A

WORK ORDER: N/A

Location: N/A

**Analysis:** VOLATILE EPA 8240

**Matrix:(soil/water)** SOIL

Lab Sample I.D.: 20814-001 Duplicate

Sample Weight: 4.85 g

Date Sampled: 03/24/95

Extract Volume: 5.0 mL

Date Received: 03/30/95

Column:(packed/cap) Packed

Date Analyzed: 04/03/95

Percent Solid: 69 %

**Preparation Batch:** VS0403-2

Dilution Factor: 1

**Instrument Batch:** V0403-2

Lab Notebook No: 465 Pg.12

**DUPLICATE**

| COMPOUND | DETECTION LIMIT (µg/kg) | SAMPLE RESULT (µg/kg) | DUPLICATE RESULT (µg/kg) | FLAG |
|---|---|---|---|---|
| | | | | |

**ALL COMPOUNDS ARE BELOW DETECTION LIMIT.**

| SURROGATE STANDARD | SAMPLE RECOVERY (%) | DUPLICATE RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | 105 | 70-121 | 51.5 |
| Toluene-d8 | 100 | 104 | 81-117 | 51.5 |
| Bromofluorobenzene | 107 | 109 | 74-121 | 51.5 |

U: Below Detection Limit

C 12

# ENVIRONMENTAL CHEMICAL CORPORATION

**QUALITY CONTROL**

SAMPLE NUMBER

**N/A**

.tomer: US ARMY CORPS OF ENGINEERS

Source: N/A WORK ORDER: N/A

Location: N/A

**Analysis:** VOLATILE EPA 8240

Matrix: (soil/water) SOIL Lab Sample I.D.: 20814-001

**Preparation Batch:** VS0403-2 **Instrument Batch:** V0403-2

**MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

| COMPOUND | SPIKE ADDED (µg/kg) | SAMPLE CONC. (µg/kg) | MS CONC. (µg/kg) | % REC # | QC LIMITS % REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75.0 | 0.0 | 62.6 | 83 | 59-172 |
| Trichloroethene | 75.0 | 0.0 | 66.6 | 89 | 62-137 |
| Benzene | 75.0 | 0.0 | 62.2 | 83 | 66-142 |
| Toluene | 75.0 | 0.0 | 67.6 | 90 | 59-139 |
| Chlorobenzene | 75.0 | 0.0 | 72.8 | 97 | 60-133 |

| COMPOUND | SPIKE ADDED (µg/kg) | MSD CONC. (µg/kg) | MSD % REC | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 71.0 | 59.6 | 84 | 1 | 22 | 59-172 |
| Trichloroethene | 71.0 | 65.3 | 92 | 3 | 24 | 62-137 |
| Benzene | 71.0 | 63.7 | 90 | 8 | 21 | 66-142 |
| Toluene | 71.0 | 66.9 | 94 | 4 | 21 | 59-139 |
| .orobenzene | 71.0 | 71.4 | 101 | 4 | 21 | 60-133 |

| SURROGATE STANDARD | SAMPLE RECOVERY (%) | DUPLICATE RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 101 | 70-121 | 49.0 |
| Toluene-d8 | 99 | 103 | 81-117 | 49.0 |
| Bromofluorobenzene | 103 | 107 | 74-121 | 49.0 |

olumn to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS:

C13

# ENVIRONMENTAL CHEMICAL CORPORATION

**QUALITY CONTROL**

SAMPLE NUMBER

N/A

Customer: US ARMY CORPS OF ENGINEERS

Source : N/A

WORK ORDER: N/A

Location: N/A

**Analysis:** VOLATILE EPA 8240

Matrix: (soil/water) Soil

Lab Sample I.D.: 20814-LCSS

**Preparation Batch:** VS0403-2

**Instrument Batch:** V0403-2

**LABORATORY CONTROL SAMPLE**

| COMPOUND | | TRUE VALUE (µg/kg) | FOUND (µg/kg) | % REC # | QC LIMITS % REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | | 50.0 | 33.1 | 66 | 59-172 |
| Trichloroethene | | 50.0 | 39.4 | 79 | 62-137 |
| Benzene | | 50.0 | 37.6 | 75 | 66-142 |
| Toluene | | 50.0 | 39.1 | 78 | 59-139 |
| Chlorobenzene | | 50.0 | 42.1 | 84 | 60-133 |

| SURROGATE STANDARD | RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | 70-121 | 50.0 |
| Toluene-d8 | 100 | 81-117 | 50.0 |
| Bromofluorobenzene | 113 | 74-121 | 50.0 |

**# Column to be used to flag recovery values with an asterisk**

*** Values outside of QC limits**

**Spike Recovery:** 0 out of 5 outside limits

**COMMENTS:**

C14

# ENVIRONMENTAL CHEMICAL CORPORATION

SAMPLE NUMBER

**950331-H027**

Customer: US ARMY CORPS OF ENGINEERS
Source: Holloman AFB 4 Site PA/SI
WORK ORDER: 1700
Location: AOC-BBMS-SB1-4-6
**Analysis:** VOLATILE EPA 8240

Matrix:(soil/water) SOIL
Sample Weight: 5.0 g
Extract Volume: 5.0 mL

Lab Sample I.D.: 20837-001
Date Sampled: 03/29/95
Date Received: 04/01/95

Column:(packed/cap) Packed
Percent Solid: 76 %
Dilution Factor: 1
Lab Notebook No: 465 Pg.23

Date Analyzed: 04/13/95
**Preparation Batch:** VS0413-2
**Instrument Batch:** V0413-2

**SAMPLE RESULTS**

| | CAS NO. | COMPOUND | DETECTION LIMITS (µg/kg) | RESULTS | FLAG |
|---|---|---|---|---|---|
| 1. | 74-87-3 | Chloromethane | 10.7 | U | |
| 2. | 74-83-9 | Bromomethane | 5.8 | U | |
| 3. | 75-01-4 | Vinyl Chloride | 6.0 | U | |
| 4. | 75-00-3 | Chloroethane | 5.8 | U | |
| 5. | 75-09-2 | Methylene Chloride | 3.8 | U | |
| 6. | 67-64-1 | Acetone | 19.9 | U | |
| 7. | 75-15-0 | Carbon Disulfide | 21.7 | U | |
| 8. | 75-35-4 | 1,1-Dichloroethene | 4.0 | U | |
| 9. | 75-34-3 | 1,1-Dichloroethane | 3.2 | U | |
| 10. | 540-59-0 | 1,2-Dichloroethene | 4.1 | U | |
| 11. | 67-66-3 | Chloroform | 3.1 | U | |
| 12. | 107-06-2 | 1,2-Dichloroethane | 1.8 | U | |
| 13. | 78-93-3 | 2-Butanone | 31.0 | U | |
| 14. | 71-55-6 | 1,1,1-Trichloroethane | 3.8 | U | |
| 15. | 56-23-5 | Carbon Tetrachloride | 4.0 | U | |
| 16. | 75-27-4 | Bromodichloromethane | 3.0 | U | |
| 17. | 78-87-5 | 1,2-Dichloropropane | 3.2 | U | |
| 18. | 10061-01-5 | cis-1,3-Dichloropropene | 3.9 | U | |
| 19. | 79-01-6 | Trichloroethene | 3.5 | U | |
| 20. | 124-48-1 | Dibromochloromethane | 2.6 | U | |
| 21. | 79-00-5 | 1,1,2-Trichloroethane | 2.7 | U | |
| 22. | 71-43-2 | Benzene | 3.4 | U | |
| 23. | 10061-02-6 | trans-1,3-Dichloropropene | 3.1 | U | |
| 24. | 75-25-2 | Bromoform | 2.4 | U | |
| 25. | 108-10-1 | 4-Methyl-2-Pentanone | 21.5 | U | |
| 26. | 591-78-6 | 2-Hexanone | 32.7 | U | |
| 27. | 127-18-4 | Tetrachloroethene | 3.7 | U | |
| 28. | 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.7 | U | |
| 29. | 108-88-3 | Toluene | 5.6 | U | |
| 30. | 108-90-7 | Chlorobenzene | 2.8 | U | |
| 31. | 100-41-4 | Ethylbenzene | 3.7 | U | |
| 32. | 100-42-5 | Styrene | 2.7 | U | |
| 33. | 1330-20-7 | Xylene (total) | 3.5 | U | |

| | SURROGATE STANDARD | RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|---|
| 34. | 1,2-Dichloroethane-d4 | 103 | 70-121 | 50.0 |
| 35. | Toluene-d8 | 105 | 81-117 | 50.0 |
| 36. | Bromofluorobenzene | 101 | 74-121 | 50.0 |

U: Below Detection Limit

C15

# ENVIRONMENTAL CHEMICAL CORPORATION

**QUALITY CONTROL**

SAMPLE NUMBER

**N/A**

Customer: **US ARMY CORPS OF ENGINEERS**

Source: Holloman AFB 4 Site PA/SI

WORK ORDER: 1700

Location: N/A

**Analysis:** **VOLATILE EPA 8240**

Matrix:(soil/water) Soil

Sample Weight: 5.0 g

Extract Volume: 5.0 mL

Lab Sample I.D.: BLANK

Date Sampled: N/A

Date Received: N/A

Column:(packed/cap) Packed

Percent Solid: 100 %

Dilution Factor: 1

Lab Notebook No: 465 Pg.23

Date Analyzed: 04/13/95

**Preparation Batch:** VS0413-2

**Instrument Batch:** V0413-2

**BLANK**

| CAS NO. | COMPOUND | DETECTION LIMITS (µg/kg) | RESULTS | FLAG |
|---|---|---|---|---|
| | | | | |

**ALL COMPOUNDS ARE BELOW DETECTION LIMIT.**

| SURROGATE STANDARD | RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | 70-121 | 50.0 |
| Toluene-d8 | 102 | 81-117 | 50.0 |
| Bromofluorobenzene | 100 | 74-121 | 50.0 |

C16

# ENVIRONMENTAL CHEMICAL CORPORATION

QUALITY CONTROL

SAMPLE NUMBER

950331-H027

Customer: US ARMY CORPS OF ENGINEERS

Source: Holloman AFB 4 Site PA/SI

WORK ORDER: 1700

Location: AOC-BBMS-SB1-4-6

**Analysis:** VOLATILE EPA 8240

**Matrix:(soil/water)** SOIL

Lab Sample I.D.: 20837-001 Duplicate

Sample Weight: 5.0 g

Date Sampled: 03/29/95

Extract Volume: 5.0 mL

Date Received: 04/01/95

Column:(packed/cap) Packed

Date Analyzed: 04/13/95

Percent Solid: 76 %

**Preparation Batch:** VS0413-2

Dilution Factor: 1

**Instrument Batch:** V0413-2

Lab Notebook No: 465 Pg.23

DUPLICATE

| COMPOUND | DETECTION LIMIT (µg/kg) | SAMPLE RESULT (µg/kg) | DUPLICATE RESULT (µg/kg) | FLAG |
|---|---|---|---|---|
| | | | | |

ALL COMPOUNDS ARE BELOW DETECTION LIMIT.

| SURROGATE STANDARD | SAMPLE RECOVERY (%) | DUPLICATE RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 105 | 70-121 | 50.0 |
| Toluene-d8 | 105 | 107 | 81-117 | 50.0 |
| Bromofluorobenzene | 101 | 102 | 74-121 | 50.0 |

U: Below Detection Limit

C17

# ENVIRONMENTAL CHEMICAL CORPORATION

**QUALITY CONTROL**

SAMPLE NUMBER

**950331-H027**

Customer: US ARMY CORPS OF ENGINEERS

Source: Holloman AFB 4 Site PA/SI WORK ORDER: 1700

Location: AOC-BBMS-SB1-4-6

**Analysis:** VOLATILE EPA 8240

Matrix: (soil/water) SOIL Lab Sample I.D.: 20837-001

**Preparation Batch:** VS0413-2 **Instrument Batch:** V0413-2

**MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

| COMPOUND | SPIKE ADDED (µg/kg) | SAMPLE CONC. (µg/kg) | MS CONC. (µg/kg) | % REC # | QC LIMITS % REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 329 | 0.0 | 335 | 102 | 59-172 |
| Trichloroethene | 329 | 0.0 | 310 | 94 | 62-137 |
| Benzene | 329 | 0.0 | 293 | 89 | 66-142 |
| Toluene | 329 | 0.0 | 312 | 95 | 59-139 |
| Chlorobenzene | 329 | 0.0 | 344 | 104 | 60-133 |

| COMPOUND | SPIKE ADDED (µg/kg) | MSD CONC. (µg/kg) | MSD % REC | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 329 | 327 | 100 | 2 | 22 | 59-172 |
| Trichloroethene | 329 | 275 | 84 | 11 | 24 | 62-137 |
| Benzene | 329 | 277 | 84 | 6 | 21 | 66-142 |
| Toluene | 329 | 303 | 92 | 3 | 21 | 59-1[illegible] |
| Chlorobenzene | 329 | 331 | 101 | 3 | 21 | 60-[illegible] |

| SURROGATE STANDARD | SAMPLE RECOVERY (%) | DUPLICATE RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 105 | 70-121 | 250 |
| Toluene-d8 | 106 | 103 | 81-117 | 250 |
| Bromofluorobenzene | 102 | 99 | 74-121 | 250 |

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

**RPD:** 0 out of 5 outside limits

**Spike Recovery:** 0 out of 10 outside limits

**COMMENTS:**

C18

# ENVIRONMENTAL CHEMICAL CORPORATION

**QUALITY CONTROL**

SAMPLE NUMBER

**N/A**

Customer: **US ARMY CORPS OF ENGINEERS**

Source: Holloman AFB 4 Site PA/SI WORK ORDER: 1700

Location: N/A

**Analysis:** **VOLATILE EPA 8240**

Matrix: (soil/water) Soil Lab Sample I.D.: 20837-LCSS

**Preparation Batch:** VS0413-2 **Instrument Batch:** V0413-2

**LABORATORY CONTROL SAMPLE**

| COMPOUND | | TRUE VALUE (µg/kg) | FOUND (µg/kg) | % REC # | QC LIMITS % REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | | 50.0 | 52.0 | 104 | 59-172 |
| Trichloroethene | | 50.0 | 45.5 | 91 | 62-137 |
| Benzene | | 50.0 | 44.5 | 89 | 66-142 |
| Toluene | | 50.0 | 46.1 | 92 | 59-139 |
| Chlorobenzene | | 50.0 | 51.1 | 102 | 60-133 |

| SURROGATE STANDARD | RECOVERY (%) | ACCEPTABLE | SPIKE (µg/kg) |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | 70-121 | 50.0 |
| Toluene-d8 | 103 | 81-117 | 50.0 |
| Bromofluorobenzene | 103 | 74-121 | 50.0 |

**# Column to be used to flag recovery values with an asterisk**

*** Values outside of QC limits**

**Spike Recovery:** 0 out of 5 outside limits

**COMMENTS:**

C19

DEPARTMENT OF THE ARMY, Corps of Engineers
Missouri River Division Laboratory, Omaha, Nebraska

## Volatile Organics Analysis

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 02 Apr 95
**Date Sample Received:** 07 Apr 95
**Date Analyzed:** 14 Apr 95
**Analyst:** Leuschen
**GC/MS File ID:** water3101031
**Instrument ID:** GCMSA
**Batch ID:** 950413w1

**Customer Sample No:** SS-06-GP03D
**MRD Lab Sample No:** 950410-H006
**Sample Container(s):** 4-40 mL vials
**Sample Matrix:** Water w/seds
**EPA Method:** SW-846, Method 8240
**Dilution Factor:** 1.00
**pH:** 2

| | Analyte | Result | | Units | Detection Limits |
|---|---|---|---|---|---|
| 1. | Chloromethane | u | | µg/L | 10 |
| 2. | Bromomethane | u | | µg/L | 10 |
| 3. | Vinyl Chloride | u | | µg/L | 10 |
| 4. | Chloroethane | u | | µg/L | 10 |
| 5. | Dichloromethane | u | | µg/L | 2.0 |
| 6. | Acetone | 120 | | µg/L | 50 |
| 7. | Carbon Disulfide | u | | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | | µg/L | 2.0 |
| 11. | Chloroform | u | | µg/L | 2.0 |
| 12. | 2-Butanone | 38 | J | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | | µg/L | 25 |
| 17. | Dichlorobromomethane | u | | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | | µg/L | 2.0 |
| 20. | Trichloroethene | u | | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | | µg/L | 2.0 |
| 22. | Benzene | u | | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | | µg/L | 2.0 |
| 25. | Bromoform | u | | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | | µg/L | 25 |
| 27. | 2-Hexanone | u | | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | | µg/L | 2.0 |
| 30. | Toluene | 1.0 | J | µg/L | 2.0 |
| 31. | Chlorobenzene | u | | µg/L | 2.0 |
| 32. | Ethylbenzene | u | | µg/L | 2.0 |
| 33. | Styrene | u | | µg/L | 2.0 |
| 34. | meta-Xylene | u | | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 99 | 76-114 | 50 |
| 37. | Toluene-d8 | 99 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 97 | 86-115 | 50 |

u: Below Detection Limit J: Estimated Concentration

**Approved By:** David E. Splichal **Date:** 19 April 95

C20

DEPARTMENT OF THE ARMY, Corps of Engineers
Missouri River Division Laboratory, Omaha, Nebraska

## Volatile Organics Analysis

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 11 Apr 95
**Date Analyzed:** 14 Apr 95
**Analyst:** Leuschen
**GC/MS File ID:** water3501035
**Instrument ID:** GCMSA
**Batch ID:** 950413w1

**Customer Sample No:** AOC-RR-GP07D
**MRD Lab Sample No:** 950412-H022
**Sample Container(s):** 4-40 mL vials
**Sample Matrix:** Water w/seds
**EPA Method:** SW-846, Method 8240
**Dilution Factor:** 5.00
**pH:** 2

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 50 |
| 2. | Bromomethane | u | µg/L | 50 |
| 3. | Vinyl Chloride | u | µg/L | 50 |
| 4. | Chloroethane | u | µg/L | 50 |
| 5. | Dichloromethane | 6.8 J | µg/L | 10 |
| 6. | Acetone | u | µg/L | 250 |
| 7. | Carbon Disulfide | u | µg/L | 10 |
| 8. | 1,1-Dichloroethene | u | µg/L | 10 |
| 9. | 1,1-Dichloroethane | u | µg/L | 10 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 10 |
| 11. | Chloroform | u | µg/L | 10 |
| 12. | 2-Butanone | u | µg/L | 250 |
| 13. | 1,2-Dichloroethane | u | µg/L | 10 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 10 |
| 15. | Carbon Tetrachloride | u | µg/L | 10 |
| 16. | Vinyl Acetate | u | µg/L | 125 |
| 17. | Dichlorobromomethane | u | µg/L | 10 |
| 18. | 1,2-Dichloropropane | u | µg/L | 10 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 10 |
| 20. | Trichloroethene | u | µg/L | 10 |
| 21. | Dibromochloromethane | u | µg/L | 10 |
| 22. | Benzene | 810 | µg/L | 10 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 10 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 10 |
| 25. | Bromoform | u | µg/L | 10 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 125 |
| 27. | 2-Hexanone | u | µg/L | 125 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 10 |
| 29. | Tetrachloroethene | u | µg/L | 10 |
| 30. | Toluene | 8.6 J | µg/L | 10 |
| 31. | Chlorobenzene | u | µg/L | 10 |
| 32. | Ethylbenzene | 8.1 J | µg/L | 10 |
| 33. | Styrene | u | µg/L | 10 |
| 34. | meta-Xylene | 25 | µg/L | 10 |
| 35. | ortho-/para-Xylene | 200 | µg/L | 10 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 97 | 76-114 | 50 |
| 37. | Toluene-d8 | 100 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 98 | 86-115 | 50 |

**Tentatively Identified Compounds: (Estimated Concentration)**

| | | |
|---|---|---|
| C5 to C10 hydrocarbons | 100 | µg/L |
| alkylated benzene compounds | 69 | µg/L |

u: Below Detection Limit J: Estimated Concentration

Approved By: David E. Splichal Date: 19 April 95

C21

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

## Volatile Organics Analysis

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 11 Apr 95
**Date Analyzed:** 14 Apr 95
**Analyst:** Leuschen
**GC/MS File ID:** water2301023
**Instrument ID:** GCMSA
**Batch ID:** 950413w1

**Customer Sample No:** AOC-BBMS-GP07D
**MRD Lab Sample No:** 950412-H024
**Sample Container(s):** 4-40 mL vials
**Sample Matrix:** Water w/seds
**EPA Method:** SW-846, Method 8240
**Dilution Factor:** 1.00
**pH:** 4

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | u | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 98 | 76-114 | 50 |
| 37. | Toluene-d8 | 101 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 101 | 86-115 | 50 |

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 19 April 95

C22

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

## Volatile Organics Analysis

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 11 Apr 95
**Date Analyzed:** 14 Apr 95
**Analyst:** Leuschen
**GC/MS File ID:** water3401034
**Instrument ID:** GCMSA
**Batch ID:** 950413w1

**Customer Sample No:** TB-23
**MRD Lab Sample No:** 950412-H025
**Sample Container(s):** 1-40 mL vial
**Sample Matrix:** Water
**EPA Method:** SW-846, Method 8240
**Dilution Factor:** 1.00
**pH:** 2

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | 1.3 J | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 97 | 76-114 | 50 |
| 37. | Toluene-d8 | 101 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 99 | 86-115 | 50 |

u: Below Detection Limit J: Estimated Concentration

**Approved By:** David E. Splichal **Date:** 19 April 95

C23

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

## Volatile Organics Analysis

**QC Identifier:** Instrument/Method Blank
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950414-Q006
**GC/MS File ID:** water3001030
**Sequence ID:** 950125w

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 14 Apr 95
**Batch ID:** 950413w1

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | 1.4 J | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 95 | 76-114 | 50 |
| 37. | Toluene-d8 | 102 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 100 | 86-115 | 50 |

**Laboratory Comments:**
J: Estimated concentration.

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 19 April 95

C24

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

**Volatile Organics Analysis**

**QC Identifier:** Instrument/Method Blank
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950413-Q016
**GC/MS File ID:** water2001020
**Sequence ID:** 950125w

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 14 Apr 95
**Batch ID:** 950413w1

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | 1.5 J | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 98 | 76-114 | 50 |
| 37. | Toluene-d8 | 99 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 99 | 86-115 | 50 |

**Laboratory Comments:**
J: Estimated concentration.

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 19 April 95

C25

DEPARTMENT OF THE ARMY, Corps of Engineers
Missouri River Division Laboratory, Omaha, Nebraska

## Volatile Organics Analysis

**QC Identifier:** Laboratory Matrix Duplicate
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water w/seds
**MRDL Sample #:** 950412-H024
**Client Sample #:** AOC-BBMS-GP07D
**GC/MS File ID:** water2401024

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 14 Apr 95
**Sequence ID:** 950125w
**Batch ID:** 950413w1

| Analyte | RESULTS (µg/L) Run #1 Result | Run #2 Result | RPD | Detection Limit |
|---|---|---|---|---|
| Chloromethane | u | u | | 10 |
| Bromomethane | u | u | | 10 |
| Vinyl Chloride | u | u | | 10 |
| Chloroethane | u | u | | 10 |
| Dichloromethane | u | u | | 2.0 |
| Acetone | u | u | | 50 |
| Carbon Disulfide | u | u | | 2.0 |
| 1,1-Dichloroethene | u | u | | 2.0 |
| 1,1-Dichloroethane | u | u | | 2.0 |
| 1,2-Dichloroethene (total) | u | u | | 2.0 |
| Chloroform | u | u | | 2.0 |
| 2-Butanone | u | u | | 50 |
| 1,2-Dichloroethane | u | u | | 2.0 |
| 1,1,1-Trichloroethane | u | u | | 2.0 |
| Carbon Tetrachloride | u | u | | 2.0 |
| Vinyl Acetate | u | u | | 25 |
| Dichlorobromomethane | u | u | | 2.0 |
| 1,2-Dichloropropane | u | u | | 2.0 |
| cis-1,3-Dichloropropene | u | u | | 2.0 |
| Trichloroethene | u | u | | 2.0 |
| Dibromochloromethane | u | u | | 2.0 |
| Benzene | u | u | | 2.0 |
| 1,1,2-Trichloroethane | u | u | | 2.0 |
| trans-1,3-Dichloropropene | u | u | | 2.0 |
| Bromoform | u | u | | 2.0 |
| 4-Methyl-2-Pentanone | u | u | | 25 |
| 2-Hexanone | u | u | | 25 |
| 1,1,2,2-Tetrachloroethane | u | u | | 2.0 |
| Tetrachloroethene | u | u | | 2.0 |
| Toluene | u | u | | 2.0 |
| Chlorobenzene | u | u | | 2.0 |
| Ethylbenzene | u | u | | 2.0 |
| Styrene | u | u | | 2.0 |
| meta-Xylene | u | u | | 2.0 |
| ortho-/para-Xylene | u | u | | 2.0 |

| Surrogate Standard | Recovery (%) Run #1 | Run #2 | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | 98 | 76-114 | 50 |
| Toluene-d8 | 101 | 101 | 88-110 | 50 |
| p-Bromofluorobenzene | 101 | 99 | 86-115 | 50 |

u: Below Detection Limit
RPD: Relative Percent Difference (Acceptable RPD = 25%)

**Approved By:** David E. Splichal **Date:** 19 April 95

C26

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

**Volatile Organics Analysis**

**QC Identifier:** Matrix Spike/Matrix Spike Duplicate
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water w/seds
**MRDL Sample #:** 950412-H024
**Client Sample #:** AOC-BBMS-GP07D
**MS File ID:** water2501025
**MSD File ID:** water2601026

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 14 Apr 95
**Sequence ID:** 950125w
**Batch ID:** 950413w1

| Analyte | Sample Result | Spike Added | RESULTS (µg/L) Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD | QC Limits RPD | %Rec |
|---|---|---|---|---|---|---|---|---|---|
| DCE | u | 20.0 | 23.7 | 119 | 23.3 | 117 | 2 | 14 | 61-145 |
| TCE | u | 20.0 | 19.8 | 99 | 19.7 | 99 | 0 | 14 | 71-120 |
| BNZ | u | 20.0 | 20.5 | 103 | 20.7 | 104 | 1 | 11 | 76-127 |
| TOL | u | 20.0 | 20.8 | 104 | 21.0 | 105 | 1 | 13 | 76-125 |
| CLB | u | 20.0 | 20.3 | 102 | 20.0 | 100 | 2 | 13 | 75-130 |

u = Below Detection Limit
MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD = (|MS - MSD|x100)/((MS + MSD)/2)

Compound Identification:

DCE = 1,1-Dichloroethene
TCE = Trichloroethene
BNZ = Benzene
TOL = Toluene
CLB = Chlorobenzene

| Surrogate Standard Compound | MS Percent Recovered | MSD Percent Recovered | Acceptable Range | Amount of Spike (µg/L) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | 98 | 76-114 | 50 |
| Toluene-d8 | 102 | 101 | 88-110 | 50 |
| p-Bromofluorobenzene | 101 | 95 | 86-115 | 50 |

**Approved By:** David E. Splichal **Date:** 19 April 95

C27

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

## Volatile Organics Analysis

**QC Identifier:** Laboratory Control Sample
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**LCS ID:** DB00067
**GC/MS File ID:** water3601036
**Sequence ID:** 950125w

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 15 Apr 95
**Batch ID:** 950413w1

| Analyte | RESULTS (µg/L) Result | True Value | Acceptable Range | Detection Limit |
|---|---|---|---|---|
| Vinyl Chloride | 25.7 | 20.0 | 0.2-50.2 | 10.0 |
| 1,1-Dichloroethene | 22.9 | 20.0 | 0.2-46.8 | 2.0 |
| Chloroform | 20.2 | 20.0 | 10.2-27.6 | 2.0 |
| 1,2-Dichloroethane | 21.2 | 20.0 | 9.8-31.0 | 2.0 |
| 1,1,1-Trichloroethane | 21.3 | 20.0 | 10.4-32.4 | 2.0 |
| Carbon Tetrachloride | 19.9 | 20.0 | 14.0-28.0 | 2.0 |
| Bromodichloromethane | 20.5 | 20.0 | 7.0-31.0 | 2.0 |
| Trichloroethene | 20.5 | 20.0 | 14.2-31.4 | 2.0 |
| Dibromochloromethane | 19.9 | 20.0 | 10.6-29.8 | 2.0 |
| Benzene | 20.1 | 20.0 | 7.4-30.2 | 2.0 |
| Bromoform | 17.2 | 20.0 | 9.0-33.8 | 2.0 |

| Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | 76-114 | 50 |
| Toluene-d8 | 97 | 88-110 | 50 |
| p-Bromofluorobenzene | 101 | 86-115 | 50 |

Acceptable ranges found in Method #8240A, Page 32, Table 6, Column 5.

**Approved By:** David E. Splichal **Date:** 19 April 95

c 28

DEPARTMENT OF THE ARMY, Corps of Engineers
Missouri River Division Laboratory, Omaha, Nebraska

## Volatile Organics Analysis

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 10 Apr 95
**Date Sample Received:** 02 May 95
**Date Analyzed:** 02 May 95
**Analyst:** Leuschen
**GC/MS File ID:** water2801028
**Instrument ID:** GCMSA
**Batch ID:** 950501w1

**Customer Sample No:** TB-21
**MRD Lab Sample No:** 950502-H012
**Sample Container(s):** 1-40 mL vial
**Sample Matrix:** Water
**EPA Method:** SW-846, Method 8240
**Dilution Factor:** 1.00
**pH:** 2

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | u | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 95 | 76-114 | 50 |
| 37. | Toluene-d8 | 102 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 101 | 86-115 | 50 |

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 11 May 95

C29

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

## Volatile Organics Analysis

**QC Identifier:** Instrument/Method Blank
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950501-Q013
**GC/MS File ID:** water2301023
**Sequence ID:** 950125w

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 02 May 95
**Batch ID:** 950501w1

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | 1.3 J | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 95 | 76-114 | 50 |
| 37. | Toluene-d8 | 101 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 99 | 86-115 | 50 |

**Laboratory Comments:**
J: Estimated concentration.

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 11 May 95

C30

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

**Volatile Organics Analysis**

**QC Identifier:** Laboratory Matrix Duplicate
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950429-H061
**Client Sample #:** Batch Specific
**GC/MS File ID:** water0801008

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 01 May 95
**Sequence ID:** 950125w
**Batch ID:** 950501w1

| Analyte | RESULTS (µg/L) Run #1 Result | Run #2 Result | RPD | Detection Limit |
|---|---|---|---|---|
| Chloromethane | u | u | | 10 |
| Bromomethane | u | u | | 10 |
| Vinyl Chloride | u | u | | 10 |
| Chloroethane | u | u | | 10 |
| Dichloromethane | u | u | | 2.0 |
| Acetone | 171 | 182 | 6 | 50 |
| Carbon Disulfide | u | u | | 2.0 |
| 1,1-Dichloroethene | u | u | | 2.0 |
| 1,1-Dichloroethane | u | u | | 2.0 |
| 1,2-Dichloroethene (total) | u | u | | 2.0 |
| Chloroform | u | u | | 2.0 |
| 2-Butanone | 55 | 60 | 10 | 50 |
| 1,2-Dichloroethane | u | u | | 2.0 |
| 1,1,1-Trichloroethane | u | u | | 2.0 |
| Carbon Tetrachloride | u | u | | 2.0 |
| Vinyl Acetate | u | u | | 25 |
| Dichlorobromomethane | u | u | | 2.0 |
| 1,2-Dichloropropane | u | u | | 2.0 |
| cis-1,3-Dichloropropene | u | u | | 2.0 |
| Trichloroethene | u | u | | 2.0 |
| Dibromochloromethane | u | u | | 2.0 |
| Benzene | 7.4 | 7.5 | 1 | 2.0 |
| 1,1,2-Trichloroethane | u | u | | 2.0 |
| trans-1,3-Dichloropropene | u | u | | 2.0 |
| Bromoform | u | u | | 2.0 |
| 4-Methyl-2-Pentanone | u | u | | 25 |
| 2-Hexanone | u | u | | 25 |
| 1,1,2,2-Tetrachloroethane | u | u | | 2.0 |
| Tetrachloroethene | u | u | | 2.0 |
| Toluene | 76.0 | 77.7 | 2 | 2.0 |
| Chlorobenzene | u | u | | 2.0 |
| Ethylbenzene | 3.8 | 4.0 | 5 | 2.0 |
| Styrene | u | u | | 2.0 |
| meta-Xylene | 3.7 | 3.6 | 3 | 2.0 |
| ortho-/para-Xylene | u | u | | 2.0 |

| Surrogate Standard | Recovery (%) Run #1 | Run #2 | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | 95 | 76-114 | 50 |
| Toluene-d8 | 100 | 100 | 88-110 | 50 |
| p-Bromofluorobenzene | 102 | 103 | 86-115 | 50 |

u: Below Detection Limit
RPD: Relative Percent Difference (Acceptable RPD = 25%)

**Approved By:** David E. Splichal **Date:** 11 May 95

C 31

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

**Volatile Organics Analysis**

**QC Identifier:** Matrix Spike/Matrix Spike Duplicate
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950429-H061
**Client Sample #:** Batch Specific
**MS File ID:** water0901009
**MSD File ID:** water1001010

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 01 May 95
**Sequence ID:** 950125w
**Batch ID:** 950501w1

| Analyte | Sample Result | Spike Added | RESULTS (µg/L) Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD | QC Limits RPD | %Rec |
|---|---|---|---|---|---|---|---|---|---|
| DCE | u | 20.0 | 20.7 | 104 | 19.8 | 99 | 5 | 14 | 61-145 |
| TCE | u | 20.0 | 19.1 | 96 | 19.1 | 96 | 0 | 14 | 71-120 |
| BNZ | 7.4 | 20.0 | 26.9 | 98 | 26.3 | 95 | 3 | 11 | 76-127 |
| TOL | 76.0 | 20.0 | 98.1 | 111 | 95.4 | 97 | 13 | 13 | 76-125 |
| CLB | u | 20.0 | 18.8 | 94 | 19.2 | 96 | 2 | 13 | 75-130 |

u = Below Detection Limit
MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD = (|MS - MSD|x100)/((MS + MSD)/2)

Compound Identification:

DCE = 1,1-Dichloroethene
TCE = Trichloroethene
BNZ = Benzene
TOL = Toluene
CLB = Chlorobenzene

| Surrogate Standard Compound | MS Percent Recovered | MSD Percent Recovered | Acceptable Range | Amount of Spike (µg/L) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | 94 | 76-114 | 50 |
| Toluene-d8 | 100 | 100 | 88-110 | 50 |
| p-Bromofluorobenzene | 99 | 99 | 86-115 | 50 |

**Approved By:** David E. Splichal **Date:** 11 May 95

C32

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

**Volatile Organics Analysis**

**QC Identifier:** Laboratory Control Sample
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**LCS ID:** DB00067
**GC/MS File ID:** water0401004
**Sequence ID:** 950125w

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 01 May 95
**Batch ID:** 950501w1

| Analyte | RESULTS (µg/L) Result | True Value | Acceptable Range | Detection Limit |
|---|---|---|---|---|
| Vinyl Chloride | 22.0 | 20.0 | 0.2-50.2 | 10.0 |
| 1,1-Dichloroethene | 21.7 | 20.0 | 0.2-46.8 | 2.0 |
| Chloroform | 20.2 | 20.0 | 10.2-27.6 | 2.0 |
| 1,2-Dichloroethane | 21.0 | 20.0 | 9.8-31.0 | 2.0 |
| 1,1,1-Trichloroethane | 19.7 | 20.0 | 10.4-32.4 | 2.0 |
| Carbon Tetrachloride | 18.9 | 20.0 | 14.0-28.0 | 2.0 |
| Bromodichloromethane | 20.4 | 20.0 | 7.0-31.0 | 2.0 |
| Trichloroethene | 20.2 | 20.0 | 14.2-31.4 | 2.0 |
| Dibromochloromethane | 19.9 | 20.0 | 10.6-29.8 | 2.0 |
| Benzene | 20.3 | 20.0 | 7.4-30.2 | 2.0 |
| Bromoform | 17.0 | 20.0 | 9.0-33.8 | 2.0 |

| Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | 76-114 | 50 |
| Toluene-d8 | 100 | 88-110 | 50 |
| p-Bromofluorobenzene | 101 | 86-115 | 50 |

Acceptable ranges found in Method #8240A, Page 32, Table 6, Column 5.

**Approved By:** David E. Splichal **Date:** 11 May 95

C33

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

## Volatile Organics Analysis

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 27 Apr 95
**Date Sample Received:** 02 May 95
**Date Analyzed:** 04 May 95
**Analyst:** Leuschen
**GC/MS File ID:** water0201020
**Instrument ID:** GCMSA
**Batch ID:** 950503w1

**Customer Sample No:** AOCRR-GP-13
**MRD Lab Sample No:** 950502-H010
**Sample Container(s):** 2-40 mL amber vials
**Sample Matrix:** Water
**EPA Method:** SW-846, Method 8240
**Dilution Factor:** 10.00
**pH:** 4

| | Analyte | Result | | Units | Detection Limits |
|---|---|---|---|---|---|
| 1. | Chloromethane | u | | µg/L | 100 |
| 2. | Bromomethane | u | | µg/L | 100 |
| 3. | Vinyl Chloride | u | | µg/L | 100 |
| 4. | Chloroethane | u | | µg/L | 100 |
| 5. | Dichloromethane | 14 | JB | µg/L | 20.0 |
| 6. | Acetone | u | | µg/L | 500 |
| 7. | Carbon Disulfide | u | | µg/L | 20.0 |
| 8. | 1,1-Dichloroethene | u | | µg/L | 20.0 |
| 9. | 1,1-Dichloroethane | u | | µg/L | 20.0 |
| 10. | 1,2-Dichloroethene (total) | u | | µg/L | 20.0 |
| 11. | Chloroform | u | | µg/L | 20.0 |
| 12. | 2-Butanone | u | | µg/L | 500 |
| 13. | 1,2-Dichloroethane | u | | µg/L | 20.0 |
| 14. | 1,1,1-Trichloroethane | u | | µg/L | 20.0 |
| 15. | Carbon Tetrachloride | u | | µg/L | 20.0 |
| 16. | Vinyl Acetate | u | | µg/L | 250 |
| 17. | Dichlorobromomethane | u | | µg/L | 20.0 |
| 18. | 1,2-Dichloropropane | u | | µg/L | 20.0 |
| 19. | cis-1,3-Dichloropropene | u | | µg/L | 20.0 |
| 20. | Trichloroethene | u | | µg/L | 20.0 |
| 21. | Dibromochloromethane | u | | µg/L | 20.0 |
| 22. | Benzene | 140 | | µg/L | 20.0 |
| 23. | 1,1,2-Trichloroethane | u | | µg/L | 20.0 |
| 24. | trans-1,3-Dichloropropene | u | | µg/L | 20.0 |
| 25. | Bromoform | u | | µg/L | 20.0 |
| 26. | 4-Methyl-2-Pentanone | u | | µg/L | 250 |
| 27. | 2-Hexanone | u | | µg/L | 250 |
| 28. | 1,1,2,2-Tetrachloroethane | u | | µg/L | 20.0 |
| 29. | Tetrachloroethene | u | | µg/L | 20.0 |
| 30. | Toluene | 1700 | | µg/L | 20.0 |
| 31. | Chlorobenzene | u | | µg/L | 20.0 |
| 32. | Ethylbenzene | 570 | | µg/L | 20.0 |
| 33. | Styrene | u | | µg/L | 20.0 |
| 34. | meta-Xylene | 1400 | | µg/L | 20.0 |
| 35. | ortho-/para-Xylene | 1600 | | µg/L | 20.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 102 | 76-114 | 50 |
| 37. | Toluene-d8 | 101 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 98 | 86-115 | 50 |

**Tentatively Identified Compounds: (Estimated Concentration)**

| | | |
|---|---|---|
| C4 to C7 hydrocarbons | 360 | µg/L |
| alkylated benzene compounds | 1300 | µg/L |

u: Below Detection Limit J: Estimated Concentration
B: Analyte also detected in method blank.

**Approved By:** David E. Splichal **Date:** 11 May 95

C34

DEPARTMENT OF THE ARMY, Corps of Engineers
Missouri River Division Laboratory, Omaha, Nebraska

## Volatile Organics Analysis

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 27 Apr 95
**Date Sample Received:** 02 May 95
**Date Analyzed:** 04 May 95
**Analyst:** Leuschen
**GC/MS File ID:** water1801018
**Instrument ID:** GCMSA
**Batch ID:** 950503w1

**Customer Sample No:** SS06-GP-2
**MRD Lab Sample No:** 950502-H011
**Sample Container(s):** 2-40 mL amber vials
**Sample Matrix:** Water
**EPA Method:** SW-846, Method 8240
**Dilution Factor:** 1.00
**pH:** 4

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | u | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 100 | 76-114 | 50 |
| 37. | Toluene-d8 | 99 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 99 | 86-115 | 50 |

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 11 May 95

C35

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

## Volatile Organics Analysis

**QC Identifier:** Instrument/Method Blank
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950503-Q010
**GC/MS File ID:** water1301013
**Sequence ID:** 950125w

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 04 May 95
**Batch ID:** 950503w1

| | Analyte | Result | Units | Detection Limits |
|---|---|---|---|---|
| 1. | Chloromethane | u | µg/L | 10 |
| 2. | Bromomethane | u | µg/L | 10 |
| 3. | Vinyl Chloride | u | µg/L | 10 |
| 4. | Chloroethane | u | µg/L | 10 |
| 5. | Dichloromethane | 1.4 J | µg/L | 2.0 |
| 6. | Acetone | u | µg/L | 50 |
| 7. | Carbon Disulfide | u | µg/L | 2.0 |
| 8. | 1,1-Dichloroethene | u | µg/L | 2.0 |
| 9. | 1,1-Dichloroethane | u | µg/L | 2.0 |
| 10. | 1,2-Dichloroethene (total) | u | µg/L | 2.0 |
| 11. | Chloroform | u | µg/L | 2.0 |
| 12. | 2-Butanone | u | µg/L | 50 |
| 13. | 1,2-Dichloroethane | u | µg/L | 2.0 |
| 14. | 1,1,1-Trichloroethane | u | µg/L | 2.0 |
| 15. | Carbon Tetrachloride | u | µg/L | 2.0 |
| 16. | Vinyl Acetate | u | µg/L | 25 |
| 17. | Dichlorobromomethane | u | µg/L | 2.0 |
| 18. | 1,2-Dichloropropane | u | µg/L | 2.0 |
| 19. | cis-1,3-Dichloropropene | u | µg/L | 2.0 |
| 20. | Trichloroethene | u | µg/L | 2.0 |
| 21. | Dibromochloromethane | u | µg/L | 2.0 |
| 22. | Benzene | u | µg/L | 2.0 |
| 23. | 1,1,2-Trichloroethane | u | µg/L | 2.0 |
| 24. | trans-1,3-Dichloropropene | u | µg/L | 2.0 |
| 25. | Bromoform | u | µg/L | 2.0 |
| 26. | 4-Methyl-2-Pentanone | u | µg/L | 25 |
| 27. | 2-Hexanone | u | µg/L | 25 |
| 28. | 1,1,2,2-Tetrachloroethane | u | µg/L | 2.0 |
| 29. | Tetrachloroethene | u | µg/L | 2.0 |
| 30. | Toluene | u | µg/L | 2.0 |
| 31. | Chlorobenzene | u | µg/L | 2.0 |
| 32. | Ethylbenzene | u | µg/L | 2.0 |
| 33. | Styrene | u | µg/L | 2.0 |
| 34. | meta-Xylene | u | µg/L | 2.0 |
| 35. | ortho-/para-Xylene | u | µg/L | 2.0 |

| | Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 36. | 1,2-Dichloroethane-d4 | 96 | 76-114 | 50 |
| 37. | Toluene-d8 | 102 | 88-110 | 50 |
| 38. | p-Bromofluorobenzene | 101 | 86-115 | 50 |

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 11 May 95

C36

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

**Volatile Organics Analysis**

**QC Identifier:** Laboratory Matrix Duplicate
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950502-H001
**Client Sample #:** Batch Specific
**GC/MS File ID:** water1501015

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 04 May 95
**Sequence ID:** 950125w
**Batch ID:** 950503w1

| Analyte | RESULTS (µg/L) Run #1 Result | Run #2 Result | RPD | Detection Limit |
|---|---|---|---|---|
| Chloromethane | u | u | | 10 |
| Bromomethane | u | u | | 10 |
| Vinyl Chloride | u | u | | 10 |
| Chloroethane | u | u | | 10 |
| Dichloromethane | u | u | | 2.0 |
| Acetone | u | u | | 50 |
| Carbon Disulfide | u | u | | 2.0 |
| 1,1-Dichloroethene | u | u | | 2.0 |
| 1,1-Dichloroethane | u | u | | 2.0 |
| 1,2-Dichloroethene (total) | u | u | | 2.0 |
| Chloroform | u | u | | 2.0 |
| 2-Butanone | u | u | | 50 |
| 1,2-Dichloroethane | u | u | | 2.0 |
| 1,1,1-Trichloroethane | u | u | | 2.0 |
| Carbon Tetrachloride | u | u | | 2.0 |
| Vinyl Acetate | u | u | | 25 |
| Dichlorobromomethane | u | u | | 2.0 |
| 1,2-Dichloropropane | u | u | | 2.0 |
| cis-1,3-Dichloropropene | u | u | | 2.0 |
| Trichloroethene | u | u | | 2.0 |
| Dibromochloromethane | u | u | | 2.0 |
| Benzene | u | u | | 2.0 |
| 1,1,2-Trichloroethane | u | u | | 2.0 |
| trans-1,3-Dichloropropene | u | u | | 2.0 |
| Bromoform | u | u | | 2.0 |
| 4-Methyl-2-Pentanone | u | u | | 25 |
| 2-Hexanone | u | u | | 25 |
| 1,1,2,2-Tetrachloroethane | u | u | | 2.0 |
| Tetrachloroethene | 13.0 | 13.4 | 3 | 2.0 |
| Toluene | u | u | | 2.0 |
| Chlorobenzene | u | u | | 2.0 |
| Ethylbenzene | u | u | | 2.0 |
| Styrene | u | u | | 2.0 |
| meta-Xylene | u | u | | 2.0 |
| ortho-/para-Xylene | u | u | | 2.0 |

| Surrogate Standard | Recovery (%) Run #1 | Run #2 | Acceptable | Spike(µg/L) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | 97 | 76-114 | 50 |
| Toluene-d8 | 102 | 101 | 88-110 | 50 |
| p-Bromofluorobenzene | 100 | 99 | 86-115 | 50 |

u: Below Detection Limit
RPD: Relative Percent Difference (Acceptable RPD = 25%)

**Approved By:** David E. Splichal **Date:** 11 May 95

C37

**DEPARTMENT OF THE ARMY, Corps of Engineers**
**Missouri River Division Laboratory, Omaha, Nebraska**

**Volatile Organics Analysis**

**QC Identifier:** Matrix Spike/Matrix Spike Duplicate
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**MRDL Sample #:** 950502-H001
**Client Sample #:** Batch Specific
**MS File ID:** water1601016
**MSD File ID:** water1701017

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 04 May 95
**Sequence ID:** 950125w
**Batch ID:** 950503w1

| Analyte | Sample Result | Spike Added | RESULTS (µg/L) Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD | QC Limits RPD | %Rec |
|---|---|---|---|---|---|---|---|---|---|
| DCE | u | 20.0 | 19.4 | 97 | 19.3 | 96 | 1 | 14 | 61-145 |
| TCE | 1.4 J | 20.0 | 19.7 | 92 | 19.8 | 92 | 0 | 14 | 71-120 |
| BNZ | u | 20.0 | 18.4 | 92 | 18.7 | 94 | 2 | 11 | 76-127 |
| TOL | u | 20.0 | 18.0 | 90 | 18.2 | 91 | 1 | 13 | 76-125 |
| CLB | u | 20.0 | 17.9 | 90 | 17.8 | 89 | 1 | 13 | 75-130 |

u = Below Detection Limit
MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD = (|MS - MSD|x100)/((MS + MSD)/2)

J: Estimated concentration.

Compound Identification:

DCE = 1,1-Dichloroethene
TCE = Trichloroethene
BNZ = Benzene
TOL = Toluene
CLB = Chlorobenzene

| Surrogate Standard Compound | MS Percent Recovered | MSD Percent Recovered | Acceptable Range | Amount of Spike(µg/L) |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | 99 | 76-114 | 50 |
| Toluene-d8 | 101 | 98 | 88-110 | 50 |
| p-Bromofluorobenzene | 99 | 99 | 86-115 | 50 |

**Approved By:** David E. Spielbul **Date:** 11 May 95

C38

DEPARTMENT OF THE ARMY, Corps of Engineers
Missouri River Division Laboratory, Omaha, Nebraska

## Volatile Organics Analysis

**QC Identifier:** Laboratory Control Sample
**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Matrix:** Water
**LCS ID:** DB00067
**GC/MS File ID:** water1001010
**Sequence ID:** 950125w

**Analyst:** Leuschen
**EPA Method:** SW-846, Method 8240
**Date Analyzed:** 03 May 95
**Batch ID:** 950503w1

| Analyte | RESULTS (µg/L) Result | True Value | Acceptable Range | Detection Limit |
|---|---|---|---|---|
| Vinyl Chloride | 23.3 | 20.0 | 0.2-50.2 | 10.0 |
| 1,1-Dichloroethene | 22.4 | 20.0 | 0.2-46.8 | 2.0 |
| Chloroform | 21.0 | 20.0 | 10.2-27.6 | 2.0 |
| 1,2-Dichloroethane | 22.4 | 20.0 | 9.8-31.0 | 2.0 |
| 1,1,1-Trichloroethane | 21.5 | 20.0 | 10.4-32.4 | 2.0 |
| Carbon Tetrachloride | 19.9 | 20.0 | 14.0-28.0 | 2.0 |
| Bromodichloromethane | 21.0 | 20.0 | 7.0-31.0 | 2.0 |
| Trichloroethene | 20.6 | 20.0 | 14.2-31.4 | 2.0 |
| Dibromochloromethane | 19.3 | 20.0 | 10.6-29.8 | 2.0 |
| Benzene | 20.8 | 20.0 | 7.4-30.2 | 2.0 |
| Bromoform | 15.6 | 20.0 | 9.0-33.8 | 2.0 |

| Surrogate Standard | Recovery (%) | Acceptable | Spike(µg/L) |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 76-114 | 50 |
| Toluene-d8 | 101 | 88-110 | 50 |
| p-Bromofluorobenzene | 99 | 86-115 | 50 |

Acceptable ranges found in Method #8240A, Page 32, Table 6, Column 5.

**Approved By:** David E. Splichal **Date:** 11 May 95

C39

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950330-H112
**Client Sample No.:** SS06-SB06-8-10
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 25 Mar 95
**Date Sample Received:** 30 Mar 95
**Date Digested:** 03 Apr 95
**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200835

**RESULTS (mg/kg) Dry Weight**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | 7760 | 4 |
| Sb | u | 10 |
| Ba | 79 | 1 |
| Be | u | 1 |
| Cd | u | 1 |
| Ca | 147000 | 10 |
| Cr | 9 | 1 |
| Co | 3 | 1 |
| Cu | 5 | 1 |
| Fe | 7650 | 1 |
| Mg | 16400 | 10 |
| Mn | 78 | 1 |
| Ni | 8 | 2 |
| K | 1760 | 80 |
| Ag | u | 1 |
| Na | 2190 | 20 |
| Tl | 60 | 15 |
| V | 18 | 1 |
| Zn | 23 | 1 |

Percent Solids: 82.1

u: Below Method Detection Limit (MDL)

Laboratory Comments:

Approved By: Prem. N. Arora  Date: 4.26.95

TLS

C40

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Perkin Elmer AAGF Metals

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950330-H112
**Client Sample No.:** SS06-SB06-8-10
**Analyst:** A. Hindemith

**Date Sample Taken:** 25 Mar 95
**Date Sample Received:** 30 Mar 95
**Date Digested:** 13 Apr 95
**Batch Id:** 9504131000

**RESULTS (mg/kg)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 4.7 | 0.5 | 24 Apr 95 | 950424183721 |
| Lead | (Pb) | 7421 | 4.0 | 0.5 | 24 Apr 95 | 950424183721 |
| Selenium | (Se) | 7740 | 1.1 | 1.0 | 04 May 95 | 950503115811 |

Percent Solids: 82.1

u: Below Detection Limit

Laboratory Comments: Dilution for Se = 1:2

Approved By: Prem. N. Bhore
AMH

Date: 5.10.95

C41

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**ample Description:** Soil
**RD Lab Sample No.:** 950330-H112
**Client Sample No.:** SS06-SB06-8-10
**Method:** EPA Method 7471
**Analyst:** T. Shannon

**Date Sample Taken:** 25 Mar 95
**Date Sample Received:** 30 Mar 95
**Date Digested:** 04 Apr 95
**Date Analyzed:** 05 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504051230B

**RESULTS (mg/kg)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.04 |

u: Below Detection Limit

aboratory Comments:

pproved By: Prem N. Arora Date: 4.7.95
DESA

C42

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950330-H113
**Client Sample No.:** AOCRR-SB05-2-4
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 27 Mar 95
**Date Sample Received:** 30 Mar 95
**Date Digested:** 03 Apr 95
**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200835

**RESULTS (mg/kg) Dry Weight**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | 2040 | 4 |
| Sb | u | 10 |
| Ba | 23 | 1 |
| Be | u | 1 |
| Cd | u | 1 |
| Ca | 216000 | 10 |
| Cr | 3 | 1 |
| Co | 1 | 1 |
| Cu | 1 | 1 |
| Fe | 2040 | 1 |
| Mg | 2220 | 10 |
| Mn | 33 | 1 |
| Ni | 3 | 2 |
| K | 569 | 80 |
| Ag | u | 1 |
| Na | 472 | 20 |
| Tl | 85 | 15 |
| V | 7 | 1 |
| Zn | 6 | 1 |

Percent Solids: 70.7

u: Below Method Detection Limit (MDL)

Laboratory Comments:

Approved By: Prem. N. Arora  Date: 4-26-95

TCS

C43

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950330-H113
**Client Sample No.:** AOCRR-SB05-2-4
**Analyst:** A. Hindemith

**Date Sample Taken:** 27 Mar 95
**Date Sample Received:** 30 Mar 95
**Date Digested:** 13 Apr 95
**Batch Id:** 9504131000

**RESULTS (mg/kg)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 1.3 | 0.5 | 24 Apr 95 | 950424183721 |
| Lead | (Pb) | 7421 | 0.8 | 0.5 | 24 Apr 95 | 950424183721 |
| Selenium | (Se) | 7740 | 0.8 | 0.5 | 04 May 95 | 950503115811 |

Percent Solids: 70.7

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem. N. Arora Date: 5.10.95
AMH

C.44

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950330-H113
**Client Sample No.:** AOCRR-SB05-2-4
**Method:** EPA Method 7471
**Analyst:** T. Shannon

**Date Sample Taken:** 27 Mar 95
**Date Sample Received:** 30 Mar 95
**Date Digested:** 04 Apr 95
**Date Analyzed:** 05 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504051230B

**RESULTS (mg/kg)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.04 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem.N. Arora Date: 4.7.95
DESD

C45

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

## Thermo Jarrell Ash ICAP Metals

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950330-H116
**Client Sample No.:** SD15-SB02-4-6
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 27 Mar 95
**Date Sample Received:** 30 Mar 95
**Date Digested:** 03 Apr 95
**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200835

**RESULTS (mg/kg) Dry Weight**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | 3290 | 4 |
| Sb | u | 10 |
| Ba | 92 | 1 |
| Be | u | 1 |
| Cd | u | 1 |
| Ca | 166000 | 10 |
| Cr | 4 | 1 |
| Co | 1 | 1 |
| Cu | 2 | 1 |
| Fe | 3250 | 1 |
| Mg | 1740 | 10 |
| Mn | 49 | 1 |
| Ni | 3 | 2 |
| K | 742 | 80 |
| Ag | u | 1 |
| Na | 137 | 20 |
| Tl | 57 | 15 |
| V | 7 | 1 |
| Zn | 9 | 1 |

Percent Solids: 74.2

u: Below Method Detection Limit (MDL)

Laboratory Comments:

Approved By: Prem N. Arora  Date: 4.26.95

TLS

C46

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Perkin Elmer AAGF Metals

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950330-H116
**Client Sample No.:** SD15-SB02-4-6
**Analyst:** A. Hindemith

**Date Sample Taken:** 27 Mar 95
**Date Sample Received:** 30 Mar 95
**Date Digested:** 13 Apr 95
**Batch Id:** 9504131000

**RESULTS (mg/kg)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 1.8 | 0.5 | 24 Apr 95 | 950424183721 |
| Lead | (Pb) | 7421 | 1.5 | 0.5 | 24 Apr 95 | 950424183721 |
| Selenium | (Se) | 7740 | 1.0 | 0.5 | 04 May 95 | 950503115811 |

Percent Solids: 74.2

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Brar
AMH

Date: 5.10.95

C47

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Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950330-H116
**Client Sample No.:** SD15-SB02-4-6
**Method:** EPA Method 7471
**Analyst:** T. Shannon

**Date Sample Taken:** 27 Mar 95
**Date Sample Received:** 30 Mar 95
**Date Digested:** 04 Apr 95
**Date Analyzed:** 05 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504051230B

**RESULTS (mg/kg)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.04 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem. N. Arora Date: 4.7.95
DESD

C48

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950331-H028
**Client Sample No.:** AOC-BBMS-SB1-4-6
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 29 Mar 95
**Date Sample Received:** 31 Mar 95
**Date Digested:** 12 Apr 95
**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200535

**RESULTS (mg/kg) Dry Weight**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | 2030 | 20 |
| Sb | u | 50 |
| Ba | 25 | 5 |
| Be | u | 5 |
| Cd | u | 5 |
| Ca | 228000 | 50 |
| Cr | u | 5 |
| Co | u | 5 |
| Cu | u | 5 |
| Fe | 2550 | 5 |
| Mg | 1390 | 50 |
| Mn | 28 | 5 |
| Ni | u | 10 |
| K | u | 400 |
| Ag | u | 5 |
| Na | 603 | 100 |
| Tl | u | 75 |
| V | u | 5 |
| Zn | 5 | 5 |

Percent Solids: 73.5

u: Below Method Detection Limit (MDL)

Laboratory Comments: Sample was diluted one to five for analysis.

Approved By: Prem N. Arora Date: 4-26-95

TLS

C49

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950331-H028
**Client Sample No.:** AOC-BBMS-SB1-4-6
**Analyst:** A. Hindemith

**Date Sample Taken:** 29 Mar 95
**Date Sample Received:** 31 Mar 95
**Date Digested:** 13 Apr 95
**Batch Id:** 9504131000

**RESULTS (mg/kg)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 0.5 | 0.5 | 24 Apr 95 | 950424183721 |
| Lead | (Pb) | 7421 | 0.7 | 0.5 | 24 Apr 95 | 950424183721 |
| Selenium | (Se) | 7740 | 1.1 | 0.5 | 04 May 95 | 950503115811 |

Percent Solids: 73.5

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem. N. Brar
AMH

Date: 5.10.95

C50

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Soil
**MRD Lab Sample No.:** 950331-H028
**Client Sample No.:** AOC-BBMS-SB1-4-6
**Method:** EPA Method 7471
**Analyst:** T. Shannon

**Date Sample Taken:** 29 Mar 95
**Date Sample Received:** 31 Mar 95
**Date Digested:** 04 Apr 95
**Date Analyzed:** 05 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504051230B

**RESULTS (mg/kg)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.04 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Arora Date: 4.7.95
DESA

C51

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Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Method Blank

**Sample Description:** Soil
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200835

RESULTS (mg/kg)

| Analyte | Result | Det Limit |
|---|---|---|
| Al | 20 | 4 |
| Sb | u | 10 |
| Ba | u | 1 |
| Be | u | 1 |
| Cd | u | 1 |
| Ca | u | 10 |
| Cr | u | 1 |
| Co | u | 1 |
| Cu | u | 1 |
| Fe | 3 | 1 |
| Mg | u | 10 |
| Mn | u | 1 |
| Ni | u | 2 |
| K | u | 80 |
| Ag | u | 1 |
| Na | u | 20 |
| Tl | u | 15 |
| V | u | 1 |
| Zn | u | 1 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Arora  Date: 4.26.95

TLS

C52

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Matrix Duplicate

**Sample Description:** Soil
**MRD Lab Sample No.:** 950328-H044
**Client Sample No.:** Batch Specific
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 27 Mar 95
**Date Sample Received:** 28 Mar 95
**Date Digested:** 03 Apr 95
**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200835

**RESULTS (mg/kg)**

| Analyte | Sample Result | Duplicate Result | RPD | Method Detection Limit |
|---|---|---|---|---|
| Al | 16100 | 16300 | 1.2 | 4 |
| Sb | u | u | NC | 10 |
| Ba | 193 | 196 | 1.5 | 1 |
| Be | 1 | 1 | 0.0 | 1 |
| Cd | u | u | NC | 1 |
| Ca | 4030 | 3790 | 6.1 | 10 |
| Cr | 20 | 20 | 0.0 | 1 |
| Co | 8 | 8 | 0.0 | 1 |
| Cu | 14 | 15 | 6.9 | 1 |
| Fe | 17900 | 18600 | 3.8 | 1 |
| Mg | 2840 | 2940 | 3.5 | 10 |
| Mn | 311 | 307 | 1.3 | 1 |
| Ni | 17 | 18 | 5.7 | 2 |
| K | 2170 | 2180 | .5 | 80 |
| Ag | u | u | NC | 1 |
| Na | 65 | 66 | 1.5 | 20 |
| Tl | u | u | NC | 15 |
| V | 35 | 35 | 0.0 | 1 |
| Zn | 56 | 59 | 5.2 | 1 |

u: Below Method Detection Limit (MDL)
NC: Not Calculable
RPD Control Limit: ± 20% (RPD could be higher if the sample results are low)

Laboratory Comments:

roved By: Prem. N. Arora Date: 4.26.95

TLS

C53

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**C Identifier:** Matrix Spike, Matrix Spike Duplicate

**ample Description:** Soil
**RD Lab Sample No.:** 950328-H044
**Client Sample No.:** Batch Specific
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 27 Mar 95
**Date Sample Received:** 28 Mar 95
**Date Digested:** 03 Apr 95
**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200835

RESULTS (mg/kg)

| nalyte | Sample Result | Spike Added | Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD |
|---|---|---|---|---|---|---|---|
| Sb | u | 200 | 57 | 29* | 67 | 34* | 16.1 |
| Ba | 193 | 800 | 1000 | 101 | 998 | 101 | .2 |
| Be | u | 20 | 20 | 95 | 20 | 95 | 0.0 |
| Cd | u | 20 | 19 | 95 | 19 | 95 | 0.0 |
| Cr | 20 | 80 | 101 | 101 | 100 | 100 | 1.0 |
| Co | 8 | 200 | 198 | 95 | 194 | 93 | 2.0 |
| Cu | 14 | 100 | 113 | 99 | 112 | 98 | .9 |
| Mn | 311 | 200 | 478 | 84 | 482 | 86 | .8 |
| Ni | 17 | 200 | 206 | 95 | 203 | 93 | 1.5 |
| Ag | u | 20 | 17 | 85 | 17 | 85 | 0.0 |
| Tl | u | 800 | 753 | 94 | 737 | 92 | 2.1 |
| V | 35 | 200 | 231 | 98 | 231 | 98 | 0.0 |
| Zn | 56 | 200 | 248 | 96 | 245 | 95 | 1.2 |

u: Below Method Detection Limit (MDL)
%Rec Control Limit: 75-125
RPD Control Limit: ± 20% (RPD could be higher if the sample results are low)

aboratory Comments: * The percent recovery for Antimony is low for this set of amples. This poor recovery may be due to a matrix problem/interference, not he digestion process. The Laboratory Control Sample recoveries are within aboratory acceptance limits. The MS was repeated and similar results were btained.

pproved By: Prem. N. Arora Date: 4.26.95

TLS

C 54

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Control Sample (LCS)

**Sample Description:** Soil
**LCS Source:** VHG Labs, Inc.
**Lot Number:** 500022E,500022F,401300E
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Analyzed:** 20 Apr 95
**MRD Lab Code:** ICPS5
**Expiration Date:** 30 Jan 96
**Batch:** 9504190630
**Sequence:** 9504200835

**RESULTS (mg/kg)**

| Analyte | Result | True Value | %Rec | Method Detection Limit |
|---|---|---|---|---|
| Al | 185 | 200 | 93 | 4 |
| Sb | 185 | 200 | 93 | 10 |
| Ba | 201 | 200 | 101 | 1 |
| Be | 76 | 80 | 95 | 1 |
| Cd | 88 | 100 | 88 | 1 |
| Ca | 1840 | 2000 | 92 | 10 |
| Cr | 195 | 200 | 98 | 1 |
| Co | 192 | 200 | 96 | 1 |
| Cu | 195 | 200 | 98 | 1 |
| Fe | 192 | 200 | 96 | 1 |
| Mg | 1830 | 2000 | 92 | 10 |
| Mn | 192 | 200 | 96 | 1 |
| Ni | 192 | 200 | 96 | 2 |
| K | 1970 | 2000 | 99 | 80 |
| Ag | 35 | 40 | 88 | 1 |
| Na | 1980 | 2000 | 99 | 20 |
| Tl | 183 | 200 | 92 | 15 |
| V | 191 | 200 | 96 | 1 |
| Zn | 184 | 200 | 92 | 1 |

u: Below Method Detection Limit (MDL)
NC: Not Calculable
%REC Control Limit: 75 to 125

Laboratory Comments:

Approved By: Prem N. Arora  Date: 4.26.95

TCS

C55

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Method Blank

**Sample Description:** Soil
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200535

**RESULTS (mg/kg)**

| Analyte | Result | Det Limit |
|---|---|---|
| Al | 4 | 4 |
| Sb | u | 10 |
| Ba | u | 1 |
| Be | u | 1 |
| Cd | u | 1 |
| Ca | 42 | 10 |
| Cr | u | 1 |
| Co | u | 1 |
| Cu | u | 1 |
| Fe | u | 1 |
| Mg | u | 10 |
| Mn | u | 1 |
| Ni | u | 2 |
| K | u | 80 |
| Ag | u | 1 |
| Na | u | 20 |
| Tl | u | 15 |
| V | u | 1 |
| Zn | u | 1 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Arora Date: 4.26.95

TKS

C56

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Matrix Duplicate

**Sample Description:** Soil
**MRD Lab Sample No.:** 950331-H028
**Client Sample No.:** AOC-BBMS-SB1-4-6
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 29 Mar 95
**Date Sample Received:** 31 Mar 95
**Date Digested:** 12 Apr 95
**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200535

**RESULTS (mg/kg)**

| Analyte | Sample Result | Duplicate Result | RPD | Method Detection Limit |
|---|---|---|---|---|
| Al | 2030 | 1970 | 3.0 | 20 |
| Sb | u | u | NC | 50 |
| Ba | 25 | 25 | 0.0 | 5 |
| Be | u | u | NC | 5 |
| Cd | u | u | NC | 5 |
| Ca | 228000 | 228000 | 0.0 | 50 |
| Cr | u | u | NC | 5 |
| Co | u | u | NC | 5 |
| Cu | u | u | NC | 5 |
| Fe | 2550 | 2590 | 1.6 | 5 |
| Mg | 1390 | 1410 | 1.4 | 50 |
| Mn | 28 | 28 | 0.0 | 5 |
| Ni | u | u | NC | 10 |
| K | u | 518 | NC | 400 |
| Ag | u | u | NC | 5 |
| Na | 603 | 627 | 3.9 | 100 |
| Tl | u | u | NC | 75 |
| V | u | u | NC | 5 |
| Zn | 5 | 6 | 18.2 | 5 |

u: Below Method Detection Limit (MDL)
NC: Not Calculable
RPD Control Limit: ± 20% (RPD could be higher if the sample results are low)

Laboratory Comments: Sample was diluted one to five for analysis.

Approved By: Prem N. Arora Date: 4.26.95

TLG

C57

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Matrix Spike, Matrix Spike Duplicate

**Sample Description:** Soil
**MRD Lab Sample No.:** 950331-H028
**Client Sample No.:** AOC-BBMS-SB1-4-6
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 29 Mar 95
**Date Sample Received:** 31 Mar 95
**Date Digested:** 12 Apr 95
**Date Analyzed:** 20 Apr 95
**Batch:** 9504190630
**Sequence:** 9504200535

**RESULTS (mg/kg)**

| Analyte | Sample Result | Spike Added | Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD |
|---|---|---|---|---|---|---|---|
| Sb | u | 200 | 174 | 87 | 184 | 92 | 5.6 |
| Ba | 25 | 800 | 486 | 58* | 690 | 83 | 34.7* |
| Be | u | 20 | 19 | 95 | 19 | 95 | 0.0 |
| Cd | u | 20 | 20 | 100 | 19 | 95 | 5.1 |
| Cr | 2 | 80 | 84 | 103 | 85 | 104 | 1.2 |
| Co | u | 200 | 199 | 100 | 200 | 100 | .5 |
| Cu | u | 100 | 100 | 100 | 101 | 101 | 1.0 |
| Mn | 28 | 200 | 226 | 99 | 227 | 100 | .4 |
| Ni | u | 200 | 202 | 101 | 204 | 102 | 1.0 |
| Ag | u | 20 | 19 | 95 | 19 | 95 | 0.0 |
| Tl | 53 | 800 | 896 | 105 | 919 | 108 | 2.5 |
| V | 3 | 200 | 206 | 102 | 208 | 103 | 1.0 |
| Zn | 5 | 200 | 209 | 102 | 210 | 103 | .5 |

u: Below Method Detection Limit (MDL)
%Rec Control Limit: 75-125
RPD Control Limit: ± 20% (RPD could be higher if the sample results are low)

Laboratory Comments: * outside acceptable limits.

Approved By: Premson · Arrow Date: 4.26.95

TCS

C58

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Control Sample (LCS)

**Sample Description:** Soil
**LCS Source:** VHG Labs, Inc.
**Lot Number:** 500022E,500022F,401300E
**Method:** EPA Method 3050/6010
**Analyst:** T. Shannon

**Date Analyzed:** 20 Apr 95
**MRD Lab Code:** ICPS5
**Expiration Date:** 30 Jan 96
**Batch:** 9504190630
**Sequence:** 9504200535

**RESULTS (mg/kg)**

| Analyte | Result | True Value | %Rec | Method Detection Limit |
|---|---|---|---|---|
| Al | 185 | 200 | 93 | 4 |
| Sb | 179 | 200 | 90 | 10 |
| Ba | 198 | 200 | 99 | 1 |
| Be | 74 | 80 | 93 | 1 |
| Cd | 86 | 100 | 86 | 1 |
| Ca | 1730 | 2000 | 87 | 10 |
| Cr | 187 | 200 | 94 | 1 |
| Co | 185 | 200 | 93 | 1 |
| Cu | 189 | 200 | 95 | 1 |
| Fe | 196 | 200 | 98 | 1 |
| Mg | 1770 | 2000 | 89 | 10 |
| Mn | 183 | 200 | 92 | 1 |
| Ni | 185 | 200 | 93 | 2 |
| K | 2050 | 2000 | 103 | 80 |
| Ag | 34 | 40 | 85 | 1 |
| Na | 1970 | 2000 | 99 | 20 |
| Tl | 182 | 200 | 91 | 15 |
| V | 185 | 200 | 93 | 1 |
| Zn | 177 | 200 | 89 | 1 |

u: Below Method Detection Limit (MDL)
NC: Not Calculable
%REC Control Limit: 75 to 125

Laboratory Comments:

Approved By: Prem N. Arora Date: 4.26.95

TKS

C59

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Method Blank

**Sample Description:** Soil **Batch Id:** 9504131000
**Analyst:** A. Hindemith

**RESULTS (mg/kg)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | u | 0.5 | 24 Apr 95 | 950424183721 |
| Lead | (Pb) | 7421 | u | 0.5 | 24 Apr 95 | 950424183721 |
| Selenium | (Se) | 7740 | u | 0.5 | 04 May 95 | 950503115811 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Arora Date: 5.10.95
AMH

C 60

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Matrix Duplicate

**Sample Description:** Soil
**MRD Lab Sample No.:** 950410-H019
**Client Sample No.:** Batch Specific
**Analyst:** A. Hindemith

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 08 Apr 95
**Date Digested:** 13 Apr 95
**Batch Id:** 9504131000

**RESULTS (mg/kg)**

| Analyte | EPA Method | Sample Result | Duplicate Result | RPD | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|---|
| As | 7060 | 5.5 | 5.0 | 9.5 | 0.5 | 24 Apr 95 | 950424183721 |
| Pb | 7421 | 13.4 | 13.2 | 1.5 | 0.5 | 24 Apr 95 | 950424183721 |
| Se | 7740 | 0.6 | 0.7 | 15.4 | 0.5 | 04 May 95 | 950503115811 |

u: Below Detection Limit
NC: Not Calculable
Control Limits: ± 20 (for >5X CRDL)

Laboratory Comments: Dilution factor for Pb = 1:11

Approved By: Prem N. Arora
AMH

Date: 5.10.95

C61

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**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Matrix Spike, Matrix Spike Duplicate

**Sample Description:** Soil
**MRD Lab Sample No.:** 950410-H019
**Client Sample No.:** Batch Specific
**Analyst:** A. Hindemith

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 08 Apr 95
**Date Digested:** 13 Apr 95
**Batch Id:** 9504131000

**RESULTS (mg/kg)**

| Analyte | Sample Result | Spike Added | Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD |
|---|---|---|---|---|---|---|---|
| As | 5.5 | 4.0 | 9.0 | 88 | 8.9 | 85 | 1.1 |
| Pb | 13.4 | 4.0 | 18.7 | 133 * | 19.3 | 148 * | 3.2 |
| Se | 0.6 | 4.0 | 4.2 | 90 | 4.3 | 93 | 2.4 |

u: Below Detection Limit
%Rec: Percent of the spike recovered from the matrix
Control Limits: 75-125 (if [spike added] > [sample]/4)

| Analyte | EPA Method | Detection Limit | Analysis Date MS | Analysis Date MSD | Sequence Identifier |
|---|---|---|---|---|---|
| Arsenic (As) | 7060 | 0.5 | 24 Apr 95 | 24 Apr 95 | 950424183721 |
| Lead (Pb) | 7421 | 0.5 | 24 Apr 95 | 24 Apr 95 | 950424183721 |
| Selenium (Se) | 7740 | 0.5 | 04 May 95 | 04 May 95 | 950503115811 |

Laboratory Comments: Dilution factor for Pb: 1:11. MS/MSD Recoveries may be high due to dilution.

Approved By: Premsr. Arora Date: 5.10.95
AMH

C62

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Control Sample (LCS)

**Sample Description:** Soil
**LCS Source:** VHG Labs, Inc.
**Lot Number:** 400723D 400723E
**Analyst:** A. Hindemith

**MRD Lab Code:** PEGF3
**Expiration Date:** 30 Apr 95
**Batch Id:** 9504131000

**RESULTS (mg/kg)**

| Analyte | EPA Method | True Value | Result | %Rec | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|---|
| As | 7060 | 4.0 | 3.6 | 90 | 0.5 | 24 Apr 95 | 950424183721 |
| Pb | 7421 | 4.0 | 4.3 | 108 | 0.5 | 24 Apr 95 | 950424183721 |
| Se | 7740 | 4.0 | 4.1 | 103 | 0.5 | 04 May 95 | 950503115811 |

Laboratory Comments:

Approved By: Prem N. Arora
AMH

Date: 5.10.95

C63

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Method Blank

**Sample Description:** Soil
**Method:** EPA Method 7471
**Analyst:** T. Shannon

**Date Analyzed:** 05 Apr 95
**Batch:** 9504051230B

**RESULTS (mg/kg)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.04 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Arora Date: 4.7.95

DESD

C64

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**C Identifier:** Laboratory Matrix Duplicate

**ample Description:** Soil
**RD Lab Sample No.:** 950330-H008
**Client Sample No.:** Batch Specific
**Method:** EPA Method 7471
**Analyst:** T. Shannon

**Date Sample Taken:** 28 Mar 95
**Date Sample Received:** 29 Mar 95
**Date Digested:** 04 Apr 95
**Date Analyzed:** 05 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504051230B

**RESULTS (mg/kg)**

| Analyte | Sample Result | Duplicate Result | RPD | Detection Limit |
|---|---|---|---|---|
| Hg | u | u | NC | 0.04 |

u: Below Detection Limit
NC: Not Calculable

aboratory Comments:

pproved By: Prem. N. Arora Date: 4.7.95
DESB

C65

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**C Identifier:** Matrix Spike, Matrix Spike Duplicate

**ample Description:** Soil
**RD Lab Sample No.:** 950330-H008
**Client Sample No.:** Batch Specific
**Method:** EPA Method 7471
**Analyst:** T. Shannon

**Date Sample Taken:** 28 Mar 95
**Date Sample Received:** 29 Mar 95
**Date Digested:** 04 Apr 95
**Date Analyzed:** 05 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504051230B

**RESULTS (mg/kg)**

| Sample Result | Spike Added | Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD |
|---|---|---|---|---|---|---|
| u | 0.10 | 0.10 | 100 | 0.10 | 100 | 0.0 |

u: Below Detection Limit
%Rec: Percent of the spike recovered from the matrix
Control Limits: 75-125 (if [spike added] > [sample]/4)

Laboratory Comments:

Approved By: Prem N. Arora Date: 4.7.95
DESB

C66

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**C Identifier:** Laboratory Control Sample (LCS)

**ample Description:** Soil
**LCS Source:** SPEX Industries, Inc.
**Lot Number:** 3-88HG
**Method:** EPA Method 7471
**Analyst:** T. Shannon

**Date Analyzed:** 05 Apr 95
**MRD Lab Code:** HG7
**Expiration Date:** 28 Feb 95
**Batch:** 9504051230B

**RESULTS (mg/kg)**

| Analyte | Result | True Value | %Rec | Detection Limit |
|---|---|---|---|---|
| Hg | 0.11 | 0.10 | 110 | 0.04 |

ratory Comments:

pproved By: Prem N. Arora Date: 4.7.95
DESD

C67

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**ample Description:** Water
**RD Lab Sample No.:** 950405-H003
**Client Sample No.:** SD15-GP-3
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 30 Mar 95
**Date Sample Received:** 03 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 25 Apr 95
**Batch:** 9504250621
**Sequence:** 9504270710

**RESULTS (μg/L)**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | u | 40 |
| Sb | u | 50 |
| Ba | 26 | 5 |
| Be | u | 2 |
| Cd | u | 4 |
| Ca | 695000 | 100 |
| Cr | u | 5 |
| Co | u | 6 |
| Cu | u | 5 |
| Fe | 200 | 10 |
| Mg | 54600 | 50 |
| Mn | 3240 | 4 |
| Ni | u | 10 |
| K | 17700 | 800 |
| Ag | u | 5 |
| Na | 125000 | 100 |
| Tl | 319 | 100 |
| V | u | 10 |
| Zn | u | 4 |

u: Below Method Detection Limit (MDL)

Laboratory Comments: The thallium found in this sample may be false positive due to the fact that the sample contained high level of calcium, magnesium, tasium and sodium. The thallium found is close to the detection limit.

Approved By: Prem.N. Arora Date: 5.3.95

C68

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950405-H003
**Client Sample No.:** SD15-GP-3
**Analyst:** A. Hindemith

**Date Sample Taken:** 30 Mar 95
**Date Sample Received:** 03 Apr 95
**Date Digested:** 10 Apr 95
**Batch Id:** 9504101125

**RESULTS (μg/L)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | u | 2 | 17 Apr 95 | 950418155921 |
| Lead | (Pb) | 7421 | u | 2 | 18 Apr 95 | 950418155921 |
| Selenium | (Se) | 7740 | 3 | 2 | 20 Apr 95 | 950420105111 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem. n. Arora
AMH

Date: 5.8.95

C70

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

?AMIS Number: 3269
?roject Name: Holloman AFB 4 Site PA/SI

ample Description: Water
RD Lab Sample No.: 950405-H004
Client Sample No.: AOCBBMS-GP1D
Method: EPA Method 3005/6010
Analyst: T. Shannon

Date Sample Taken: 31 Mar 95
Date Sample Received: 03 Apr 95
Date Digested: 17 Apr 95
Date Analyzed: 25 Apr 95
Batch: 9504250621
Sequence: 9504270710

RESULTS (μg/L)

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | u | 40 |
| Sb | u | 50 |
| Ba | 20 | 5 |
| Be | u | 2 |
| Cd | u | 4 |
| Ca | 621000 | 100 |
| Cr | u | 5 |
| Co | u | 6 |
| Cu | u | 5 |
| Fe | u | 10 |
| Mg | 74600 | 50 |
| Mn | 27 | 4 |
| Ni | u | 10 |
| K | 37500 | 800 |
| Ag | u | 5 |
| Na | 179000 | 100 |
| Tl | 286 | 100 |
| V | 54 | 10 |
| Zn | u | 4 |

u: Below Method Detection Limit (MDL)

Laboratory Comments: The thallium found in this sample may be false positive due to the fact that the sample contained high level of calcium, magnesium, r tasium and sodium. The thallium found is close to the detection limit.

pproved By: Prem N. Arora Date: 5-3-95

C71

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950405-H004
**Client Sample No.:** AOCBBMS-GP1D
**Analyst:** A. Hindemith

**Date Sample Taken:** 31 Mar 95
**Date Sample Received:** 03 Apr 95
**Date Digested:** 10 Apr 95
**Batch Id:** 9504101125

**RESULTS (μg/L)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 7 | 2 | 17 Apr 95 | 950418155921 |
| Lead | (Pb) | 7421 | u | 2 | 18 Apr 95 | 950418155921 |
| Selenium | (Se) | 7740 | 3 | 2 | 20 Apr 95 | 950420105111 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Brown AMH

Date: 5·8·95

C 72

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950405-H004
**Client Sample No.:** AOCBBMS-GP1D
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Sample Taken:** 31 Mar 95
**Date Sample Received:** 03 Apr 95
**Date Digested:** 10 Apr 95
**Date Analyzed:** 11 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504111005A

**RESULTS (μg/L)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.20 |

u: Below Detection Limit

oratory Comments:

Approved By: Prem N. Arora Date: 4.12.95
DESA

C73

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water w/seds
**MRD Lab Sample No.:** 950410-H007
**Client Sample No.:** SS-06-GP03D
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 02 Apr 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 27 Apr 95
**Batch:** 9504250621
**Sequence:** 9504270710

**RESULTS (μg/L)**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | u | 2400 |
| Sb | u | 3000 |
| Ba | u | 300 |
| Be | u | 120 |
| Cd | u | 240 |
| Ca | 778000 | 6000 |
| Cr | u | 300 |
| Co | u | 360 |
| Cu | u | 300 |
| Fe | 1270 | 600 |
| Mg | 3490000 | 3000 |
| Mn | 588 | 240 |
| Ni | u | 600 |
| K | u | 48000 |
| Ag | u | 300 |
| Na | 15900000 | 6000 |
| Tl | u | 6000 |
| V | u | 600 |
| Zn | u | 240 |

u: Below Method Detection Limit (MDL)

Laboratory Comments: Sample was diluted one to 60 for analysis.

Approved By: Prem.N. Arora Date: 5.3.95

C74

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water w/seds
**MRD Lab Sample No.:** 950410-H007
**Client Sample No.:** SS-06-GP03D
**Analyst:** A. Hindemith

**Date Sample Taken:** 02 Apr 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 10 Apr 95
**Batch Id:** 9504101125

**RESULTS (μg/L)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | u | 2 | 17 Apr 95 | 950418155921 |
| Lead | (Pb) | 7421 | u | 2 | 18 Apr 95 | 950418155921 |
| Selenium | (Se) | 7740 | 5 | 2 | 20 Apr 95 | 950420105111 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Arora
AMH

Date: 5.8.95

C75

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water w/seds
**MRD Lab Sample No.:** 950410-H007
**Client Sample No.:** SS-06-GP03D
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Sample Taken:** 02 Apr 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 10 Apr 95
**Date Analyzed:** 11 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504111005A

**RESULTS (μg/L)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.20 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem.N. Arora Date: 4.12.95

DESA

C76

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950410-H008
**Client Sample No.:** AOC-RR-GP05D
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 03 Apr 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 27 Apr 95
**Batch:** 9504250621
**Sequence:** 9504270710

**RESULTS (μg/L)**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | u | 400 |
| Sb | u | 500 |
| Ba | u | 50 |
| Be | u | 20 |
| Cd | u | 40 |
| Ca | 509000 | 1000 |
| Cr | u | 50 |
| Co | u | 60 |
| Cu | u | 50 |
| Fe | 2340 | 100 |
| Mg | 529000 | 500 |
| Mn | 9710 | 40 |
| Ni | u | 100 |
| K | u | 8000 |
| Ag | u | 50 |
| Na | 2400000 | 1000 |
| Tl | u | 1000 |
| V | u | 100 |
| Zn | u | 40 |

u: Below Method Detection Limit (MDL)

Laboratory Comments: Sample was diluted one to 10 for analysis.

Approved By: Premon. Brown Date: 5.3.95

C77

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950410-H008
**Client Sample No.:** AOC-RR-GP05D
**Analyst:** A. Hindemith

**Date Sample Taken:** 03 Apr 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 10 Apr 95
**Batch Id:** 9504101125

**RESULTS (μg/L)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 19 | 2 | 17 Apr 95 | 950418155921 |
| Lead | (Pb) | 7421 | u | 2 | 18 Apr 95 | 950418155921 |
| Selenium | (Se) | 7740 | 3 | 2 | 20 Apr 95 | 950420105111 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Arora
AMH

Date: 5·8·95

C78

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950410-H008
**Client Sample No.:** AOC-RR-GP05D
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Sample Taken:** 03 Apr 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 10 Apr 95
**Date Analyzed:** 11 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504111005A

**RESULTS (μg/L)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.20 |

u: Below Detection Limit

oratory Comments:

Approved By: Prem N. Arora Date: 4.12.95

DESD

C79

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950410-H009
**Client Sample No.:** AOC-BBMS-GP06D
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 31 Mar 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 27 Apr 95
**Batch:** 9504250621
**Sequence:** 9504270710

**RESULTS (μg/L)**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | u | 160 |
| Sb | u | 200 |
| Ba | u | 20 |
| Be | u | 8 |
| Cd | u | 16 |
| Ca | 646000 | 400 |
| Cr | u | 20 |
| Co | u | 24 |
| Cu | u | 20 |
| Fe | u | 40 |
| Mg | 374000 | 200 |
| Mn | 113 | 16 |
| Ni | u | 40 |
| K | 47400 | 3200 |
| Ag | u | 20 |
| Na | 1090000 | 400 |
| Tl | u | 400 |
| V | 88 | 40 |
| Zn | 84 | 16 |

u: Below Method Detection Limit (MDL)

Laboratory Comments: Sample was diluted one to 4 for analysis.

Approved By: Prem N. Arora Date: 5.3.95

C80

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950410-H009
**Client Sample No.:** AOC-BBMS-GP06D
**Analyst:** A. Hindemith

**Date Sample Taken:** 31 Mar 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 10 Apr 95
**Batch Id:** 9504101125

**RESULTS (μg/L)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 6 | 2 | 17 Apr 95 | 950418155921 |
| Lead | (Pb) | 7421 | u | 2 | 18 Apr 95 | 950418155921 |
| Selenium | (Se) | 7740 | 2 | 2 | 20 Apr 95 | 950420105111 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem. N. Arora
AMH

Date: 5.8.95

C81

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950410-H009
**Client Sample No.:** AOC-BBMS-GP06D
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Sample Taken:** 31 Mar 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 10 Apr 95
**Date Analyzed:** 11 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504111005A

**RESULTS (μg/L)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.20 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Arora Date: 4.12.95

DESA

C82

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950412-H021
**Client Sample No.:** AOC-RR-GP07D
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 11 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 27 Apr 95
**Batch:** 9504250621
**Sequence:** 9504270710

**RESULTS (μg/L)**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | u | 2000 |
| Sb | u | 2500 |
| Ba | u | 250 |
| Be | u | 100 |
| Cd | u | 200 |
| Ca | 603000 | 5000 |
| Cr | u | 250 |
| Co | u | 300 |
| Cu | u | 250 |
| Fe | u | 500 |
| Mg | 3210000 | 2500 |
| Mn | u | 200 |
| Ni | u | 500 |
| K | u | 40000 |
| Ag | u | 250 |
| Na | 13900000 | 5000 |
| Tl | u | 5000 |
| V | u | 500 |
| Zn | u | 200 |

u: Below Method Detection Limit (MDL)

Laboratory Comments: Sample was diluted one to 50 for analysis.

Approved By: Prem N. Arora Date: 5.3.95

C83

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950412-H021
**Client Sample No.:** AOC-RR-GP07D
**Analyst:** A. Hindemith

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 11 Apr 95
**Date Digested:** 20 Apr 95
**Batch Id:** 9504211330

**RESULTS (µg/L)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 12 | 2 | 03 May 95 | 950503151321 |
| Lead | (Pb) | 7421 | 9 | 8 | 05 May 95 | 950503151321 |
| Selenium | (Se) | 7740 | u | 2 | 05 May 95 | 950505140011 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem.N. Arora
AMH

Date: 5.16.95

C84

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950412-H021
**Client Sample No.:** AOC-RR-GP07D
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 11 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 18 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504180845A

**RESULTS (μg/L)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.20 |

u: Below Detection Limit

oratory Comments:

Approved By: Prem N. Arora Date: 5.3.95
DCSA

C85

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**ample Description:** Water
**RD Lab Sample No.:** 950412-H023
**Client Sample No.:** AOC-BBMS-GP07D
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 11 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 25 Apr 95
**Batch:** 9504250621
**Sequence:** 9504270710

**RESULTS (μg/L)**

| Analyte | Result | Method Det Limit |
|---|---|---|
| Al | u | 40 |
| Sb | u | 50 |
| Ba | 17 | 5 |
| Be | u | 2 |
| Cd | u | 4 |
| Ca | 559000 | 100 |
| Cr | u | 5 |
| Co | u | 6 |
| Cu | u | 5 |
| Fe | 18 | 10 |
| Mg | 102000 | 50 |
| Mn | 305 | 4 |
| Ni | u | 10 |
| K | 18500 | 800 |
| Ag | u | 5 |
| Na | 219000 | 100 |
| Tl | 261 | 100 |
| V | 19 | 10 |
| Zn | u | 4 |

u: Below Method Detection Limit (MDL)

Laboratory Comments: The thallium found in this sample may be false positive due to the fact that the sample contained high level of calcium, magnesium, potasium and sodium. The thallium found is close to the detection limit.

Approved By: Prem N. Arora Date: 5.3.95

C86

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI

**Sample Description:** Water
**MRD Lab Sample No.:** 950412-H023
**Client Sample No.:** AOC-BBMS-GP07D
**Analyst:** A. Hindemith

**Date Sample Taken:** 07 Apr 95
**Date Sample Received:** 11 Apr 95
**Date Digested:** 20 Apr 95
**Batch Id:** 9504211330

**RESULTS (μg/L)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 4 | 2 | 03 May 95 | 950503151321 |
| Lead | (Pb) | 7421 | u | 2 | 05 May 95 | 950503151321 |
| Selenium | (Se) | 7740 | u | 2 | 05 May 95 | 950505140011 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem.N. Arora
AMH

Date: 5.16.95

C88

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Thermo Jarrell Ash ICAP Metals

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**C Identifier:** Method Blank

**ample Description:** Water
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Analyzed:** 25 Apr 95
**Batch:** 9504250621
**Sequence:** 9504270710

RESULTS (μg/L)

| Analyte | Result | Det Limit |
|---|---|---|
| Al | u | 40 |
| Sb | u | 50 |
| Ba | u | 5 |
| Be | u | 2 |
| Cd | u | 4 |
| Ca | u | 100 |
| Cr | u | 5 |
| Co | u | 6 |
| Cu | u | 5 |
| Fe | u | 10 |
| Mg | u | 50 |
| Mn | u | 4 |
| Ni | u | 10 |
| K | u | 800 |
| Ag | u | 5 |
| Na | u | 100 |
| Tl | u | 100 |
| V | u | 10 |
| Zn | u | 4 |

u: Below Detection Limit

aboratory Comments:

pproved By: Prem.n. Arora  Date: 5.3.95

C89

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Matrix Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950406-H018
**Client Sample No.:** Batch Specific
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 03 Apr 95
**Date Sample Received:** 05 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 25 Apr 95
**Batch:** 9504250621
**Sequence:** 9504270710

**RESULTS (μg/L)**

| Analyte | Sample Result | Duplicate Result | RPD | Method Detection Limit |
|---|---|---|---|---|
| Al | 44 | 46 | 4.4 | 40 |
| Sb | u | u | NC | 50 |
| Ba | 61 | 62 | 1.6 | 5 |
| Be | u | u | NC | 2 |
| Cd | u | u | NC | 4 |
| Ca | 51100 | 51900 | 1.6 | 100 |
| Cr | u | u | NC | 5 |
| Co | u | u | NC | 6 |
| Cu | u | u | NC | 5 |
| Fe | 15 | 11 | 30.8 * | 10 |
| Mg | 5520 | 5600 | 1.4 | 50 |
| Mn | 27 | 27 | 0.0 | 4 |
| Ni | u | u | NC | 10 |
| K | 10400 | 10200 | 1.9 | 800 |
| Ag | u | u | NC | 5 |
| Na | 13100 | 13300 | 1.5 | 100 |
| Tl | u | u | NC | 100 |
| V | u | u | NC | 10 |
| Zn | u | u | NC | 4 |

u: Below Method Detection Limit (MDL)
NC: Not Calculable
RPD Control Limit: ± 20% (RPD could be higher if the sample results are low)

Laboratory Comments:

Approved By: Prem.N. Arora Date: 5.3.95

C90

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Matrix Spike, Matrix Spike Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950406-H018
**Client Sample No.:** Batch Specific
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Sample Taken:** 03 Apr 95
**Date Sample Received:** 05 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 25 Apr 95
**Batch:** 9504250621
**Sequence:** 9504270710

**RESULTS (µg/L)**

| Analyte | Sample Result | Spike Added | Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD |
|---|---|---|---|---|---|---|---|
| Al | 44 | 2000 | 1980 | 97 | 1980 | 97 | 0.0 |
| Sb | u | 500 | 496 | 99 | 498 | 100 | .4 |
| Ba | 61 | 2000 | 1990 | 96 | 1980 | 96 | .5 |
| Be | u | 50 | 47 | 94 | 46 | 92 | 2.2 |
| Cd | u | 50 | 49 | 98 | 50 | 100 | 2.0 |
| Cr | u | 200 | 206 | 103 | 208 | 104 | 1.0 |
| Co | u | 500 | 521 | 104 | 524 | 105 | .6 |
| Cu | u | 250 | 240 | 96 | 237 | 95 | 1.3 |
| Fe | 15 | 1000 | 1070 | 106 | 1070 | 106 | 0.0 |
| Mn | 27 | 500 | 542 | 103 | 543 | 103 | .2 |
| Ni | u | 500 | 519 | 104 | 521 | 104 | .4 |
| Ag | u | 50 | 46 | 92 | 47 | 94 | 2.2 |
| Tl | u | 2000 | 2010 | 101 | 1990 | 100 | 1.0 |
| V | u | 500 | 434 | 87 | 436 | 87 | .5 |
| Zn | u | 500 | 513 | 103 | 518 | 104 | 1.0 |

u: Below Method Detection Limit (MDL)
%Rec Control Limit: 75-125
RPD Control Limit: ± 20% (RPD could be higher if the sample results are low)

Laboratory Comments:

Approved By: Prem.v. Arora  Date: 5.3.95

C91

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Thermo Jarrell Ash ICAP Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Control Sample (LCS)

**Sample Description:** Water
**LCS Source:** VHG Labs, Inc.
**Lot Number:** 500022E,500022F,401300E
**Method:** EPA Method 3005/6010
**Analyst:** T. Shannon

**Date Analyzed:** 25 Apr 95
**MRD Lab Code:** ICPW5
**Expiration Date:** 30 Jan 96
**Batch:** 9504250621
**Sequence:** 9504270710

**RESULTS (μg/L)**

| Analyte | Result | True Value | %Rec | Method Detection Limit |
|---|---|---|---|---|
| Al | 1980 | 2000 | 99 | 40 |
| Sb | 2020 | 2000 | 101 | 50 |
| Ba | 1960 | 2000 | 98 | 5 |
| Be | 782 | 800 | 98 | 2 |
| Cd | 1040 | 1000 | 104 | 4 |
| Ca | 21100 | 20000 | 106 | 100 |
| Cr | 2120 | 2000 | 106 | 5 |
| Co | 2100 | 2000 | 105 | 6 |
| Cu | 1940 | 2000 | 97 | 5 |
| Fe | 2150 | 2000 | 108 | 10 |
| Mg | 19700 | 20000 | 99 | 50 |
| Mn | 2070 | 2000 | 104 | 4 |
| Ni | 2100 | 2000 | 105 | 10 |
| K | 19700 | 20000 | 99 | 800 |
| Ag | 405 | 400 | 101 | 5 |
| Na | 19600 | 20000 | 98 | 100 |
| Tl | 2000 | 2000 | 100 | 100 |
| V | 2160 | 2000 | 108 | 10 |
| Zn | 2060 | 2000 | 103 | 4 |

u: Below Method Detection Limit (MDL)
NC: Not Calculable
%REC Control Limit: 75 to 125

Laboratory Comments:

Approved By: Prem.N. Arora  Date: 5.3.95

C92

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Method Blank

**Sample Description:** Water **Batch Id:** 9504101125
**Analyst:** A. Hindemith

**RESULTS (μg/L)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | u | 2 | 17 Apr 95 | 950418155921 |
| Lead | (Pb) | 7421 | u | 2 | 18 Apr 95 | 950418155921 |
| Selenium | (Se) | 7740 | u | 2 | 20 Apr 95 | 950420105111 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem W. Arora Date: 5-8-95
AMH

C93

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Matrix Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950406-H018
**Client Sample No.:** Batch Specific
**Analyst:** A. Hindemith

**Date Sample Taken:** 03 Apr 95
**Date Sample Received:** 05 Apr 95
**Date Digested:** 10 Apr 95
**Batch Id:** 9504101125

**RESULTS (μg/L)**

| Analyte | EPA Method | Sample Result | Duplicate Result | RPD | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|---|
| As | 7060 | u | u | NC | 2 | 17 Apr 95 | 950418155921 |
| Pb | 7421 | u | u | NC | 2 | 18 Apr 95 | 950418155921 |
| Se | 7740 | 5 | 5 | 0.0 | 2 | 20 Apr 95 | 950420105111 |

u: Below Detection Limit
NC: Not Calculable
Control Limits: ± 20 (for >5X CRDL)

Laboratory Comments:

Approved By: Prem N. Arora
AMH

Date: 5.8.95

C94

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Matrix Spike, Matrix Spike Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950406-H018
**Client Sample No.:** Batch Specific
**Analyst:** A. Hindemith

**Date Sample Taken:** 03 Apr 95
**Date Sample Received:** 05 Apr 95
**Date Digested:** 10 Apr 95
**Batch Id:** 9504101125

**RESULTS (µg/L)**

| Analyte | Sample Result | Spike Added | Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD |
|---|---|---|---|---|---|---|---|
| As | u | 20 | 22 | 110 | 23 | 115 | 4.4 |
| Pb | u | 20 | 22 | 110 | 22 | 110 | 0.0 |
| Se | 5 | 20 | 27 | 110 | 27 | 110 | 0.0 |

u: Below Detection Limit
%Rec: Percent of the spike recovered from the matrix
Control Limits: 75-125 (if [spike added] > [sample]/4)

| Analyte | | EPA Method | Detection Limit | Analysis Date MS | Analysis Date MSD | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | 2 | 17 Apr 95 | 17 Apr 95 | 950418155921 |
| Lead | (Pb) | 7421 | 2 | 18 Apr 95 | 18 Apr 95 | 950418155921 |
| Selenium | (Se) | 7740 | 2 | 20 Apr 95 | 20 Apr 95 | 950420105111 |

Laboratory Comments:

Approved By: Prem. N. Arora AMH  Date: 5.8.95

C95

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Control Sample (LCS)

**Sample Description:** Water
**LCS Source:** VHG Labs, Inc.
**Lot Number:** 400723D 400723E
**Analyst:** A. Hindemith

**MRD Lab Code:** PEGF3
**Expiration Date:** 30 Apr 95
**Batch Id:** 9504101125

**RESULTS (µg/L)**

| Analyte | EPA Method | True Value | Result | %Rec | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|---|
| As | 7060 | 20 | 23 | 115 | 2 | 17 Apr 95 | 950418155921 |
| Pb | 7421 | 20 | 23 | 115 | 2 | 18 Apr 95 | 950418155921 |
| Se | 7740 | 20 | 24 | 120 | 2 | 20 Apr 95 | 950420105111 |

Laboratory Comments:

Approved By: Prem. N. Arora
AMH

Date: 5·8·95

C96

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Method Blank

**Sample Description:** Water **Batch Id:** 9504211330
**Analyst:** A. Hindemith

**RESULTS (μg/L)**

| Analyte | | EPA Method | Result | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|
| Arsenic | (As) | 7060 | u | 2 | 03 May 95 | 950503151321 |
| Lead | (Pb) | 7421 | u | 2 | 05 May 95 | 950503151321 |
| Selenium | (Se) | 7740 | u | 2 | 05 May 95 | 950505140011 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem. N. Arora Date: 5.16.95
AMH

C97

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Matrix Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950417-H013
**Client Sample No.:** Batch Specific
**Analyst:** A. Hindemith

**Date Sample Taken:** 14 Apr 95
**Date Sample Received:** 15 Apr 95
**Date Digested:** 20 Apr 95
**Batch Id:** 9504211330

**RESULTS (µg/L)**

| Analyte | EPA Method | Sample Result | Duplicate Result | RPD | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|---|
| As | 7060 | u | u | NC | 2 | 03 May 95 | 950503151321 |
| Pb | 7421 | 3 | 3 | 0.0 | 2 | 05 May 95 | 950503151321 |
| Se | 7740 | u | u | NC | 2 | 05 May 95 | 950505140011 |

u: Below Detection Limit
NC: Not Calculable
Control Limits: ± 20 (for >5X CRDL)

Laboratory Comments:

Approved By: Prem N. Arora
AMH

Date: 5-16-95

C98

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Perkin Elmer AAGF Metals**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Matrix Spike, Matrix Spike Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950417-H013
**Client Sample No.:** Batch Specific
**Analyst:** A. Hindemith

**Date Sample Taken:** 14 Apr 95
**Date Sample Received:** 15 Apr 95
**Date Digested:** 20 Apr 95
**Batch Id:** 9504211330

**RESULTS (µg/L)**

| Analyte | Sample Result | Spike Added | Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD |
|---|---|---|---|---|---|---|---|
| As | u | 20 | 22 | 110 | 22 | 110 | 0.0 |
| Pb | 3 | 20 | 24 | 105 | 23 | 100 | 4.3 |
| Se | u | 20 | 16 | 80 | 18 | 90 | 11.8 |

u: Below Detection Limit
%Rec: Percent of the spike recovered from the matrix
Control Limits: 75-125 (if [spike added] > [sample]/4)

| Analyte | EPA Method | Detection Limit | Analysis Date MS | Analysis Date MSD | Sequence Identifier |
|---|---|---|---|---|---|
| Arsenic (As) | 7060 | 2 | 03 May 95 | 03 May 95 | 950503151321 |
| Lead (Pb) | 7421 | 2 | 05 May 95 | 05 May 95 | 950503151321 |
| Selenium (Se) | 7740 | 2 | 05 May 95 | 05 May 95 | 950505140011 |

Laboratory Comments:

Approved By: Prem N. Arora
AMH

Date: 5.16.95

C99

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

Perkin Elmer AAGF Metals

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Control Sample (LCS)

**Sample Description:** Water
**LCS Source:** VHG Labs, Inc.
**Lot Number:** 400723D 400723E
**Analyst:** A. Hindemith

**MRD Lab Code:** PEGF3
**Expiration Date:** 30 Apr 95
**Batch Id:** 9504211330

**RESULTS (μg/L)**

| Analyte | EPA Method | True Value | Result | %Rec | Detection Limit | Date Analyzed | Sequence Identifier |
|---|---|---|---|---|---|---|---|
| As | 7060 | 20 | 20 | 100 | 2 | 03 May 95 | 950503151321 |
| Pb | 7421 | 20 | 22 | 110 | 2 | 05 May 95 | 950503151321 |
| Se | 7740 | 20 | 20 | 100 | 2 | 05 May 95 | 950505140011 |

Laboratory Comments:

Approved By: Prem. N. Arora
AMH

Date: 5.16.95

C100

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Method Blank

**Sample Description:** Water
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Analyzed:** 11 Apr 95
**Batch:** 9504111005A

**RESULTS (µg/L)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.20 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Pam N. Ama Date: 4.12.95

DESA

C101

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Matrix Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950410-H009
**Client Sample No.:** AOC-BBMS-GP06D
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Sample Taken:** 31 Mar 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 10 Apr 95
**Date Analyzed:** 11 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504111005A

**RESULTS (µg/L)**

| Analyte | Sample Result | Duplicate Result | RPD | Detection Limit |
|---|---|---|---|---|
| Hg | u | u | NC | 0.20 |

u: Below Detection Limit
NC: Not Calculable

Laboratory Comments:

Approved By: Prem N. Arora
DESA

Date: 4.12.95

C102

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Matrix Spike, Matrix Spike Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950410-H009
**Client Sample No.:** AOC-BBMS-GP06D
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Sample Taken:** 31 Mar 95
**Date Sample Received:** 07 Apr 95
**Date Digested:** 10 Apr 95
**Date Analyzed:** 11 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504111005A

**RESULTS (μg/L)**

| Sample Result | Spike Added | Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD |
|---|---|---|---|---|---|---|
| u | 1.00 | 1.05 | 105 | 1.02 | 102 | 2.9 |

u: Below Detection Limit
%Rec: Percent of the spike recovered from the matrix
Control Limits: 75-125 (if [spike added] > [sample]/4)

Laboratory Comments:

Approved By: Prem N. Arora Date: 4.12.95
DESH

C103

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Control Sample (LCS)

**Sample Description:** Water
**LCS Source:** Fisher Scientific
**Lot Number:** 936694A-24
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Analyzed:** 11 Apr 95
**MRD Lab Code:** HG8
**Expiration Date:** 31 Dec 95
**Batch:** 9504111005A

**RESULTS (μg/L)**

| Analyte | Result | True Value | %Rec | Detection Limit |
|---|---|---|---|---|
| Hg | 1.04 | 1.00 | 104 | 0.20 |

Laboratory Comments:

Approved By: Prem N. Arora Date: 4.12.95

ASSA

C104

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Method Blank

**Sample Description:** Water
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Analyzed:** 18 Apr 95
**Batch:** 9504180845A

**RESULTS (µg/L)**

| Analyte | Result | Det Limit |
|---|---|---|
| Hg | u | 0.20 |

u: Below Detection Limit

Laboratory Comments:

Approved By: Prem N. Arora Date: 5.3.95
DESA

C105

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Matrix Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950417-H014
**Client Sample No.:** Batch Specific
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Sample Taken:** 14 Apr 95
**Date Sample Received:** 15 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 18 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504180845A

**RESULTS (µg/L)**

| Analyte | Sample Result | Duplicate Result | RPD | Detection Limit |
|---|---|---|---|---|
| Hg | u | u | NC | 0.20 |

u: Below Detection Limit
NC: Not Calculable

Laboratory Comments:

Approved By: Prem. N. Arora Date: 5.3.95
DESA

C106

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Matrix Spike, Matrix Spike Duplicate

**Sample Description:** Water
**MRD Lab Sample No.:** 950417-H014
**Client Sample No.:** Batch Specific
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Sample Taken:** 14 Apr 95
**Date Sample Received:** 15 Apr 95
**Date Digested:** 17 Apr 95
**Date Analyzed:** 18 Apr 95
**Dilution Factor:** 1.0
**Batch:** 9504180845A

**RESULTS (µg/L)**

| Sample Result | Spike Added | Conc MS | %Rec MS | Conc MSD | %Rec MSD | RPD |
|---|---|---|---|---|---|---|
| u | 1.00 | 1.08 | 108 | 1.08 | 108 | 0.0 |

u: Below Detection Limit
%Rec: Percent of the spike recovered from the matrix
Control Limits: 75-125 (if [spike added] > [sample]/4)

Laboratory Comments:

Approved By: Prem N. Arora
DESA

Date: 5·3·95

C107

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Mercury by AACV**

**FAMIS Number:** 3269
**Project Name:** Holloman AFB 4 Site PA/SI
**QC Identifier:** Laboratory Control Sample (LCS)

**Sample Description:** Water
**LCS Source:** Fisher Scientific
**Lot Number:** 936694A-24
**Method:** EPA Method 7470
**Analyst:** T. Shannon

**Date Analyzed:** 18 Apr 95
**MRD Lab Code:** HG8
**Expiration Date:** 31 Dec 95
**Batch:** 9504180845A

**RESULTS (μg/L)**

| Analyte | Result | True Value | %Rec | Detection Limit |
|---|---|---|---|---|
| Hg | 1.08 | 1.00 | 108 | 0.20 |

oratory Comments:

Approved By: Richard Arnc Date: 5.3.95
DESA

C108

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

## Total Fuel Hydrocarbons

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI; Alamogordo, NM

**Date Sample Taken:** 29 Mar 95
**Date Sample Received:** 31 Mar 95
**Date Extracted:** 18 Apr 95
**Date Analyzed:** 21 Apr 95

**Customer Sample No:** AOC-BBMS-SB1-4-6
**MRD Lab Sample No:** 950331-H028
**Batch No:** 041895S

**Analysis Method:** EPA 8015 (Modified)

**Sample Description:** Soil
**Sample Container Used:** 8 oz glass jar
**Analyst:** M. Woster

---

### RESULTS

| Analysis for | Result (mg/kg) | Detection Limits (mg/kg) |
|---|---|---|
| TPH, C6-C24 (as Diesel) | u | 10 |

Pentacosane Surrogate Recovery: 101%

Lab Comment: The sample contains no detectable petroleum hydrocarbons in the gasoline or diesel ranges.

u: Below Detection Limit

---

**Approved By:** David E. Sphichal **Date:** 29 April 95

C109

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Total Fuel Hydrocarbons**

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI; Alamogordo, NM

**QC Sample Identifier:** Method Blank
**Date Sample Taken:** NA
**Customer Sample No:** NA
**Date Sample Received:** NA
**MRD Lab Sample No:** 950418MB
**Date Extracted:** 18 Apr 95
**Batch No:** 041895S
**Date Analyzed:** 21 Apr 95

**Analysis Method:** EPA 8015 (Modified)

**Sample Description:** Sodium Sulfate
**Sample Container Used:** 20 mL vial
**Analyst:** M. Woster

**RESULTS**

| Analysis for | Sample Result (mg/kg) | Detection Limits (mg/kg) |
|---|---|---|
| TPH, C6-C24 | u | 10 |

Pentacosane Surrogate Recovery: 99%

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 29 April 95

C110

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

## Total Fuel Hydrocarbons

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI; Alamogordo, NM

**QC Sample Identifier:** Laboratory Duplicate
**Date Sample Taken:** 29 Mar 95 **Customer Sample No:** AOC-BBMS-SB1-4-6
**Date Sample Received:** 31 Mar 95 **MRD Lab Sample No:** 950331-H028
**Date Extracted:** 18 Apr 95 **Batch No:** 041895S
**Date Analyzed:** 21 Apr 95

**Analysis Method:** EPA 8015 (Modified)

**Sample Description:** Soil
**Sample Container Used:** 8 oz glass jar **Analyst:** M. Woster

---

**RESULTS**

| Analysis for | Sample Result 1 | Sample Result 2 | Detection Limits (mg/kg) |
|---|---|---|---|
| TPH, C6-C24 | u | u | 10 |
| Pentacosane Surrogate Recovery (%) | 101 | 101 | |

Average = none detected
Surrogate recovery RPD = 0.0

u: Below Detection Limit

---

**Approved By:** David E. Spliehal **Date:** 29 April 95

C111

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

## Total Fuel Hydrocarbons

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI; Alamogordo, NM

**QC Sample Identifier:** Matrix Spike/Matrix Spike Duplicate
**Date Sample Taken:** 29 Mar 95 **Customer Sample No:** AOC-BBMS-SB1-4-6
**Date Sample Received:** 31 Mar 95 **MRD Lab Sample No:** 950331-H028
**Date Extracted:** 18 Apr 95 **Batch No:** 041895S
**Date Analyzed:** 21 Apr 95

**Analysis Method:** EPA 8015 (Modified)

**Sample Description:** Soil
**Sample Container Used:** 8 oz glass jar **Analyst:** M. Woster

### RESULTS

| Analysis for | Sample Result | Spiked Level | Result (mg/kg) | % Rec. | Surrogate Rec. Pentacosane |
|---|---|---|---|---|---|
| TPH, C6-C24 | u | 200 | 189 | 95 | 114 |
| TPH, C6-C24 | u | 200 | 237 | 119 | 133 |

Average Recovery = 213 mg/kg (107%)
RPD = 22.5

DL: 10 mg/kg as diesel
u: Below Detection Limit

**Approved By:** David E. Spilichal **Date:** 29 April 95

C112

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

## Total Fuel Hydrocarbons

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI, Alamogordo, NM

**QC Sample Identifier:** Laboratory Control Sample/Duplicate
**Date Sample Taken:** NA
**Customer Sample No:** Batch Specific
**Date Sample Received:** NA
**MRD Lab Sample No:** 950418-LCS
**Date Extracted:** 18 Apr 95
**Batch No:** 041895S
**Date Analyzed:** 21 Apr 95
**Analysis Method:** EPA 8015 (Modified)

**Sample Description:** Sodium Sulfate
**Sample Container Used:** 20 mL glass vial
**Analyst:** M. Woster

### RESULTS

| Analysis for | Blank Result | Spiked Level | Result (mg/kg) | % Rec. | Surrogate Rec. Pentacosane |
|---|---|---|---|---|---|
| TPH, C6-C24 | u | 200 | 185 | 93 | 124 |
| TPH, C6-C24 | u | 200 | 181 | 91 | 98 |

Average Recovery = 183 mg/kg (92%)
RPD = 2.2

u: Below Detection Limit

**Approved By:** David E. Splichal **Date:** 29 April 95

C113

**DEPARTMENT OF THE ARMY**
**Missouri River Division, Corps of Engineers**
**Division Laboratory**
**Omaha, Nebraska**

**Wet Chemistry**

**FAMIS No:** 3269
**Project:** Holloman AFB 4 Site PA/SI

**Date Sample Taken:** 27 Mar 95 **Customer Sample No:** SD15-SB02-4-6
**Date Sample Received:** 30 Mar 95 **MRD Lab Sample No:** 950330-H116

**Sample Description:** Soil
**Sample Container:** 1-8 oz glass
**Analyst:** Matthew Wauson

| Procedure | Analyses | Result mg/L | Detection Limits | Date Analyzed |
|---|---|---|---|---|
| EPA-340.2 | Fluoride | nrq | 0.1 | |
| EPA-310.2 | Bicarbonate (as $CaCO_3$) | nrq | 20 | |
| EPA-310.2 | Carbonate (as $CaCO_3$) | nrq | 20 | |
| EPA-160.1 | Total Dissolved Solids | nrq | 5 | |
| EPA-160.2 | Total Suspended Solids | nrq | 4 | |
| EPA-180.1 | Turbidity (FTU) | nrq | 1 | |
| EPA-150.1 | pH | 7.8 | | 31 Mar 95 |
| EPA-120.1 | Conductivity (μmhos/cm) | nrq | 10 | |

nrq: Not Requested
na: Not analyzed
u: Below Detection Limit

**Laboratory Comments:**

Approved By: Prem N. Arora Date: 3.31.95

ITKBURKIE 2345275645 USACE

GTEL ENVIRONMENTAL LABORATORIES INC

~~4211 MAY AVE.~~ WICHITA, ~~KS 67209~~ USACE MRD LAB
~~(316) 945-2624~~
~~(800) 633-7936~~

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

36906

Company Name: GROUND WATER TECHNOLOGY
Phone #: (505) 242-3113
FAX #: (505) 242-1103
Company Address: 2501 Yale BLVD SE
Site Location: Holloman AFB New Mexico
Project Manager: S. BROTHERS
Client Project ID: (#) DO#1 WAD#3 (NAME)
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Chuck Schick

ANALYSIS REQUEST | OTHER

| Field Sample ID | GTEL Lab # (Lab Use only) | # CONTAINERS | Matrix: WATER | SOIL | AIR | SLUDGE | PRODUCT | OTHER | Method Preserved: HCl | $HNO_3$ | $H_2SO_4$ | ICE | UNPRESERVED | OTHER (Specify) | Sampling: DATE | TIME | BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ DBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐ | TAL Metals | 8240 VOC's | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS06-SB06-8-10 | | 3 | | X | | | | | | | | | X | | 3-25 | 0910 | | | | | | | | | | | | | | | | | | | | X | X | |
| AOCER-SB05-2-4 | | 2 | | X | | | | | | | | | X | | 3-27 | 0920 | | | | | | | | | | | | | | | | | | | | X | X | |
| SD15-SB02-4-6 | | 3 | | X | | | | | | | | | X | | 3-27 | 1400 | | | | | | | | | | | | | | | | | | | | X | X | X |

**TAT**
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other ____
Business Days ☐

**Special Handling**
GTEL Contact ____
Quote/Contract # ____
Confirmation # ____
P.O. # ____

**QA/QC Level**
Blue ☐ CLP ☐ Other ☐

SPECIAL DETECTION LIMITS
Holloman AFB, NM.

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS:
LIMS# 3269
DACW-45-94D-0003 SWTERC

Lab Use Only Lot #:
Storage Location
Work Order #:

**CUSTODY RECORD**

| Relinquished by: | Date | Time | Received by: |
|---|---|---|---|
| Sampler: | 3/29/95 | 1300 | |
| Relinquished by: | Date | Time | Received by: |
| Relinquished by: | Date | Time | Received by Laboratory: Shelly Durrani 3/30/95 1110 |
| | | | Waybill # |

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*Langley Air Force Base,*
*Virginia*

# *DRAFT FINAL PRELIMINARY ASSESSMENT*
## *AT WASTE SITES AOC-BBMS AND AOC-RR HOLLOMAN AIR FORCE BASE, NEW MEXICO*

*OCTOBER 1995*

*49 CES/CEV*
*Holloman Air Force Base,*
*New Mexico*

10/1/95

# DRAFT FINAL
# PRELIMINARY ASSESSMENTS
# AT WASTE SITES
# AOC-BBMS AND AOC-RR
# HOLLOMAN AIR FORCE BASE, NEW MEXICO

Prepared for:

49 CES/CEV
Holloman Air Force Base, NM

and

HQ ACC/ESVR
Langley Air Force Base, VA

Prepared by:

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dba Foster Wheeler Environmental Corp.
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Lakewood, Colorado 80228-1824

and

Groundwater Technology
Government Services, Inc.
2501 Yale Blvd., S.E.
Albuquerque, New Mexico 87106

Under Contract No. DACW-45-94-D-0003
Delivery Order No. 1, Work Authorization Directives 3, 5, and 9
U.S. Army Corps of Engineers
Omaha District
Omaha, Nebraska

October 1995

# TABLE OF CONTENTS

LIST OF FIGURES . . . . . iii

LIST OF APPENDICES . . . . . iv

LIST OF ACRONYMS . . . . . vii

1.0 INTRODUCTION . . . . . 1-1

2.0 PRELIMINARY ASSESSMENTS . . . . . 2-1
2.1 AOC-BBMS - Bare Base Mobility Squadron/Generator Run-up Area . . . . 2-1
*2.1.1 Site Description, Operational History, and Waste Characterization* . . . . 2-1
*2.1.1.1 Location* . . . . . 2-1
*2.1.1.2 Site Description* . . . . . 2-1
*2.1.1.3 Site Operational History and Waste Characteristics* . . . . . 2-2
*2.1.2 Groundwater Pathway* . . . . . 2-4
*2.1.2.1 Hydrogeologic Setting* . . . . . 2-4
*2.1.2.2 Groundwater Targets* . . . . . 2-5
*2.1.2.3 Groundwater Conclusions* . . . . . 2-6
*2.1.3 Surface Water Pathway* . . . . . 2-6
*2.1.3.1 Hydrologic Setting* . . . . . 2-6
*2.1.3.2 Surface Water Targets* . . . . . 2-7
*2.1.3.3 Surface Water Conditions* . . . . . 2-7
*2.1.4 Soil Exposure and Air Pathways* . . . . . 2-7
*2.1.4.1 Physical Conditions* . . . . . 2-7
*2.1.4.2 Soil and Air Targets* . . . . . 2-8
*2.1.4.3 Soil Exposure and Air Pathway Conclusions* . . . . . 2-9
*2.1.5 Summary and Conclusions* . . . . . 2-9
2.2 AOC-RR - Former Storage Tanks and Building 80/Former Locomotive Repair Shop . . . . . 2-10
*2.2.1 Site Description, Operational History, and Waste Characterization* . . . 2-10
*2.2.1.1 Location* . . . . . 2-10
*2.2.1.2 Site Description* . . . . . 2-11

## TABLE OF CONTENTS (Continued)

*2.2.1.3 Site Operational History and Waste Characterization* ..... 2-12
*2.2.2 Groundwater Pathway* ..... 2-14
*2.2.2.1 Hydrogeologic Setting* ..... 2-14
*2.2.2.2 Groundwater Targets* ..... 2-14
*2.2.2.3 Groundwater Conclusions* ..... 2-14
*2.2.3 Surface Water Pathway* ..... 2-15
*2.2.3.1 Hydrologic Setting* ..... 2-15
*2.2.3.2 Surface Water Targets* ..... 2-15
*2.2.3.3 Surface Water Conclusions* ..... 2-15
*2.2.4 Soil Exposure and Air Pathways* ..... 2-16
*2.2.4.1 Physical Conditions* ..... 2-16
*2.2.4.2 Soil and Air Targets* ..... 2-16
*2.2.4.3 Soil Exposure and Air Pathway Conclusions* ..... 2-16
*2.2.5 Summary and Conclusion* ..... 2-17

3.0 PA REFERENCES ..... 3-1

4.0 REFERENCES ..... 4-1

# LIST OF FIGURES

Figure 1-1 Site Location

Figure 1-2 Facility Map

Figure 2-1 Site Plan, AOC-BBMS - Bare Base Mobility Squadron/Generator Run-Up Area

Figure 2-2 Site Plan, AOC-RR - Former Storage Tanks and Building 80

## LIST OF APPENDICES

APPENDIX A -- Preliminary Assessment References

APPENDIX A-1 E.P.A. Guidance for Performing Preliminary Assessments under CERCLA, Latitude and Longitude Calculation Work Sheet #2, LI Using Engineers Scale (1/60), Publication 9354.0-01A, September 1991.

APPENDIX A-2 Interview with Airman Eflel Velez, Holloman AFB, BBMS, November 29, 1994.

APPENDIX A-3 Interview with Ssgt. Clair Breckenridge (staff), Holloman AFB, Formerly Stationed at BBMS, November 29, 1994.

APPENDIX A-4 Base Drawings; Holloman AFB, CM Paving and Utilities, Layout Plan (Building 902 and Surrounding Area), Sheet 3 of 3, February 1958.

APPENDIX A-5 Interviews with Sgt. Lewis and Sgt. Pace, Holloman AFB, BBMS, November 30, 1994.

APPENDIX A-6 Interview with Msgt. Hoyt Smith, Holloman AFB, BBMS-Building 902, November 30, 1994.

APPENDIX A-7 Interview with Tsgt. Ken Davis, Holloman AFB, BBMS-Building 933, November 30, 1994.

APPENDIX A-8 Base Drawings: Holloman AFB CPC Building - Utility Site Plan-Construction Cargo Processing Center, Sheet C 3 of 4, November 1991.

## LIST OF APPENDICES (continued)

APPENDIX A-9 Memo by Randy Louvier, Holloman AFB, 49 CES/CEV Environmental Chemist, Subject: New Area of Concern Near Site SD-08, Refuse Collection Truck Washrack, No Date.

APPENDIX A-10 DERA Funding Adjustment Request. Signed by Robert M. Moore, Chief Environmental Restoration Branch. Subject: PA/SI/RI AOC-RR, 12 August 1994, Signed 20 August 1994.

APPENDIX A-11 Interview with Randy Louvier, 49 CES/CEV, Holloman AFB Environmental Chemist, November 30, 1994.

APPENDIX A-12 Interview with Warren Neff, 49 CES/CEV, Holloman AFB Environmental Engineer, November 29 and 30, 1994.

APPENDIX A-13 Interview with Mr. Moffit, Holloman AFB, Deputy Chief Engineer, November 30, 1994.

APPENDIX A-14 Interview with Mr. King, Holloman AFB, Deputy Chief Operations Flight, November 30, 1994.

APPENDIX A-15 Witco Material Safety Data Sheet for Coherex, a Current Golden Bear Product Used as a Dust Suppressant and Telephone Log of Conversation with John Pepettrilli and Jerry Davis, Both Witco Employees.

APPENDIX A-16 AF Form 1430, Real Property Accountable Record - Buildings, Subject: Building 80.

APPENDIX A-17 Base Drawings; Holloman AFB, Shop Locomotive Base, Site Plan, Drawing No. 2, 17 March 1958.

## LIST OF APPENDICES (continued)

APPENDIX A-18 Base Drawings, Holloman AFB, Shop Locomotive Base, Sections and Details, Drawing No. 4, 18 March 1958.

APPENDIX B -- Photographs

## LIST OF ACRONYMS

| | |
|---|---|
| AFB | Air Force Base |
| AOC | Area of Concern |
| BBMS | Bare Base Mobility Squadron |
| CE | Civil Engineering |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act of 1980 |
| cm/sec | Centimeters per Second |
| EPA | Environmental Protection Agency |
| LNAPL | Light Non-Aqueous Phase Liquids |
| mg/l | Milligrams per Liter |
| MSDS | Material Safety Data Sheet |
| NMED | New Mexico Environment Department |
| NMWQCC | New Mexico Water Quality Control Commission |
| PA | Preliminary Assessment |
| POL | Petroleum, Oils, and Lubricants |
| PSH | Phase Separate Hydrocarbons |
| RR | Railroad |
| SI | Site Investigation |
| TDS | Total Dissolved Solids |
| USACE | United States Army Corps of Engineers |

# 1.0 INTRODUCTION

This report presents the findings of the Preliminary Assessments (PAs) conducted at two sites at Holloman Air Force Base (AFB). Holloman AFB is located in south-central New Mexico, approximately seven miles west of Alamogordo and 70 miles northeast of Las Cruces (Figure 1-1).

Preliminary Assessments were conducted at the following two sites (Figure 1-2):

- AOC-BBMS - Area of Concern-Bare Base Mobility Squadron/Generator Run-up Area; and

- AOC-RR - Former Storage Tanks and Building 80/Former Locomotive Repair Shop.

The PAs were performed prior to conducting Site Investigations (SIs). The purpose of the PAs was to collect information about the environmental conditions at AOC-BBMS and AOC-RR to assess the potential threat to human health and the environment and to focus proposed SI activities. The PA included review of available field and file information, site reconnaissance, and comprehensive receptor identification. The research included interviews with Base personnel with knowledge of the possible releases, review of available site plans and drawings, and review of existing risk assessment reports and other reports containing previously gathered site reconnaissance and receptor information for the Base. Base personnel interviews were conducted on November 29 and 30, 1994.

This PA report was prepared in accordance with guidelines of Sections 4.1 and 4.2 of the Environmental Protection Agency (EPA) Guidance for Performing Preliminary Assessments under the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) (EPA, September 1991).

# 2.0 PRELIMINARY ASSESSMENTS

Findings of the data gathered during the PA research for each site are discussed in Sections 2.1 and 2.2.

## 2.1 AOC-BBMS - Bare Base Mobility Squadron/Generator Run-up Area

### *2.1.1 Site Description, Operational History, and Waste Characterization*

*2.1.1.1* ***Location*** The Bare Base Mobility Squadron (BBMS) is located in the southwestern area of Holloman AFB (Figure 1-2). The generator run-up area is located approximately 350 feet southwest of Building 902 (Assembly Building) and 175 feet east of Building 933 (Construction Cargo Processing Center) (Figure 2-1). The geographic coordinates are 32° 50' 37" Latitude and 106° 07' 28" Longitude (Reference 1, Appendix A).

*2.1.1.2* ***Site Description*** The generator run-up area is used as a periodic testing area for the squadron's mobile generators. The current configuration of the equipment in the area is illustrated in Figure 2-1, and consists of the following:

- A single above-ground storage tank, surrounded by a concrete berm containment system, to store JP-8 fuel;
- 200 feet of above-ground piping routed to the parked location of the mobile generators. Approximately 50 feet of piping is encased in a concrete-lined trench. Approximately 150 feet of the above-ground piping, oriented north/south, is not contained with any enclosures; however, the tie-in manifolds to the fuel distribution hoses have a steel-trough spill-containment system beneath them;
- Four electrical tie-in stations;

- A main electrical switch gear station;
- Partial perimeter fencing surrounding the northwest, north, and eastern areas of the above-ground storage tank;
- A low area, approximately two feet below grade, surrounding the above-ground storage tank containment system; and
- A low area, approximately two and a half feet below grade, south of the above-ground storage tank.

Photographs of the site are provided in Appendix B.

Interviews with Base personnel indicate that the existing equipment configuration at the generator run-up area was installed by 1991. Accounts indicate that the previous equipment configuration was similar with the following exceptions (References 2 and 3, Appendix A):

- Fuel was stored in a 5,000 gallon tanker truck situated in the same location as the present above-ground tank;
- No fencing surrounded the fuel storage/tanker truck; and
- The low sections were not covered with gravel.

*2.1.1.3* ***Site Operational History and Waste Characteristics*** Information concerning the Air Force's original use of the area around AOC-BBMS is limited. Interviews with Base personnel indicate that the original use of the area consisted of highly restricted activities, and therefore limited information is available (Reference 3, Appendix A).

Available plans of the area show that the area was developed by February 1958 (Reference 4, Appendix A).

The Bare Base Mobility Squadron transferred to Holloman AFB from Shaw AFB in 1979. The squadron has used this area for storage, assembly, and service of all the portable equipment for the last 25 years (Reference 5, Appendix A).

A surface release occurred in the area of the generator run-up area either in 1984 or 1987. The spill reportedly occurred when a one-inch valve at the second switch gear box was inadvertently left open overnight. Accounts from Base personnel regarding the release vary significantly. The recorded accounts indicate that there are two versions of the release:

- Fuel level in the tank was low and approximately 300 gallons were released and 250 gallons were recovered from trenching associated with installation of the tie-in stations (References 2, 3, and 5, Appendix A);

- Fuel level in the tank was high and approximately 5,000 gallons of JP-4 were released with approximately 300 gallons being recovered from trenching associated with the installation of the tie-in stations (Reference 3, Appendix A).

No documents were found at the Base to confirm which account of the volume of released fuel is accurate, or to identify what measures were taken to assess the volume of the release.

Some time between 1989 to 1991, Ssgt. Clair Breckenridge (Reference 3, Appendix A) discovered that subsurface contamination existed in the area when he was trying to excavate dirt beneath a small discharge of oil from a five-gallon bucket. While he was digging with a post-hole digger in the vicinity of the second tie-in station, he encountered evidence of stained soil from two to six feet below grade. At a depth of six feet, he

observed phase-separated fuel in the hole. The Base Civil Engineering (CE) Environmental group was notified and a brief report was prepared by Ssgt. Breckenridge consisting of his accounts and interviews with three Base personnel present during the original release.

According to the interviews, phase-separate hydrocarbons (PSH) and/or hydrocarbon-bearing soil were also noted in the area during installation of the water line for Building 933 in 1989 (Reference 3, 6 and 7, Appendix A). PSH were encountered during excavation for the line within the low area south of the above-ground storage tank (Reference 8, Appendix A).

### *2.1.2 Groundwater Pathway*

***2.1.2.1 Hydrogeologic Setting*** Holloman AFB is located in the southern part of the Tularosa Basin. The basin is a structural depression approximately 120 miles long by 35 miles wide. The basin is the easternmost extension of the Basin and Range Province consisting of a down-thrown fault block with the mountains to the east and west consisting of tilted fault blocks. The Tularosa Basin is bounded to the north by Chopadera Mesa; to the south by a topographic divide near the Mexican border; to the east by the Jicarilla and Sacramento Mountains; and to the west by the Organ, San Andres, and Oscra Mountains (Radian, October 1992).

The basin is primarily underlain by unconsolidated alluvial deposits. Since the deposits result from sediments derived from the local mountains, coarser sediments are deposited at the basin margins while finer-grained sediments are carried and deposited in the basin's interior. Reported thickness of the sediments in the basin range from 100 to 8,000 feet. Sediment composition consists of limestone, dolomite, and gypsum (Radian, January 1994).

The Tularosa Basin is a closed basin with regard to groundwater and surface water drainage. The aquifer within the basin contains primarily saline water. Groundwater

concentrations of total dissolved solids (TDS) range from 1,000 milligrams per liter (mg/l) in the sediments adjacent to the mountain fronts to greater than 100,000 mg/l in the center of the basin. TDS at Holloman AFB is greater than 10,000 mg/l (Radian, January 1994).

Due to the presence of high dissolved solids in groundwater at the Base the New Mexico Environment Department (NMED) has established the cleanup criteria for the Base as removal of light non-aqueous phase liquids (LNAPL) (NMED, January 1993). There are no applicable dissolved-phase standards, however, the EPA and NMED requires Holloman AFB to delineate the natural and extent of sorbed and dissolved-phase compounds present in the subsurface above established background levels or risk-based levels (Ebasco/Groundwater Technology, Inc., February 1995).

Groundwater occurs in unconfined conditions in the alluvial deposits beneath Holloman AFB. Generally, depth to groundwater at Holloman AFB is approximately 5 to 10 feet below grade. Groundwater at the Base is generally flows southwest, except near surface drainages and arroyos (Radian, January 1994).

Previous investigations at Holloman AFB show that the soils beneath the Base contain a mixture of clay, silt, and fine sand. The associated permeability reported at the site is relatively low to moderate and is on the order of $1 \times 10^{-4}$ to $1 \times 10^{-3}$ centimeters per second (cm/sec). Stiff caliche layers of varying thickness have been identified at various areas of the Base (Radian, January 1994).

***2.1.2.2 Groundwater Targets*** There are no groundwater supply wells located on Holloman AFB. The Base, as well as the remaining population within the Tularosa Basin (White Sands Missile Range Headquarters and the community of Alamogordo) obtains drinking water from Bonita Lake (located 60 miles northeast to Tularosa Basin) or Boles and San Andres well fields (located 5 to 10 miles southeast of the Base) (Radian, February 1994). The closest production well down-gradient of the Base is a livestock production well located 3.5 miles west of the Base (Radian, October 1992).

Groundwater beneath Holloman AFB contains TDS greater than 10,000 mg/l, which makes it unacceptable for drinking water per New Mexico Water Quality Control Commission (NMWQCC) Regulations Parts 3-100 through 3-103 (Radian, January 1994).

*2.1.2.3* ***Groundwater Conclusions*** A release of JP-4 occurred in the vicinity of the AOC-BBMS generator run-up area either in 1984 or 1987. Accounts of the incident indicate volume estimates for the release range from 300 to 5,000 gallons, with an estimated 250 to 300 gallons of fuel recovered. Although specific estimates of the released volume of fuel vary significantly, two separate accounts from Base personnel identified the presence of PSH on the shallow water table at this site.

### *2.1.3 Surface Water Pathway*

*2.1.3.1* ***Hydrologic Setting*** Surface water drainage throughout the Tularosa Basin is limited due to low precipitation and high evapotranspiration rates. The limited volume of surface water flows generally towards the southwest through intermittent streams and arroyos (Radian, January 1994). The closest arroyos to AOC-BBMS are located over a mile from the site. These major arroyos do not contribute to the surface drainage of the site. However, topographic maps of this area indicate that two drainage ditches approximately 1,000 and 2,000 feet from the subject site collect surface water in the vicinity of the BBMS. The ditches direct the flow of water to a borrow pit approximately 3,500 feet south of the site (Reference 1, Appendix A). Collected water in this pit either evaporates or infiltrates (Radian, January 1994).

Surface drainage within the developed portion of the Base flows via drainage ditches and culverts to the waste water treatment lagoons situated in the southwest corner of the Base (Radian, January 1994). Physical features evident at AOC-BBMS indicate that the majority of the surface release in the area would have accumulated in the low areas (depressed approximate 2 to 2.5 feet) south of the above-ground storage tank (Photographs, Appendix B).

*2.1.3.2* ***Surface Water Targets*** There are no drinking water intakes or fisheries located within a 15-mile radius of the site. Lake Holloman, situated approximately one-half mile southwest of the Base, receives runoff from the Base and effluent from the Base's sewage lagoons. The next closest lake is Lake Lucero, which is 20 miles southwest of the Base and is the lowest point in Tularosa Basin (Radian, October 1992). The Base's drinking water supply and municipal drinking water supply comes from Bonita Lake (60 miles upstream) and/or from well fields 5 to 10 miles southeast (cross gradient) of the Base (Radian, January 1994).

Environmental evaluations have been conducted previously at the Base and are discussed in the report titled *Risk Assessment Report for the Remediation Investigation, Investigation Study and Recommendation for 29 Waste Sites* (Radian, June 1992). During this study, several federal and state endangered species were identified at or near Holloman AFB, which included the white sands pupfish, located in saline springs in Ritas and Malone Draws, and the peregrine falcon.

*2.1.3.3* ***Surface Water Conditions*** Although accounts from Base personnel reveal that a surface release occurred at AOC-BBMS, the accounts do not indicate that the released fuel migrated beyond the immediate vicinity of the spill. In addition, due to the topography of the area, surface spills would likely collect in the low areas. Currently there is no physical evidence, such as discolored soils, that the release occurred. However, the accounts indicate that the gravel currently within the unpaved area (which corresponds to the topographically low areas) was installed after the release occurred (Reference 3, Appendix A).

### *2.1.4 Soil Exposure and Air Pathways*

*2.1.4.1* ***Physical Conditions*** The present configuration of the fuel storage tank, above-ground piping, and topographic conditions at AOC-BBMS is similar to the site layout when the release occurred approximately 10 years ago. The slight variations since that time include: modified type of storage tank, containment system for the above-

ground piping, partial fencing around the tank area, and gravel covering all the unpaved areas (References 2 and 3, Appendix A). While fencing surrounds only the northern and eastern sides of the above-ground storage tank area, the entire BBMS area is a restricted sector of the Base, and access is limited.

*2.1.4.2* ***Soil and Air Targets*** Holloman AFB employs approximately 6,600 military and 3,000 civilian employees. Approximately 5,500 of these personnel are employed at the Main Base area located in the southeast corner of the Base (Radian, January 1994). The majority of the Base employees and residents work or reside within a four-mile radius of the site.

The generator run-up area is used to conduct monthly load test on the mobile generators. The load test reportedly consist of operating the generator approximately one hour per month (Reference 2, Appendix A). Aside from these limited activities, the closest Base personnel working in the vicinity of AOC-BBMs are the employees in Building 933. Building 933 is Cargo Processing Center which is a slab on grade structure located approximately 80 feet southwest of the above ground fuel tank. The employees from Building 933 are the most likely potential receptors for exposure to any released contaminants. There are no schools or daycare facilities within a mile of the site, and the Main Base area is approximately two miles from the site (Reference 1, Appendix A).

Regionally, Alamogordo is the only major town within 50 miles of Holloman AFB. Alamogordo is located 7 miles east of the Base (Figure 1-1). Currently, all the property surrounding the Base is primarily vacant desert terrain. There are no agricultural operations, residential communities, or industrial operations adjacent to the Base (Radian, June 1992). The majority of the property adjacent to the Base is White Sands Missile Range and White Sands National Monument (Reference 2, Appendix A).

The predominant wind direction at the site is out of the west and southwest (Radian, June 1992).

*2.1.4.3 Soil Exposure and Air Pathway Conclusions* The soil exposure pathway is considered an unlikely source to pose a threat at AOC-BBMS, since all of the surfaces were covered with gravel at some point following the release. In addition, the employees working in the area are not likely to be exposed to the soils in the low area south of the tank since the primary work activities include conducting the monthly load test on the generators or working inside Building 933.

A release of volatiles into the air is possible, but not considered likely, since the fuel released was JP-4. JP-4 is described as a middle-range petroleum distillate. It consists of many compounds including volatile compounds similar to gasoline. However, reference documents indicate that the associated vapor pressure for JP-4 is approximately five times less than gasoline (Bruya, April 2, 1992). The reported presence of PSH encountered during the installation of the water line installed for Building 933, prompts consideration of this water line as a potential air exposure pathway. Subsequent SI sampling activities targeted the water line to determine if subsurface contamination was present adjacent to the line (Ebasco/Groundwater Technology, Inc., October 1995). In addition, during site reconnaissance there were no fuel odors in the vicinity of the reported release.

### *2.1.5 Summary and Conclusions*

Interviews with several Base personnel corroborated that a release of JP-4 occurred at the AOC-BBMS generator run-up area sometime between 1984 to 1987. Some of the accounts concerning the release are varied with regard to the amount of fuel lost, with amounts estimated ranging from 300 to 5,000 gallons. However, there were descriptions of at least two occasions between 1989 to 1991 where PSH were encountered on the water table in the vicinity of the reported release.

Site investigation (SI) activities have already been performed at AOC-BBMS. Due to the accounts of PSH in the vicinity of the release, these SI activities were deemed warranted. The SI was conducted at this site in April 1995. Results of the SI activities

are compiled in the report titled *Draft Final Site Investigation at Waste Sites SS-06, SD-15, AOC-RR, and AOC-BBMS* (Ebasco/Groundwater Technology, Inc., October 1995).

## 2.2 AOC-RR - Former Storage Tanks and Building 80/Former Locomotive Repair Shop

### *2.2.1 Site Description, Operational History, and Waste Characterization*

***2.2.1.1 Location*** AOC-RR is located just northeast of the Main Base area (Figure 1-2). The site contains Building 80, which currently houses the Base's Recycling Center and an area that formerly contained storage tanks. The site is located west of the refuse truck collection washrack (Site SD-08) (Figure 2-2).

Site SD-08 is a refuse collection truck washrack area and has had numerous subsurface investigations. The primary chemicals of concern at the site are pesticides that formerly were sprayed on refuse trucks for pest control (Reference 9, Appendix A). During the 1991 Remedial Investigation conducted by Radian Corporation at Site SD-08, elevated levels of benzene and ethylbenzene were detected in upgradient monitoring well MW-08-01 (Radian, October 1992). AOC-RR was identified as a potential upgradient source of benzene and/or ethylbenzene (References 9, 10, and 11, Appendix A). Two areas comprise the site (Reference 12, Appendix A):

- A former dust suppressant storage tank area; and
- Building 80/former locomotive repair shop.

The area believed to be the location of the former storage tanks is approximately 200 feet southwest of well MW-08-01. Building 80 is situated approximately 90 feet west of well MW-08-01 (Figure 2-2). The geographic coordinates are 30° 50'90" Latitude and 106° 04'16" Longitude (Reference 1, Appendix A).

### *2.2.1.2 Site Description*

Former Storage Tank Area

The former storage tank area consists of an area of mounded and/or disturbed soil approximately 50 feet by 80 feet. The area formerly contained three underground storage tanks of unknown capacity used to store petroleum, oils, and lubricants (POL). . The material in the tanks was reportedly used in the 1970s and 1980s as a dust suppressant. Interviews conducted with Base personnel on November 29 and 30, 1994 identified the material stored in the tanks as "Golden Bear oil" (References 12, 13, and 14, Appendix A). The Base's material safety data sheet (MSDS) database listing contains over 50 "Golden Bear" products and identification of which product was used by the Base at AOC-RR could not be determined by the database (Reference 12, Appendix A). Discussions with various Base personnel indicate that the material stored in the tanks was not an oil, but a water-soluble dust suppressant (References 13 and 14, Appendix A).

Presently, the tank area consists of a low mound (less than one foot high) of disturbed soils (as indicated by the increased presence of weeds) (Photographs, Appendix B). Also noted during the site reconnaissance on November 30, 1994 was the presence of two two-inch diameter steel pipes sticking out of the mound (Photographs, Appendix B). The use of these pipes could not be determined.

Former Building 80/Locomotive Repair Shop

The second area within AOC-RR consists of Building 80, which is approximately 60-feet long and 32-feet wide. Building 80 is currently used by the Base as a recycling center. Historically, the site was used as a locomotive repair shop. Building 80 formerly contained a repair pit that was 52-feet long and approximately 4-feet deep, which was used to access the bottom of the locomotives (Reference 11, Appendix A). This pit has

subsequently been filled and capped with concrete at the surface (Photographs, Appendix B).

### *2.2.1.3 Site Operational History and Waste Characterization*

Former Storage Tank Area

Very little historical information was found during the site visit conducted at the Base on November 29 and 30, 1994 concerning the operational history of the former storage tanks. No plans or records of the tanks were found. The references that are available concerning the former tanks contain significant inconsistencies. These references are as follows:

- Personnel that were at the Base during the 1970s and 1980s indicate that the tanks were partially buried, not underground storage tanks (References 13 and 14, Appendix A);

- Inspection of an aerial photograph (1 inch to 2,000-foot scale) that was not dated but believed to be from the 1980s indicated the presence of two linear structures oriented north/south in the area of interest (Reference 13, Appendix A);

- CE Environmental Group Base personnel recall from research that there were three underground storage tanks which had not been removed yet (Reference 11, Appendix A). However, Base summaries of this research indicate that the tanks were removed (References 9 and 10, Appendix A); and

- No information was available concerning the condition of the tanks or the surrounding soils during the reported removal in the 1980s (Reference 11, Appendix A).

The interviews did not clarify what kind of tanks were in the area. In addition, the contacts were inconsistent as to whether "Golden Bear" oil was a petroleum-based product. The material is described as a water-soluble material that formed a hard crust on the soil (References 13 and 14, Appendix A).

Witco Corporation, the manufacturer of "Golden Bear" products, was contacted to obtain additional information about the product. A representative from Witco Corporation was able to provide a MSDS for a current "Golden Bear" product named Coherex that is currently distributed as a dust suppressant (Reference 15, Appendix A). However, the representative contacted could not verify if this was the same product used by Holloman AFB. Review of the MSDS reveals that there is no benzene or ethylbenzene listed as a constituent of the product. Rather Coherex contains a heavy napthenic distillate petroleum product (Reference 15, Appendix A).

Building 80/Locomotive Repair Shop

In contrast, some historical documents were available concerning Building 80. Records from the Base Real Property Office state that the building was constructed in 1959 (Reference 16, Appendix A). Original use of the building was as a locomotive repair shop. Historical plans of the building show that a subgrade repair pit, approximately 52-feet long by 6-feet wide by 4-feet deep was present for use to maintain and repair the locomotive engines (Reference 17, Appendix A). A cross-section of the pit on the plans reveals that the base of the pit contained a floor drain which discharged to a french drain system below the pit (Reference 18, Appendix A). The plans describe the french drain as a 2.5-foot diameter by 4-feet deep drain filled with rocks and crushed stone below the floor of the pit. However, the plans do not provide a plan view of the location of french drain system (Reference 18, Appendix A). No specific information was provided regarding the types of liquid wastes generated during the repair of the locomotives. However, expected waste includes oil and solvents (References 9, 10, and 11, Appendix A).

Real Property records indicate that Building 80 was used for locomotive repair until 14 September 1984. Subsequent use of Building 80 consisted primarily of storage of unidentified materials from the mid-1980s to 1993. Since December 1993, the building has been used as the Base's Recycling Center (Reference 16, Appendix A). During the conversion, the former locomotive repair pit was filled with engineered fill and covered with a 6-inch thick concrete slab. No descriptions of the conditions of the base of the pit were provided and no soil analyses beneath the pit were collected prior to abandonment in October and November 1993 (Reference 11, Appendix A).

### *2.2.2 Groundwater Pathway*

*2.2.2.1* ***Hydrogeologic Setting*** The geologic and hydrogeologic conditions at Holloman AFB are fairly consistent throughout the Base. These conditions are previously discussed in detail in Section 2.1.2.1.

*2.2.2.2* ***Groundwater Targets*** Potential groundwater targets at AOC-RR are similar to those at AOC-BBMS, which are discussed in Section 2.1.2.2.

*2.2.2.3* ***Groundwater Conclusions*** Discovery of dissolved benzene and ethylbenzene concentrations in well MW-08-01 at Site SD-08 in 1991 prompted the search for other potential sources of contaminants upgradient of Site SD-08. Initial research conducted by the CE Environmental group identified two areas as AOC-RR (Reference 9 and 10, Appendix A). These areas include:

- The former site of storage tanks which use to contain dust suppressant located approximately 200 feet southwest of well MW-08-01; and

- Building 80 which use to be a locomotive repair shop, located approximately 90 feet west of well MW-08-01.

No investigations have been conducted in these areas to confirm whether or not the previous activities in the area have caused any detrimental environmental impacts. However due to the high TDS concentrations in groundwater at the Base, the NMED has established regulatory action levels for groundwater at the Base to include the removal of PSH. No dissolved standards apply (NMED Correspondence, January 23, 1993).

### *2.2.3 Surface Water Pathway*

***2.2.3.1 Hydrologic Setting*** General surface drainage at the Base is discussed in Section 2.1.3.1. The majority of the area around AOC-RR is undeveloped land, except for the parking lot for Building 80 and the roadways in the area.

Physical features evident at AOC-RR indicate that the ground surface in the area is very flat. (Photographs, Appendix B). The closest arroyo in the area is Dillard Draw which is situated approximately 1,000 feet east of the site. Dillard Draw reportedly flows along the southern boundary of the Base towards the sewage lagoons (Radian, October 1992). Topographic maps of this area indicate that surface drainage at the site may be directed to the southeast, unless a stormwater culvert is present in the roadway to the southeast of the site (Reference 1, Appendix A).

***2.2.3.2 Surface Water Targets*** The surface water targets are the same at AOC-RR as discussed in Section 2.1.3.2.

***2.2.3.3 Surface Water Conclusions*** No specific accounts of any releases occurring at either area at AOC-RR were identified in the interviews with Base personnel and records reviewed. Likewise, there was no physical evidence, such as discolored soils or odor, that surface releases from either area have occurred (Photographs, Appendix B).

### *2.2.4 Soil Exposure and Air Pathways*

***2.2.4.1 Physical Conditions*** AOC-RR consists of two areas. The first area is the presumed location of former tanks which stored dust suppressants. This site is located in an open field with unrestricted access. The second area is Building 80, which currently houses the Base's recycling center, but was formerly used as a locomotive repair shop. After completing the site visit and record review, the major potential source of possible contaminants from this building is the former subsurface repair pit. This structure was backfilled and capped with concrete in 1993. It is unlikely that this area poses a potential exposure pathway for soil or air.

***2.2.4.2 Soil and Air Targets*** Employees working daily in the area of AOC-RR consist of the Base personnel working in Building 80 (the Base's Recycling Center) and at the refuse collection truck washrack area. Other Base personnel that use the area are associated with people dropping off recyclable materials at Building 80 and the occasional use of the washrack area. The Main Base area begins approximately a quarter mile from the site. However, there are no schools or daycare facilities within three-fourths of a mile of the site (Reference 1, Appendix A).

***2.2.4.3 Soil Exposure and Air Pathway Conclusions*** The soil exposure pathway is considered an unlikely source to pose a threat at both areas at AOC-RR. The area of the former tanks location, in its current state, does not pose a potential threat because there is no recorded evidence of a surface release in the area and there is no physical evidence of such a release. However, there are two two-inch pipes currently sticking out of the ground. If subsurface contamination exists, this site could pose as a potential threat if contaminated soils are disturbed.

The former pit within the former locomotive repair shop (Building 80) is not considered a potential threat for soil exposure since this structure was filled and capped with concrete in 1993. While no specific records were available concerning the types of liquid waste generated during repair of the locomotives, the expected waste includes oils and

solvents (References 9, 10 and 11, Appendix A). If these constituents were released through the french drain the oil would not pose an air exposure threat in the building. However, volatile constituents of any released solvents could pose a potential threat through vapor migration into the building.

### *2.2.5 Summary and Conclusion*

Detection of benzene and ethylbenzene in well MW-08-01 at Site SD-08 prompted the Base to consider upgradient sources of these contaminants. Two areas at AOC-RR were identified as potential sources:

- Former location of storage tanks for dust suppressants; and
- Building 80/former locomotive repair shop.

Previous use of chemicals in these areas, in addition to the lack of assessment of the surrounding soils at these sites, warrants further subsurface investigations. Data gathered from Base personnel interviews indicate that the chemicals of concern at the former tank site are likely associated with a water-soluble dust suppressant consisting of heavy napthenic distillate. Potential contaminants of concern at the former locomotive repair shop may be oil and solvents.

Site Investigation (SI) activities have already been performed at AOC-RR. The SI was conducted at this site in April 1995. Results of the SI activities are compiled in the report titled *Draft Final Site Investigation at Waste Sites SS-06, SD-15, AOC-RR, and AOC-BBMS* (Ebasco/Groundwater Technology, Inc., October 1995).

# 3.0 PA REFERENCES

1 E.P.A. Guidance for Performing Preliminary Assessments under CERCLA, Latitude and Longitude Calculation Work Sheet #2, LI Using Engineers Scale (1/60), Publication 9354.0-01A, September 1991.

2 Interview with Airman Eflel Velez, Holloman AFB, BBMS, November 29, 1994.

3 Interview with Ssgt. Clair Breckenridge (staff) Holloman AFB, Formerly Stationed at BBMS, November 29, 1994.

4 Base Drawings; Holloman AFB, CM Paving and Utilities, Layout Plan (Building 902 and Surrounding Area), Sheet 3 of 3, February 1958.

5 Interviews with Sgt. Lewis and Sgt. Pace, Holloman AFB, BBMS, November 30, 1994.

6 Interview with Msgt. Hoyt Smith, Holloman AFB, BBMS-Building 902, November 30, 1994.

7 Interview with Tsgt. Ken Davis, Holloman AFB, BBMS-Building 933, November 30, 1994.

8 Base Drawings: Holloman AFB CPC Building - Utility Site Plan-Construction Cargo Processing Center, Sheet C 3 of 4, November 1991.

9 Memo by Randy Louvier, Holloman AFB, 49CES/CEV Environmental Chemist, Subject: New Area of Concern Near Site SD-08, Refuse Collection Truck Washrack, No Date.

10 DERA Funding Adjustment Request. Signed by Robert M. Moore, Chief Environmental Restoration Branch. Subject: PA/SI/RI AOC-RR, 12 August 1994, signed 20 August 1994.

11 Interview with Randy Louvier, 49CES/CEV, Holloman AFB Environmental Chemist, November 30, 1994.

12 Interview with Warren Neff, 49 CES/CEV, Holloman AFB Environmental Engineer, November 29 and 30, 1994.

13 Interview with Mr. Moffit, Holloman AFB, Deputy Chief Engineer, November 30, 1994.

14 Interview with Mr. King, Holloman AFB, Deputy Chief Operations Flight, November 30, 1994.

15 Witco Material Safety Data Sheet for Coherex, a Current Golden Bear Product Used as a Dust Suppressant, and Telephone Log of Conversation with John Pepettrilli and Jerry Davis, Both Witco Employees.

16 AF Form 1430, Real Property Accountable Record - Buildings, Subject: Building 80.

17 Base Drawings; Holloman AFB, Shop Locomotive Base, Site Plan, Drawing No. 2, 17 March 1958.

18 Base Drawings, Holloman AFB, Shop Locomotive Base, Sections and Details, Drawing No. 4, 18 March 1958.

# 4.0 REFERENCES

Bruya, *Petroleum Hydrocarbons; What are They? How much is Present? Where do They go?*, Hazmacon 1992, April 2, 1992.

CH2M Hill, *Installation Restoration Program Records Search, Holloman AFB, New Mexico*. Section II: Installation Description, Section III: Environmental Setting and Section VI: Findings, A) Activity Review, pp II-1 and II-4, III-1 to III-21, and IV-1 to IV-35, August 1983.

Ebasco/Groundwater Technology Inc., *Draft Final Chemical Data Acquisition Plan, Preliminary Assessments/Site Investigations at Waste Sites, SS-06, SD-15, AOC-BBMS, and AOC-RR, Holloman AFB, NM*, Section 1.3.2.2 Regulatory Action Levels, p 1-4, February 1995.

Ebasco/Groundwater Technology, Inc., *Draft Final Site Investigation at Waste Sites SS-06, SD-15, AOC-RR, and AOC-BBMS*, Holloman AFB, NM, October 1995.

EPA, *Guidance for Performing Preliminary Assessments Under CERCLA*, Publication 354.0-01A, September 1991.

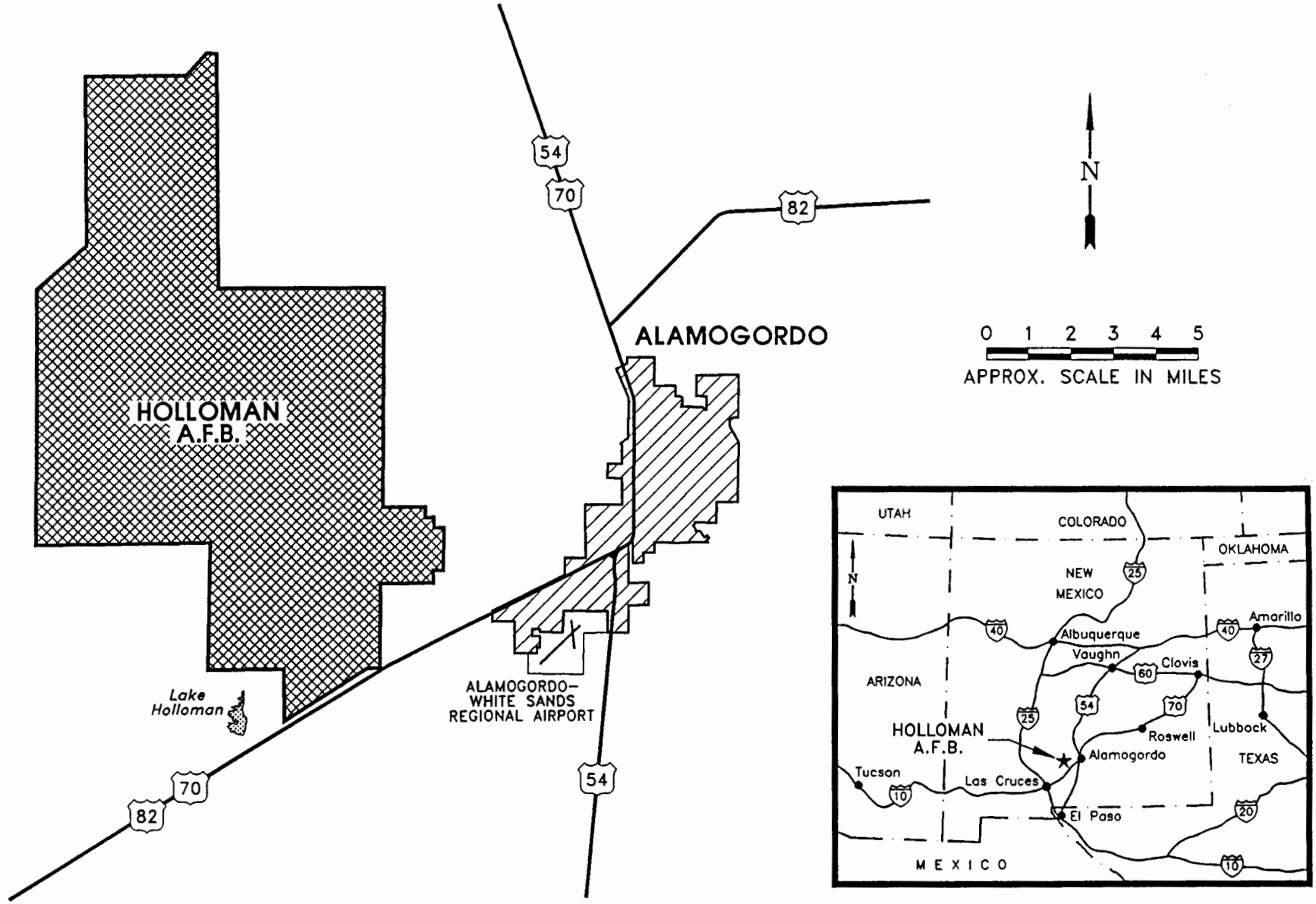
New Mexico Environmental Department; Correspondence to Base Establishing Cleanup Standards, January 25, 1993.

Radian, *Final Draft Risk Assessment Report for the Remedial Investigation, Investigation, Study and Recommendation for 29 Waste Sites, Volume I*, Section 3.0 General Risk Methods and Section 4.0 Site Specific Risk Assessment Result, pp 3-1 to 3-54 and 4-1 to 4-7, June 1992.

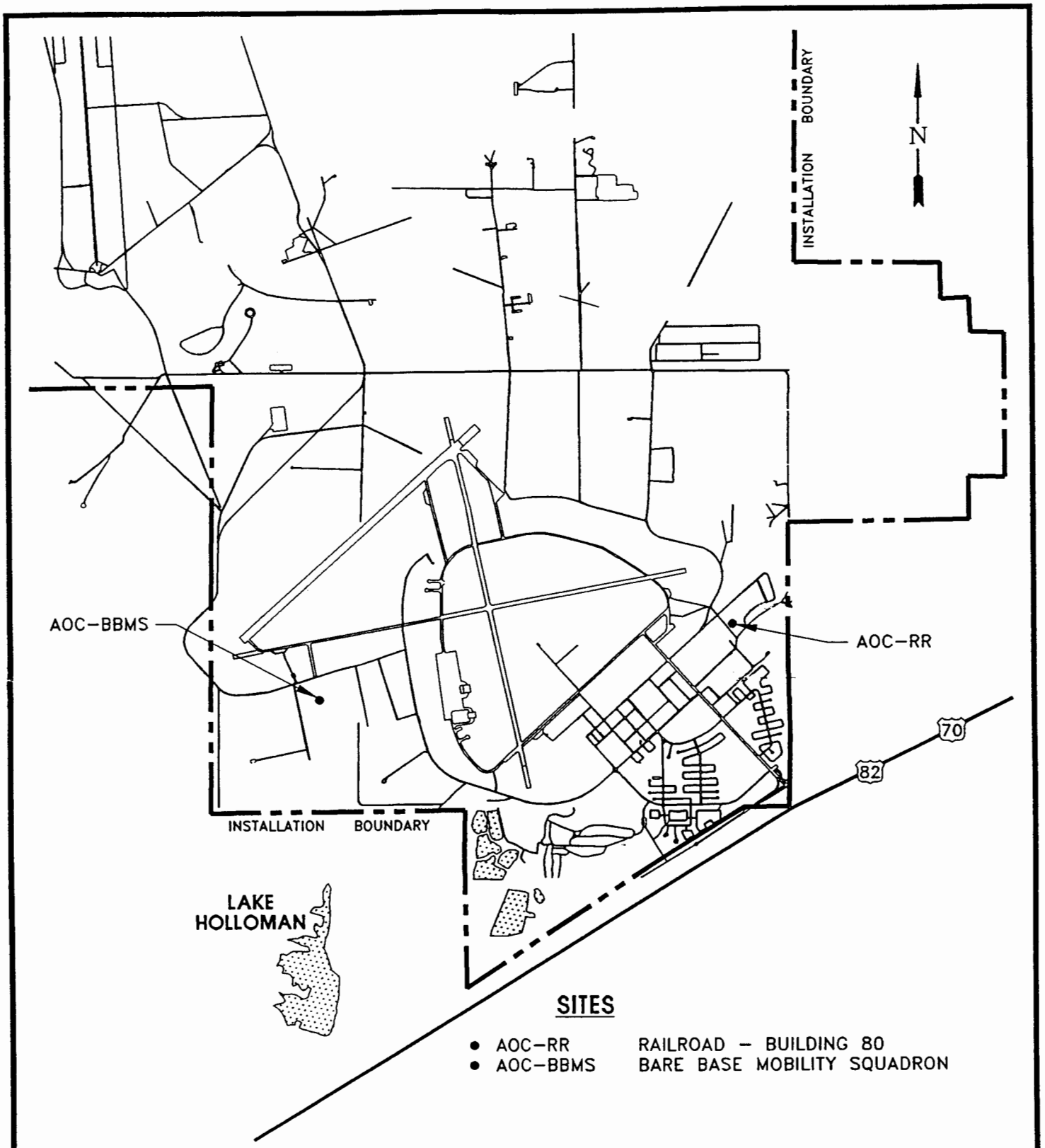
Radian, *Remedial Investigations (RI) Report Investigation, Study and Recommendation for 29 Waste Sites Holloman AFB, NM, Volume 1*, Section 2: Environmental Setting, pp 2-1 to 2-21, October 1992.

Radian, *RI/RFI Investigation Report for Site SD 47*. Section 3.0 Holloman AFB Facility Description pp 3-1 to 3-9 plus tables and figures, January 1994.

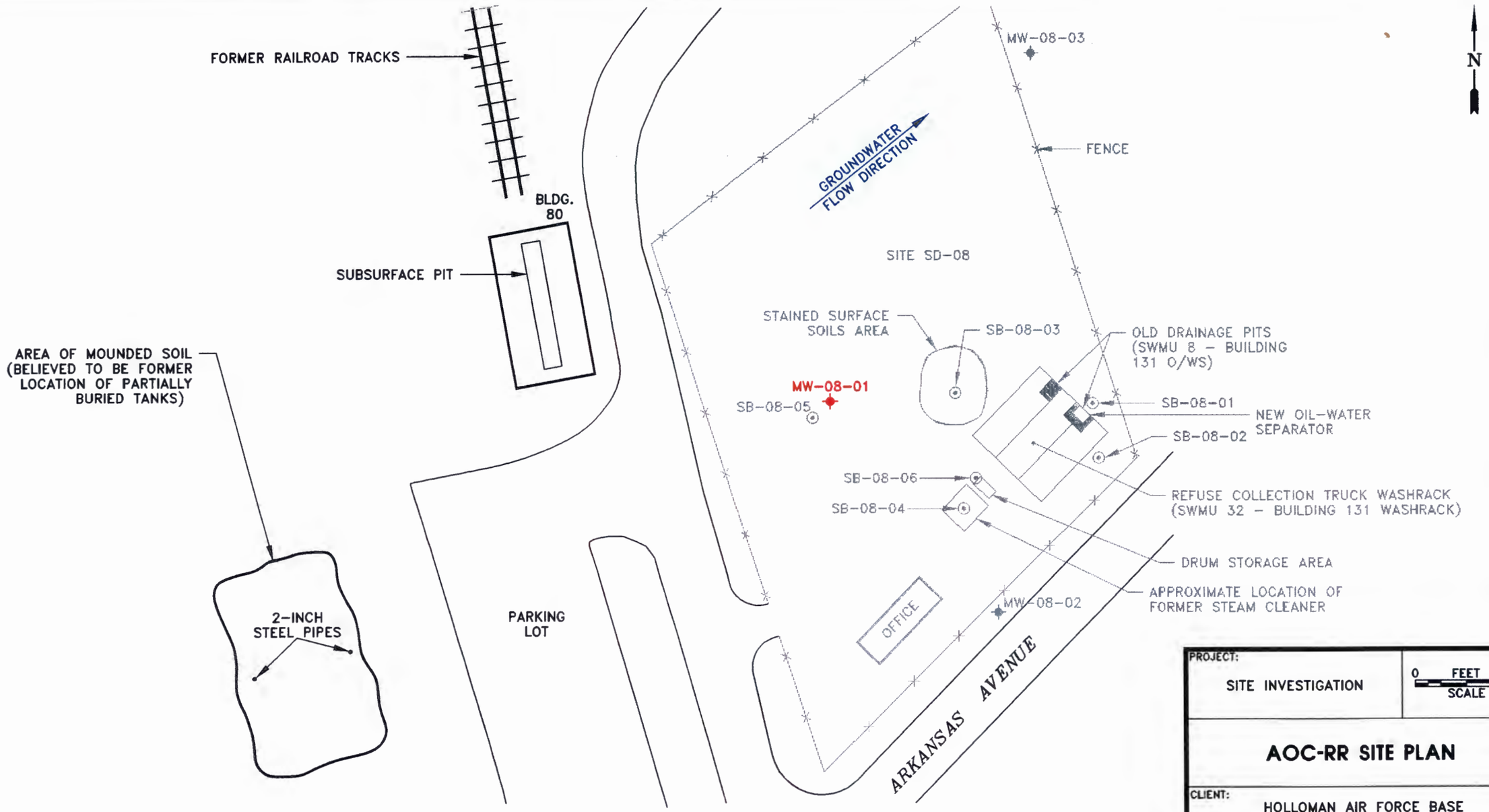
Radian, *Table 3 RFI Workplan, Field Operations Plan, Holloman AFB*, Section 3: Identification of Exposure Pathways and Receptors, pp 3-1 to 3-11, February 1994.




| | | | |
|---|---|---|---|
| PROJECT: SITE INVESTIGATION WAD NO. 3, 5 AND 9 | | CLIENT: HOLLOMAN AIR FORCE BASE | SITE LOCATION |
| FILE: 2201-SL3 (1:1) | PROJECT NO.: 83001-2201 | LOCATION: ALAMOGORDO, NEW MEXICO | PM: / PE/RG: / FIGURE: 1-1 |
| REV.: | | DES.: KG / DET.: AJK / DATE: 12/15/94 | |




| | | | | | |
|---|---|---|---|---|---|
| PROJECT: SITE INVESTIGATION | 0 FEET 5,000 SCALE | FACILITY MAP | | | |
| CLIENT: HOLLOMAN AIR FORCE BASE | FILE: 2201-SM3 (1:5000) | | PROJECT NO.: 83001-2201 | PM | PE/RG |
| | REV. | | | | |
| LOCATION: ALAMOGORDO, NEW MEXICO | DES. KG | DET. AJK | DATE: 12/15/94 | FIGURE: 1-2 | |

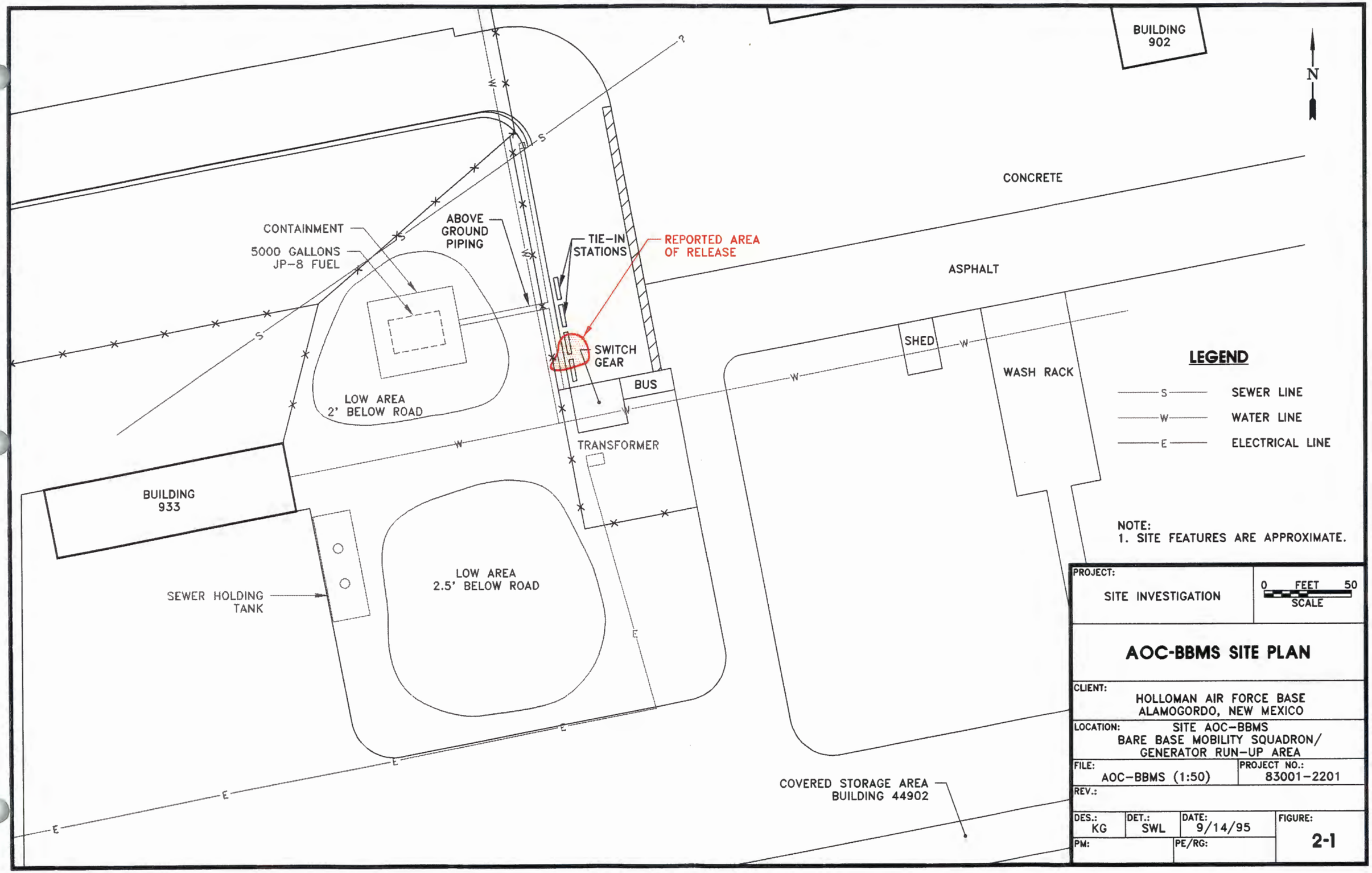



## LEGEND

- MONITORING WELL LOCATIONS
- MONITORING WELL LOCATION (RED = DETECTABLE CONCENTRATIONS OF BENZENE AND ETHYLBENZENE)
- SOIL BORING LOCATIONS

NOTE:
1. SITE FEATURES ARE APPROXIMATE.

| | |
|---|---|
| PROJECT: SITE INVESTIGATION | 0 FEET 40 SCALE |
| **AOC-RR SITE PLAN** | |
| CLIENT: HOLLOMAN AIR FORCE BASE ALAMOGORDO, NEW MEXICO | |
| LOCATION: SITE AOC-RR FORMER STORAGE TANKS AND BUILDING 80 | |
| FILE: AOC-RRSM (1:40) | PROJECT NO.: 83001-2201 |
| REV.: | |
| DES.: KG / DET.: SWL / DATE: 9/14/95 | FIGURE: 2-2 |
| PM: / PE/RG: | |


BUILDING 902
N
CONCRETE
ASPHALT
CONTAINMENT
5000 GALLONS JP-8 FUEL
ABOVE GROUND PIPING
TIE-IN STATIONS
REPORTED AREA OF RELEASE
SWITCH GEAR
BUS
TRANSFORMER
LOW AREA 2' BELOW ROAD
SHED
WASH RACK
BUILDING 933
SEWER HOLDING TANK
LOW AREA 2.5' BELOW ROAD
COVERED STORAGE AREA BUILDING 44902
LEGEND
SEWER LINE
WATER LINE
ELECTRICAL LINE
NOTE:
1. SITE FEATURES ARE APPROXIMATE.
PROJECT:
SITE INVESTIGATION
0 FEET 50
SCALE
AOC-BBMS SITE PLAN
CLIENT:
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO
LOCATION:
SITE AOC-BBMS
BARE BASE MOBILITY SQUADRON/
GENERATOR RUN-UP AREA
FILE:
AOC-BBMS (1:50)
PROJECT NO.:
83001-2201
REV.:
DES.:
KG
DET.:
SWL
DATE:
9/14/95
FIGURE:
2-1
PM:
PE/RG:

# APPENDIX A

# PRELIMINARY ASSESSMENT REFERENCES

## APPENDIX A-1

E.P.A. Guidance for Performing Preliminary Assessments under CERCLA, Latitude and Longitude Calculation Work Sheet #2, LI Using Engineers Scale (1/60), Publication 9354.0-01A, September 1991.

Reviewed.
KSG 9/4/95

LATITUDE AND LONGITUDE CALCULATION WORKSHEET #2
LI USING ENGINEER'S SCALE (1/60)

SITE NAME: AOC - BBMS CERCLIS #:

AKA: GENERATOR RUN-UP AREA SSID:

ADDRESS: HOLLOMAN AIR FORCE BASE

CITY: ALAMOGORDO STATE: NM ZIP CODE: 88330

SITE REFERENCE POINT: CENTER OF SITE

USGS QUAD MAP NAME: TOWNSHIP: ___ N/S RANGE: ___ E/W

SCALE: 1:24,000 MAP DATE: 1992 SECTION: 16 1/4 NW 1/4 SE 1/4 NE 1/4

MAP DATUM: 1927 1983 (CIRCLE ONE) MERIDIAN:

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 7.5' MAP (attach photocopy):

LONGITUDE: 106° 00' 00" LATITUDE: 32° 45' 00"

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 2.5' GRID CELL:

LONGITUDE: 106° 05' 00" LATITUDE: 32° 50' 00"

CALCULATIONS: LATITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM LATITUDE GRID LINE TO SITE REF POINT: 68

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x 0.3304 = 22.47"

C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 0 ' 37. 44"

D) ADD TO STARTING LATITUDE: 32° 50' 00.00" + 0 ' 37. 44 =

SITE LATITUDE: 32° 50' 37.44"

CALCULATIONS: LONGITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM RIGHT LONGITUDE LINE TO SITE REF POINT: 4/4

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x 0.3304 = 136.79"

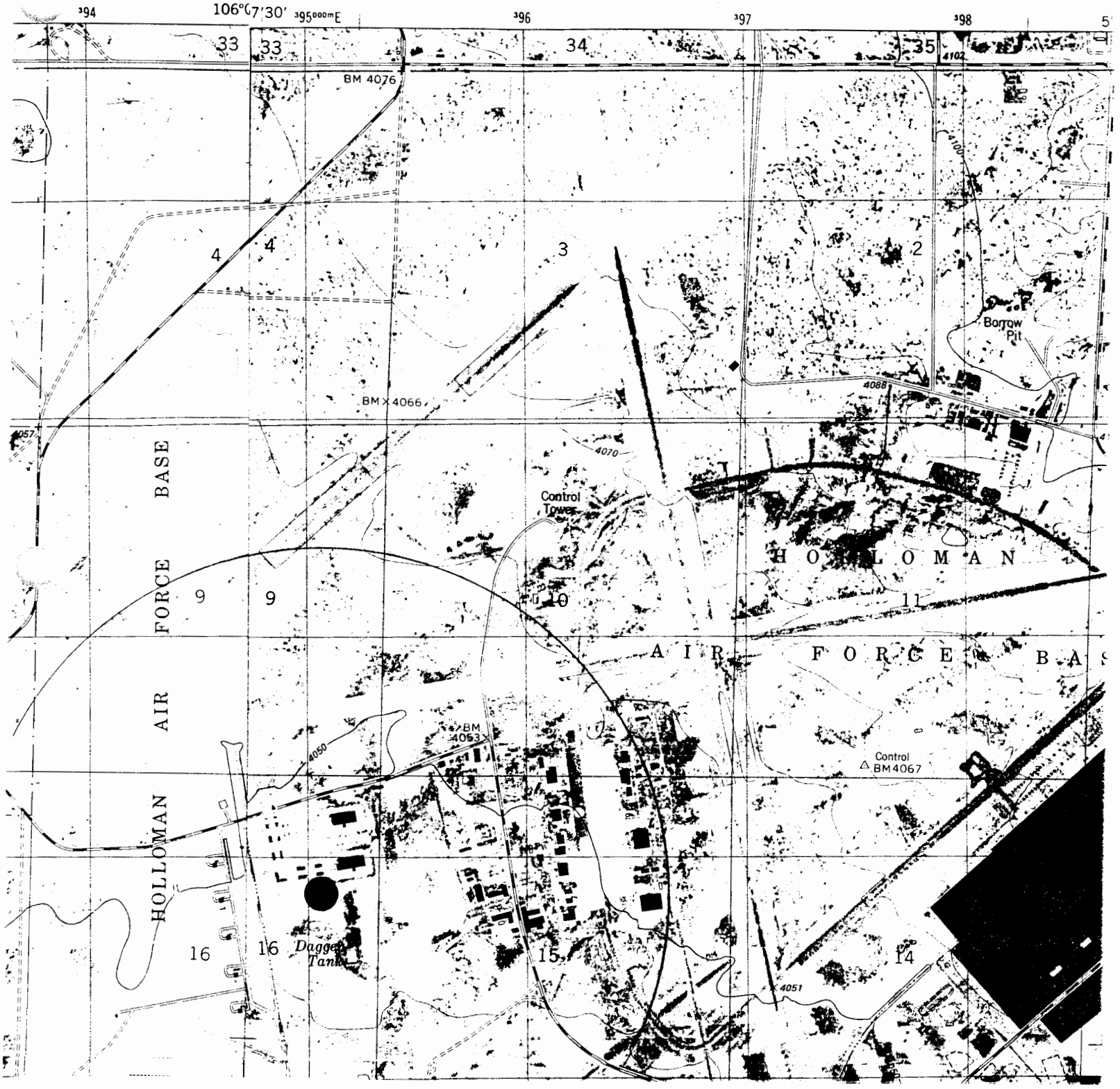
C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 2 ' 27. 99"

D) ADD TO STARTING LONGITUDE: 106° 05' 00.00" + 2 ' 27. 99 =

SITE LONGITUDE: 106° 07' 27.99"

INVESTIGATOR: Kathy Gerber DATE: 1/20/95

SITE NAME: AOC-BBMS NUMBER:




TOPOGRAPHIC MAP QUADRANGLE NAME: Holloman NM & Garton Lake NM SCALE: 1:24,000

COORDINATES OF LOWER RIGHT-HAND CORNER OF 2.5-MINUTE GRID:

LATITUDE: 32° 50' 00" LONGITUDE: 106° 05' __"

Reviewed 8/4/95 KSG

LATITUDE AND LONGITUDE CALCULATION WORKSHEET #2
LI USING ENGINEER'S SCALE (1/60)

SITE NAME: AOC - RR CERCLIS #:

AKA: Building 90 Former Locomotive Repair Shop SSID:

ADDRESS: Holloman AFB Force Base

CITY: Alamogordo STATE: NM ZIP CODE: 88330

SITE REFERENCE POINT: CENTER OF SITE

USGS QUAD MAP NAME: Holloman, NM TOWNSHIP: 17 ~~N~~/S (KSG) RANGE: 8 E/W

SCALE: 1:24,000 MAP DATE: 1982 SECTION: 12 1/4 SE 1/4 NW 1/4 SE 1/4

MAP DATUM: 1927 1983 (CIRCLE ONE) MERIDIAN:

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 7.5' MAP (attach photocopy):

LONGITUDE: 106° 00' 00" LATITUDE: 32° 45' 00"

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 2.5' GRID CELL:

LONGITUDE: 106° 2' 30" LATITUDE: 32° 50' 00"

CALCULATIONS: LATITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM LATITUDE GRID LINE TO SITE REF POINT: 163

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x 0.3304 = 53.86"

C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 0' 89.77"

D) ADD TO STARTING LATITUDE: 32° 50' 00.00" + 0' 89.77 =

SITE LATITUDE: 32° 50' 89.77"

CALCULATIONS: LONGITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM RIGHT LONGITUDE LINE TO SITE REF POINT: 337

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x 0.3304 = 111.34"

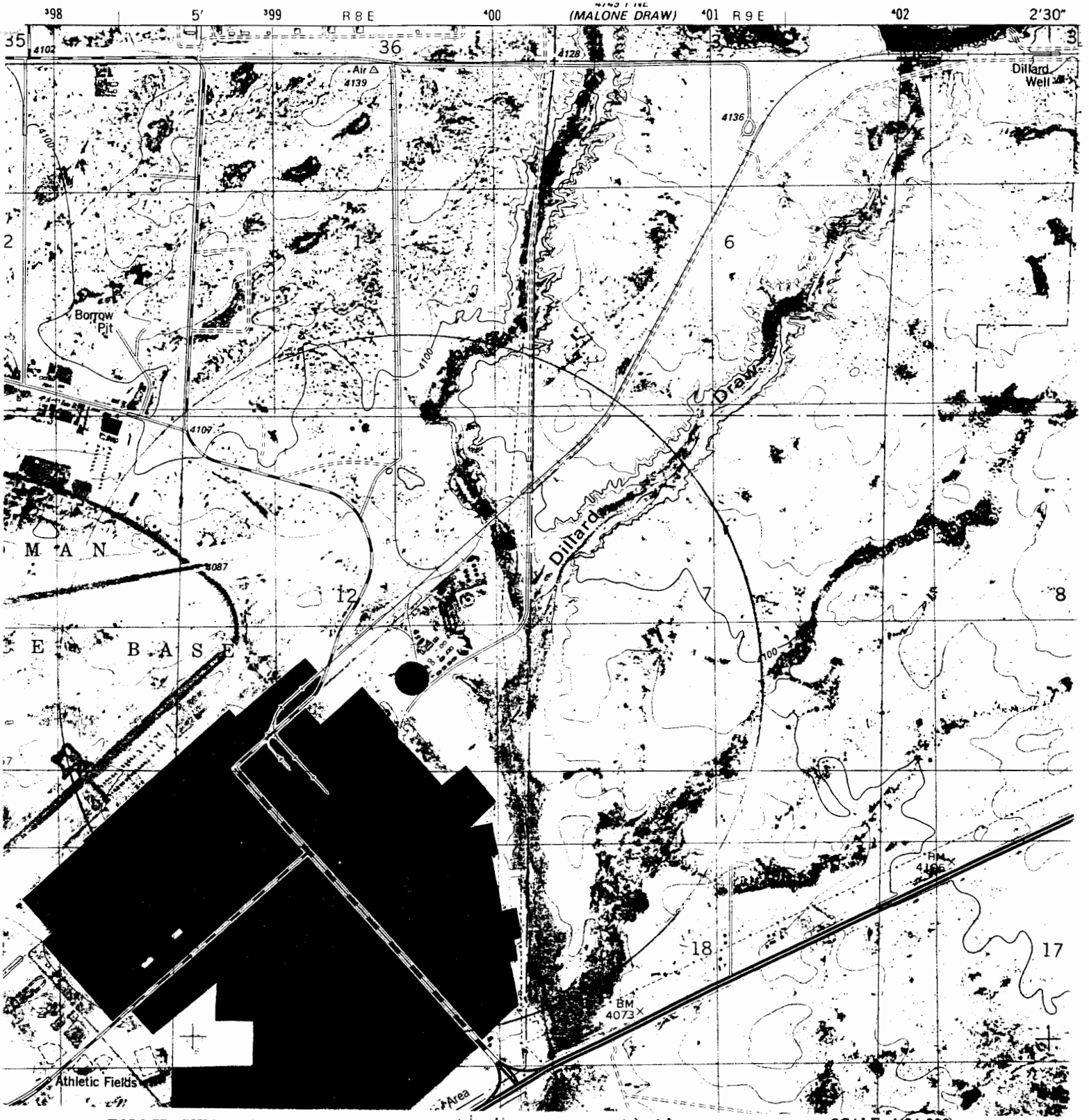
C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 1' 85.57"

D) ADD TO STARTING LONGITUDE: 106° 02' 30.00" + 1' 85.57 =

SITE LONGITUDE: 106° ~~02' 30.57"~~ (KSG) 04' 15"

INVESTIGATOR: Kathy Gerber DATE: 1/20/95

SITE NAME: AOC - RR NUMBER: _____




TOPOGRAPHIC MAP QUADRANGLE NAME: Holloman NM SCALE: 1:24,000

COORDINATES OF LOWER RIGHT-HAND CORNER OF 2.5-MINUTE GRID:

LATITUDE: 32° 50' 00" LONGITUDE: 106° 2' 30"

★U.S. GOVERNMENT PRINTING OFFICE: 1991-548-187/40505

## APPENDIX A-2

Interview with Airman Eflel Velez, Holloman AFB, BBMS, November 29, 1994.

## INTERVIEW LOG

| | | | |
|---|---|---|---|
| **Name:** | Airman EFLEL Velez<br>& Chip Schivers MMS | **Date:** | 11/29/94 |
| **Contact:** | | **Page:** | 1 of 2 |
| **Location:** | Holloman AFB | **Project Name:** | PA/SI |
| **Address:** | | **Project No.:** | 830012201 |
| **Phone No.:** | | **Engineer Name:** | Kathy Gerber |
| **Subject:** | Interviews with Base Personnel | | |
| | AOC-BBMS Generator Run-up Area | | |

### SUMMARY OF CONVERSATION:

Interview with: Airman EFLEL Velez (not present during reported releases) and Chip Schivers MMS.

Also present: Chuck Schick, Groundwater Technology, Inc.
Randy Louver, CE

Airman EFLEL Velez asked around the Bare Base area about the reported releases. Summary of what he was told:

- Spill consisted of approximately 200 to 300 gallons;
- Existing configuration of the generator run-up area consist of:

  - 5000 gallon JP-8 tank
  - surrounded by berm
  - fence surrounding the eastern portion of the tank enclosure area
  - above ground piping to 4 tie-in stations
  - switch gear area
  - 2 mobile generators were parked in the area

- Constructed before September 1991;
- Recollection of previous configuration includes:

  - instead of a tank, fuel was stored in either a blatter bag, partially buried tank or a fuel truck surrounded by a dirt berm.

- no fence was present.

Existing above ground piping consist of 1 hose to manifold to 2 hoses.

Release Description

- No date given;
- Reportedly occurred from one of the hoses;
- The cables for the tie-in boxes were being dug at the time fuel reportedly flowed in the ditches;
- Fuel is as DF 1 (diesel fuel). (*Later accounts review that the fuel was JP-4, not diesel*);
- Fuel reportedly flowed to the southwest but may have also flowed to the north to the flight line;
- The edge of asphalt has been changed since the release (moved eastward);
- Gravel noted in the low section of south of the existing aboveground storage tank has been added since the release;
- The BBMS run load test on the generators one-hour every 30 days. CE should have plan for the area. CE property - responsible for taking care of Vaults Bldg 960, Bldg 933, and aboveground storage tank.

## APPENDIX A-3

Interview with Ssgt. Clair Breckenridge (staff) Holloman AFB,
Formerly Stationed at BBMS, November 29, 1994.

## INTERVIEW LOG

| | | | |
|---|---|---|---|
| **Name:** | Msgt. Clair Breckenridge | **Date:** | 11/29/94 |
| **Contact:** | | **Page:** | 1 of 3 |
| **Location:** | Holloman AFB - AOC-BBMS | **Project Name:** | PA/SI |
| **Address:** | | **Project No.:** | 830012201 |
| **Phone No.:** | | **Engineer Name:** | Kathy Gerber |
| **Subject:** | Interviews with Base personnel | | |
| | AOC-BBMS | | |

## SUMMARY OF CONVERSATION:

AOC-BBMS/Generator Run-up Area:

Interview with: Ssgt Clair Brekenridge (staff).

Also present: Chuck Schick, Groundwater Technology, Inc.
Randy Louver, CE
Cpt. Bobby Cononnon

- Clair was stationed at BBMS from before 1989 but after 1984 to 1992;
- Clair was not stationed at BBMS when the spill occurred;
- Spill occurred in 1984;
- Clair discovered problem approximately 1989-1991 (new construction approximately 1990);
- Previously fuel was stored in a 5000 gallon tanker truck situated in the same location as the current tank;
- Clair discovered problem approximately 1989-1991 when he was trying to clean up a small oil spill from one of the generators (approximately 5-gallon bucket had turned over). He was digging with a post-hole digger near the second tie-in station he noted the following:

  - approximately 18 inches to 2 feet — old base course;
  - 2-6 feet — contaminated soil;
  - 6 feet — PSH JP-4.

- He also recalled an account when they were digging the water line for Bldg 933 (Logistics Building) approximately 1989-1991 a ditch witch encountered floating fuel. The water line located along lower area south of the location of the tank.

Clair's Response to Discovery of PSH

- Called CE Environmental (SWAM), Ron Scheider, and Roger Wilkens (gone).
- Clair conducted interview at the squadron.
- Notes were transcribed from 3 different people.
- Records were turned over to Rodger Wilkson (he expects that Warren Neff should have a copy of this document).

Clair specifically recalls that the spill was JP-4.

Approximately 2 years ago, diesel fuel was used (DF1 and DF2) because JP-4 did not lubricate the engine well enough.

- Spill occurred approximately 10 years ago
- Spill occurred at the T fitting between hoses near the edge of asphalt. The asphalt has been removed along the western edge after the release.

Two Versions:

1. Tank was low, almost empty and 300 gallons was released.
2. Tank was full and approximately 5,000 gallons were released.

Portions of the released fuel were recovered from the trenches for the 4 tie-in stations.

Recovered approximately 300 gallons.

Pre-1975 restricted area - squadron - use unknown.

After 1975 transferred to Bare Base Mobility Squadron.

Underground lines in area

- East-west water line from Bldg 933 across low area
- Electrical conduit not accurately located (shallower) on plans
- Bare ground cable - right on top of the electrical conduit.
- Recalls that there are static grounds all over the pavement

Area used to test big generators
Put power - back feed into line?
BBMS - moved to area from Shaw AFB
BBMS - used high voltage lighting in the area (2000 volt line), these lines have been cut down but there are still may be wires in the parking lot.

Load Banks - use to be located in the area (gone for a long time) used to take power hold it and distribute to smaller units.

No info on PCB coolants.

CE owns water and electrical in the area.

Sergeant Pace CE (has best drawings of Bldgs 901) (new construction last 3-4 years).

Bldgs 901 & 902 giant vaults with highly classified chopper operations.
?Fuel pumps were going out from JP-4.

Retired Names:

AJ Mastrobono at BBMS - retired, moved to Louisiana or Mississippi. Now in Ohio.

Senior Mass Sergeant Symansky - should have access to AJ's location (not available 11/30),

- eye witness to release,
- valve was still dripping when he got there,
- BBMS did not conduct a "? Fire Station wash down?"

- BBMS area use to be a swamp on the area of hanger 903.
- Gravel around above-ground tank was installed after the release.
- Groundwater approximately 2 to 8 feet.

## APPENDIX A-4

Base Drawings; Holloman AFB, CM Paving and Utilities,
Layout Plan (Building 902 and Surrounding Area),
Sheet 3 of 3, February 1958.

**TO VIEW THE MAP AND/OR MAPS WITH THIS DOCUMENT, PLEASE CALL THE HAZARDOUS WASTE BUREAU AT 505-476-6000 TO MAKE AN APPOINTMENT**

## APPENDIX A-5

Interviews with Sgt. Lewis and Sgt. Pace, Holloman AFB, BBMS, November 30, 1994.

## INTERVIEW LOG

| | | | |
|---|---|---|---|
| **Name:** | Sgt Lewis & Sgt Pace | **Date:** | 11/30/94 |
| **Contact:** | | **Page:** | 1 of 1 |
| **Location:** | Holloman AFB | **Project Name:** | |
| **Address:** | | **Project No.:** | 830012201.09.030 |
| **Phone No.:** | | **Engineer Name:** | Chuck Schick |
| **Subject:** | Interviews with Base personnel | | |
| **Re:** | Generator Run-up Area and Fuel Spill | | |

### SUMMARY OF CONVERSATION:

Interview with: Sgt. Lewis and Sgt. Pace

1. Spill occurred on a weekend in February-March 1987.

2. The cause was a 1-inch line valve left open at the second switch gear box.

3. 300 gallons were released and 250 gallons were mopped up.

4. Drawings of the area are:

   IE3490 Sheet C3 of 4 HOL 90-0018
   IE2035 Sheet 3 of 6 HOL 28413-6

5. Sgt. Breckenridge said the spill happened in 1984 and these Sgt's say 1987. Two spills? They did not know about the 1984 release.

6. 1979 Bare Base took over facility, AKA MOB, now called MM.

7. Suggested we talk with Msgt Smith in #902.

## APPENDIX A-6

Interview with Msgt. Hoyt Smith, Holloman AFB, BBMS-Building 902, November 30, 1994.

## INTERVIEW LOG

| | | | |
|---|---|---|---|
| **Name:** | Msg Hoyt Smith | **Date:** | 11/30/94 |
| **Contact:** | | **Page:** | 1 of 1 |
| **Location:** | Holloman AFB | **Project Name:** | PA/SI |
| **Address:** | | **Project No.:** | 830012201.09.030 |
| **Phone No.:** | | **Engineer Name:** | Chuck Schick |
| **Subject:** | Interviews with Base Personnel | | |
| | AOC-BBMS | | |

## SUMMARY OF CONVERSATION:

Interview with: Msgt Hoyt Smith - Building 902

1. Smith has been at Bare Base since 1979.

2. The generator run-up area has always been a mess. Foul petroleum odors, stained ground. Always minor spillage.

3. French drains were installed in the corrosion control in Bldg 933 area. The area smelled bad and was a swamp. Drains help solve problem.

4. Spill did occur at the generator area in 1987 and they did dig up some of the area.

5. When asked about the 1984 vs 1987 spill, Sgt. Hoyt Smith admitted that the spill could have occurred in either 1984 or 1987.

## APPENDIX A-7

Interview with Tsgt. Ken Davis, Holloman AFB, BBMS-Building 933, November 30, 1994.

## INTERVIEW LOG

| | | | |
|---|---|---|---|
| **Name:** | Tsgt Ken Davis | **Date:** | 11/30/94 |
| **Contact:** | | **Page:** | 1 of 1 |
| **Location:** | Holloman AFB | **Project Name:** | PA/SI |
| **Address:** | | **Project No.:** | 830012201.09.030 |
| **Phone No.:** | | **Engineer Name:** | Chuck Schick |
| **Subject:** | Interviews with Base Personnel | | |
| | AOC-BBMS | | |

### SUMMARY OF CONVERSATION:

Interview with: Tsgt Ken Davis at Bldg 933.

1. Stopped SGT Jones in 1991. He was digging near the north tie-in box and did not have a permit.
2. Davis thought they were digging for soil samples. Did not know who wanted samples.
3. Found very strong/saturated soil. Fuel saturated hole was 4 feet deep.

Telephone Interview with SGT Jones on 11/30/94

1. Was digging in 1991 for someone else. Did not know who. Was chosen because he could operate a backhoe.
2. He was digging the hole to see the source of petroleum odor.
3. Thought that soil samples were collected.

Clair Brekenridge (505) 475-7831/7837

## APPENDIX A-8

Base Drawings: Holloman AFB CPC Building - Utility Site Plan-Construction Cargo Processing Center, Sheet C 3 of 4, November 1991.

## APPENDIX A-9

Memo by Randy Louvier, Holloman AFB, 49 CES/CEV Environmental Chemist, Subject: New Area of Concern Near Site SD-08, Refuse Collection Truck Washrack, No Date.

i7-B

**NEW AREA OF CONCERN NEAR SITE SD-08, REFUSE COLLECTION TRUCK WASHRACK**

Approximately 100 feet west of Site SD-08, the Refuse Collection Truck Washrack, is located a one-half acre that formerly contained three underground storage tanks of unknown capacity used for storing Golden Bear oil. The oil was used in the 1970's and early 1980's to spray on surrounding roads to minimize fugitive dust. The tanks were removed in the mid-1980's. It is not known whether the tanks were leaking at the time of removal. No remediation of the soil was performed. Mounds of soil are still present on the site from where the tanks were apparently excavated.

Building 80, the present Base Recycling Center, is also located at the eastern corner of the site. This facility was used prior to 1984 as the Base Railroad Maintenance Facility. In the center of the building was located a repair pit, 50 ft long x 6 feet wide x 4 feet deep used for maintenance and repairs on railroad locomotive engines. In the center of the pit was located a floor drain containing a sediment trap. The drain leads down into the surrounding soil. Oil and solvents were likely disposed of down the floor drain. Maintenance activities ceased in 1984 when the locomotive engines were transferred to George AFB because of a decreasing need for hauling freight by railroad to Holloman AFB. The repair pit was permanently filled in with concrete sometime after 1985.

During the 1991 RI conducted by Radian Corporation at Site SD-08, monitoring well MW-08-01, located 100 feet downgradient from the former UST area, was found to contain high levels of benzene and ethyl benzene. No potential source for the volatile hydrocarbons was found at Site SD-08. Furthermore, since MW-08-01 is located upgradient of most of the operations conducted at Site SD-08, and immediately downgradient of the former UST area, the source of the volatile hydrocarbons in MW - 08-01 appears to be either/or the former underground storage tanks or the former repair pit in Building 80.

The former UST area and the Building 80 repair pit should be identified as a new Area of Concern and be addressed in a separate investigation.

Information Sources:

- Radian Corporation Oct 1992 Remedial Investigation Report: Investigation, Study, and Recommendation for 29 Waste Sites, Vol. I
  1 Aug 94 Interview: Diane Moya, Holloman AFB Real property Office
- 2 Aug 94 Interview: Pete Carbajal, Manager, Holloman AFB Liquid Fuels
- 2 Aug 94 Site Visit by Randy Louvier, Environmental Chemist & Tim O'Donnell, Environmental Engineer, 49 CES/CEVR, Holloman AFB
- 1958 As-Built Drawings of Building 80

Randy Louvier

RANDY LOUVIER
Environmental Chemist

**APPENDIX A-10**

DERA Funding Adjustment Request.
Signed by Robert M. Moore, Chief Environmental Restoration Branch.
Subject: PA/SI/RI AOC-RR, Dated 12 August 1994, Signed 20 August 1994.

**DERA FUNDING ADJUSTMENT REQUEST**

MAJCOM: ACC FY94 DATE: 12 Aug 94

(FUNDING IN $000)

| ACTION | CURRENT CEVR VALIDATION | REQUESTED CEVR VALIDATION | REQUESTED CHANGE | REMARKS |
|---|---|---|---|---|
| Holloman AFB NM | | | | |
| PA/SI/RI AOC-RR KWRD947016 | $91.2K | $283.3K | +192.1K | CI SI |

JUSTIFICATION: Approximately 100 feet west of Site SD-08 (the Refuse Collection Truck Washrack) is located a one-half acre area that formerly continued three underground storage tanks of unknown capacity used for storing Golden Bear oil. The oil was used in the 1970s and early 1980s to spray on surrounding roads to minimize fugitive dust. The tanks were removed in the mid-1980s. It is not known whether the tanks were leaking at the time of removal. No soil testing or soil remediation was performed. Mounds of soil are still present on the site from where the tanks were apparently excavated.

Building 80, the present base recycling center, is also located at the eastern corner of the site. This facility was used prior to 1984 as the base railroad maintenance facility. In the center of the building was located a repair pit, 50 ft long X 6 feet wide X 4 feet deep used for maintenance and repairs on railroad locomotive engines. In the center of the pit was located a floor drain containing a sediment trap. The drain empties down into the surrounding soil. Oil and solvents were likely disposed of down the floor drain. Maintenance activities ceased in 1984 when the locomotive engines were transferred to George AFB because of a decreasing need for hauling freight by railroad to Holloman AFB. The repair pit was permanently filled in with concrete sometime after 1985.

During the 1991 RI conducted by Radian Corporation at Site SD-08, monitoring well MW-08-01, located 100 feet downgradient from the former UST area, was found to contain high levels of benzene and ethyl benzene. No potential source for the volatile hydrocarbons was found at Site SD-08. Furthermore, since MW-08-01 is located upgradient of most of the operations conducted at Site SD-08, and immediately downgradient of the former UST area, the source of the volatile hydrocarbons in MW-08-01 appears to be either/or the former underground storage tanks or the former repair pit in Building 80. The former underground storage tank area and the building 80 repair pit should be identified as new Area of Concern (AOC) RR.

INFORMATION SOURCES:

1. Radian Corporation Oct 1992 Remedial Investigation Report.
2. 1 Aug 94 interview with Diane Moya, Holloman AFB Real Property.
3. 2 Aug 94 interview with Pete Carbajal, Holloman AFB Liquid Fuels.
4. 1 Aug 94 Site Visit by Randy Louvier (Environmental Chemist) and Tim O'Donnell (Environmental Engineer), 49 CES/CEV.
5. 1958 As Built Drawings of Building 80.

IMPACT: Failure to approve this FLA will result in continued unknown contamination and migration of benzene and other POL hydrocarbons possibly disposed at this site. An unknown threat to human health and the environment will be present at this site until the site is adequately characterized.

---

( ✓ ) Validated
( ) Disapproved
( ) Other

I have reviewed this requirement, certifying and validating that it meets the eligibility criteria for the use of DERA funds. This FLA meets the requirements for the 12 May 94 ACC/CEVR-R memo concerning validation of mods under Rule #6.

Robert M. Moore

ROBERT M. MOORE
Chief, Environmental Restoration Branch

R. M. MOORE

AUG 2 2 1994

Date

CEVR-W MAB 9/16/94

CEVR-R LCS 8/16

Pl. 11
MILCON Pl. 14
Val. 91.2K

## APPENDIX A-11

Interview with Randy Louvier, 49 CES/CEV, Holloman AFB Environmental Chemist, November 30, 1994.

## INTERVIEW LOG

| | | | |
|---|---|---|---|
| **Name:** | Randy Louvier | **Date:** | 11/30/94 |
| **Contact:** | | **Page:** | 1 of 4 |
| **Location:** | Holloman AFB - AOC-BBMS | **Project Name:** | |
| **Address:** | | **Project No.:** | 830012201.09.030 |
| **Phone No.:** | | **Engineer Name:** | Kathy Gerber |
| **Subject:** | Interviews with Base Personnel | | |
| **Re:** | All 4 Sites | | |

### SUMMARY OF CONVERSATION:

Interview with: Randy Louview (CE)

Discussed all 4 Sites:

Visit SD-15

- SWMU1 - oil water separator is connected to the washrack.
- Not uncommon (esp. spring) for the oil/water separator to backup and overflow. Ponding would occur across access road and in gravel area around the separator.
- Randy has observed a sheen on the ponded water.
- Washrack still in use - Randy does not know how often and any kind of vehicle would wash down at the washrack.
- Randy does not know when it was installed, he was going to check in IRP sites History Booklet.

Visit AOC-RR (recalled from research)

- Building 80 use to be used as a locomotive repair shop (approximately 1950's, 1960's) Now it is the recycling center.
- The floor of the shop use to contain a repair pit (Randy had reviewed previous maps).
- Shop used to conduct routine maintenance (i.e. drain oil).

- Randy has reviewed As-builts that showed sump drained to the ground.
- The former pit is now filled to the surface and covered with concrete.
- West of Bldg 80 is an area of disturbed dirt (slight mounding and tumbleweeds) reported location of the tanks containing "golden bear oil".
- Randy recalls that there were 3 tanks.
- Randy was not sure what "golden bear oil" was, just that it was used as a dust suppressant.

** Randy thinks the tanks are still in the ground.

- Randy does not know what kind of tanks were in the area.
- Tim Odonel (CE office) Personnel at the recycling center rotate every 30 days.
- Possible Leads:
  Sonny Parks (old timer)
  Pete Carajal (nice fellow, knowledgeable about fuel stuff)
- To east is Site 08 - Refuge truck washrack.
- Main contaminant at Site 08 - Pesticides. Pesticides used to be sprayed into the garbage trucks to kill flies. The garbage trucks use to be washed off at the washrack.
- Well MW-08-01 has detectable benzene dissolved in groundwater, there was no known source for benzene at the site, so we are looking upgradient (west) at both Bldg 80 and the former tanks.
- Building 80:
  - roof use to open up
  - new construction was conducted approximately 4/94
- Recycling Center - is very busy:
  - Base personnel concerned about us digging up the building.

Side Interview: Sonny Parks (old timer) 33 years

- He did not know when use of Bldg 80 to repair locomotive was disbanded.
- Recommended that I follow up with real estate (Dianne Mayaa).
- Recalls underground storage tanks, not above ground storage tanks.
- Recalls used to empty tanker trucks.
- Does not recall if the tanks were removed or not.

Side Interview: Real Property (CE Bldg 55 RM 175) Maria T. Belandres

- Searched Real Property records for history of use in Bldg 80.
- 1959 original building installed: Shol and SHCTR, LOCL.
- 14 September 1984 authorized change in use: Whse, Troop Subsis.
- 22 December 1987 Authorized change in use.
- 2 November 1992 Authorized change in use.
- Project #93-0129 Recycling Center.
- New 6 foot concrete slab over engineered fill (to fill old pit).
- Construction 10/7/93 to 11/29/93.

Due south of Bldg 80 (>500 feet) is former LF-01 site (original Base Landfill) - now has building over the landfill - they are having problems with settling.

Site SS-06

- South of southern fence line of POC storage area.
- Per Randy (not present) spill occurred when bull dozer ruptured the main fuel lines.
- There was no physical evidence to the POL area (staining) of the spill.
- Approximately 12 years ago.
- Main fuel line comes from Standard Transpipe Company - serves entire Base.
- Spill occurred approximately 50 feet or so south of fence line, between the buried pipeline markers.

* Contact - Jim Wilson (505) 437-2210, Standard Transpipe Company, Alamogordo, NM (retired)
- Sam (?) Herrerra, (same)

Went to POL yard to ask is anyone knew about the spill (Chief Cosby)

- No one knew anything.

Another contact on Base:

- Mitchel Carajal

Went to Fuels Bldg (880 Ocotillo Ave)

- Liquid fuels maintenance - gas station.

- Mitchel Carajal was not around.

Site SD-47 - Located along western fence line of POL storage area

- Most of the impacted soils have been excavated.
- Small area inside fence still needs to be treated - Bioventing Project.

## APPENDIX A-12

Interview with Warren Neff, 49 CES/CEV, Holloman AFB Environmental Engineer, November 29 and 30, 1994.

## INTERVIEW LOG

| | | | |
|---|---|---|---|
| **Name:** | Warren Neff 49CES/CEV | **Date:** | 11/29/94 and 11/30/94 |
| **Contact:** | | **Page:** | 1 of 4 |
| **Location:** | Holloman AFB | **Project Name:** | |
| **Address:** | | **Project No.:** | 830012201.09.030 |
| **Phone No.:** | | **Engineer Name:** | Kathy Gerber |
| **Subject:** | Interviews with Base Personnel | | |
| | All 4 Sites | | |

### SUMMARY OF CONVERSATION:

Interview with: Warren Neff - 49 CES/CEV

Also present: Chuck Schick
Randy Louvier (CE)

Discussed Base wide information - arranged by area.

GENERAL BASE INFORMATION

- GSI can obtain copies of what information he has.
- Will provide 1 to 400 foot Base maps for the Base in our areas of interest.
- Warren will support GSI with interviews.
- General groundwater gradient for the Base to the southwest.
- Surface water - north area, Lost River Arroyo, arroyo contains pup fish.
- Surface water is not present during winter months except arroyo near POL (SS-06).
- Groundwater on the Base is not palatable.
- Bases well fields are approximately 20 miles away.
- Drinking water for the Base is piped in.

- Nearest downgradient well (agriculture well) is approximately 4 miles southeast of the Base (located in Bases Risk Assessment Report).
- Gradient ranges 50 feet/year to 2-10 feet/year.
- Obtained copy of Section 3 of Table 3 RFI Workplan (ID of exposure pathways and receptors). Discussed general Bases Receptor populations and potential exposure routes. Accounts for potential future off-site development around the Base.
- Wastewater is treated through the Bases lagoon system.
- During SI soil to be kept:

  A) Drums >1000 ppm or areas of asphalt; or
  B) Spread around hole <1000 ppm.
- Bases landfill is closed, except for construction debris.
- Bases landfill can accept 2000 to 3000 ppm of petroleum contaminated soil (PCS).
- PCS > these levels are currently being transported to Dual County Landfill

Discussed what screening levels GSI should use to distinguish between Phase I and Phase II SI's.

- >1000 ppm TPH
- EPA Region III screening levels for industrial (other categories include open space and residential.
- Contact Sandy Frye USACE Industrial Hygienist Toxicologist for reference (402) 221-7684.
- Goal of USACE program (SI, RI, etc.) is to reduce delays between discovering an environmental problem in Phase I and implementing Phase II.
- Lagoon RFI report may have groundwater - well information and surface water information we are looking for.

<u>AOC-BBMS</u>

- Set us up to visit the BBMS during the afternoon (11/29/94) with Airman EFLEL Velez (Sergeant Valde) environmental.
- Warren Neff will search for Clair Breckenridges summary that was submitted to Rodger Wilkson (Warren's predecessor).

Site SS-06

- Groundwater in this area to northeast instead of the southwest like most of the facility.
- This site is just south of POL store tank area.
- Arroyo near POL storage tank does have water in it most of the year. Gets a gypsum cover on it and fools people to drive through it.

Site SD-15 Located within 50 feet of SWMU 1

- Radian is currently conducting soil sampling associated with Table 3 RFI work
- Warren recalls several soil samples were >1000 ppm TPH.
- SWMU 1 oil/water separator within 50 feet of washrack.
- Warrens copy of preliminary field data (attached)

19 samples <100 ppm TPH
6 samples 100 - 1000 ppm TPH
8 >1000 ppm TPH

| | | |
|---|---|---|
| Location 07 | 1 ft | 2510 ppm |
| | 6-8 feet | 8 ppm |

DTW 3 feet - 5 feet

- Radians current plan at SWMU1

  - drill 4 borings 1 depth
  - drill 7 borings another depth
  - sample groundwater
  - analyses 8240; Metals; Modified 8015

Per Warren:

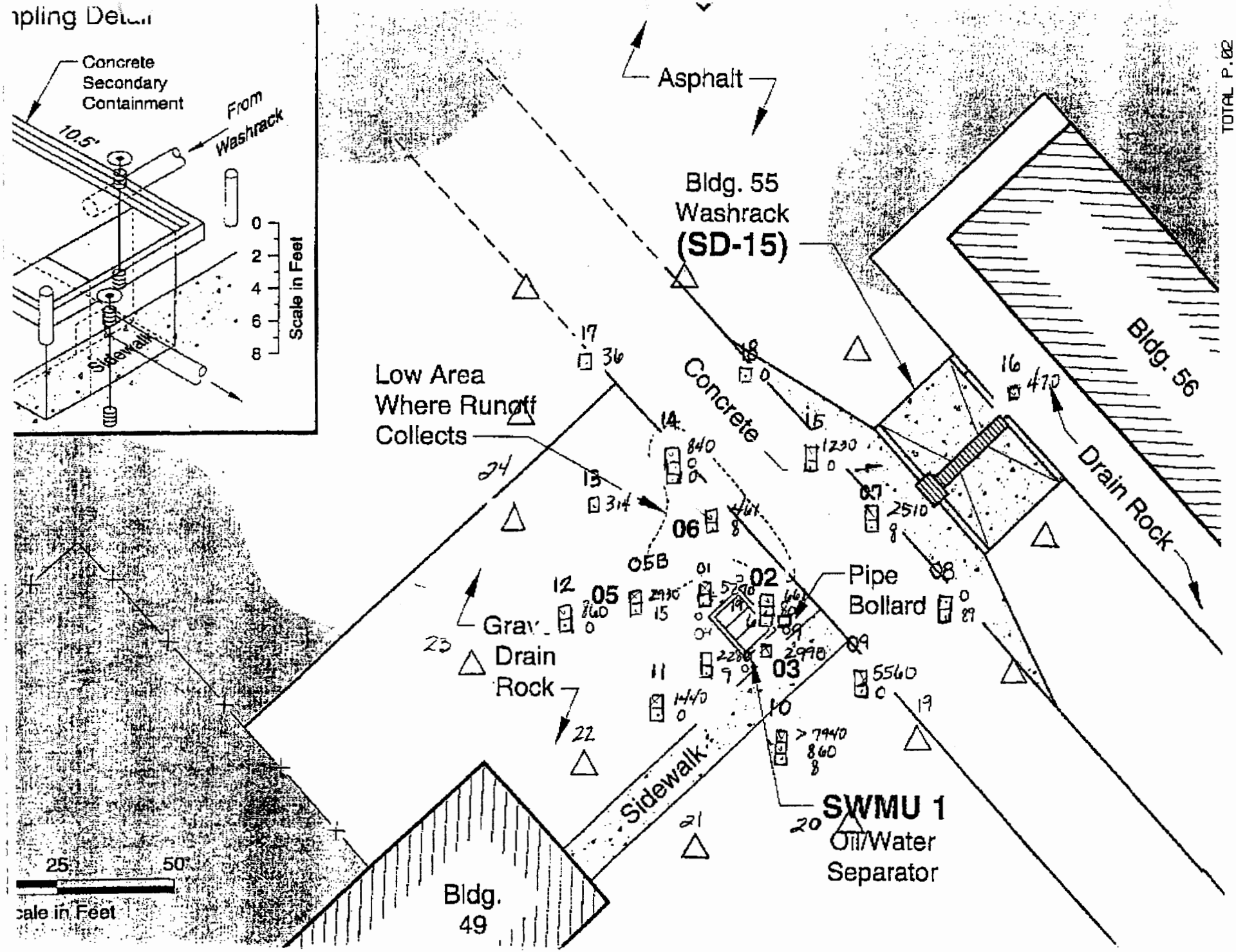
- Radian is to step out to the west of the pavement between SWMU 1 and the washrack but not to the east.
- GTI is to conduct their SI activities to the east of the pavement between SWMU 1 and the washrack.

Radian contacts Chris Larson 479-2617 or Witney Delaney

- Radian to send soil and groundwater results to Groundwater Technology as they become available.

Follow-up Contacts:

1. Peter Carajal - 475-7588
2. Jim Wilson or Sam Leolond
3. Rodger Wilson - (405) 481-5841
   Former environmental flight chief
   IRP, HQ AETC/CEVR
   260 Fst West
   Randolf AFB, TX 78150-4321
4. Terry Boone (from Rodger)
   Environmental Flight Chief (1980's)


Concrete Secondary Containment
From Washrack
10.5'
Sidewalk
0
2
4
6
8
Scale in Feet
Asphalt
Bldg. 55 Washrack (SD-15)
Bldg. 56
Drain Rock
Low Area Where Runoff Collects
Concrete
Pipe Bollard
Gravel Drain Rock
Sidewalk
SWMU 1 Oil/Water Separator
Bldg. 49
25
50
Scale in Feet
TOTAL P.02

## APPENDIX A-13

Interview with Mr. Moffit, Holloman AFB, Deputy Chief Engineer, November 30, 1994.

## INTERVIEW LOG

| | | | |
|---|---|---|---|
| **Name:** | DCE Mr. Moffit | **Date:** | 11/30/94 |
| **Contact:** | | **Page:** | 1 of 1 |
| **Location:** | Holloman AFB | **Project Name:** | |
| **Address:** | | **Project No.:** | 830012201.09.030 |
| **Phone No.:** | | **Engineer Name:** | Kathy Gerber |
| **Subject:** | Interviews with Base personnel | | |
| | AOC-RR | | |

## SUMMARY OF CONVERSATION:

Interview with: Deputy Chief Engineer Mr. Moffit

Also present: Warren Neff (CE)

Site AOC-RR: Terry Boone (former Chief Engineer)

- Looked at aerial photograph (not dated, approximately 1980's)
- Searched for tanks in area, but there was a gray patch of dirt in the area of the mounded dirt.
- From the photo (approximately 1 ft = 2000 ft) looks like you can see 2 linear structures oriented north/south.
- "golden bear" was a solid material, mixed with water to produce a clear coating on the dirt.
  - Created a hard surface that kept the dust down, once the dirt was stepped on the surface was destroyed.
  - Does not remember the dust suppressant being a petroleum-based product.

Warren - Radian has conducted an areal photograph study of the Base from 1920 to present. Difficult to find data from 1950's & 1960's (cold war).

## APPENDIX A-14

Interview with Mr. King, Holloman AFB, Deputy Chief Operations Flight, November 30, 1994.

## INTERVIEW LOG

| | | | |
|---|---|---|---|
| **Name:** | DCOF, King | **Date:** | 11/30/94 |
| **Contact:** | | **Page:** | 1 of 1 |
| **Location:** | Holloman AFB | **Project Name:** | |
| **Address:** | | **Project No.:** | 830012201.09.030 |
| **Phone No.:** | | **Engineer Name:** | Kathy Gerber |
| **Subject:** | Interviews with Base Personnel | | |
| **Re:** | AOC-RR | | |

### SUMMARY OF CONVERSATION:

Interview with: Deputy Chief Operations Flight, King

Also present: Warren Neff (CE)

Site AOC-RR

King was refuse contractor near the old landfill Site LF-01

- He does not recall when the tanks were removed
- Described the dust suppressant as

  - water emulsified;
  - dried as a hard crust on the soil;
  - once disturbed or stepped on the dust protection was broken; and
  - golden bear - tint of amber consistency of maple syrup.

- Recalls tanks were 3/4 buried, recalls that the tanks were at Site 08.

Jim Stanfield would have been superintendent during the removal of the tanks.

? What was the bottom of dirt vs concrete ?

Followup Contact: Sergeant Font TDY

## APPENDIX A-15

Witco Material Safety Data Sheet for Coherex, a Current Golden Bear Product Used as a Dust Suppressant and telephone Log of Conversation with John Pepettrilli and Jerry Davis, Both Witco Employees

**WITCO CORPORATION**

**GOLDEN BEAR PRODUCTS LUBRICANTS GROUP**

**LABORATORY**

WITCO CORPORATION P.O. BOX 5446, OILDALE, CA 93388-5446, PHONE 805/393-7110, FAX 805/392-8584.

**FAX TRANSMISSION FORM**

Please deliver the following FAX:

TO: KATHY GERBER DATE : 1 AUGUST 1995

GROUND WATER TECHNOLOGY FAX NO.: 505-242-1103

PHONE :

CC :

FROM: /EXT:

Number of Pages being sent (including this sheet): 6

MESSAGE:

IF THERE ARE ANY PROBLEMS WITH THIS TRANSMISSION, PLEASE CONTACT THIS OFFICE AT 805/393-7110 EXT. 319.

**Witco**

Witco Corporation
Golden Bear
P.O. Box 5446
Oildale, CA 93388-5446
(805) 393-7110

1 August 1995

Ground Water Technology

Attn: Kathy Gerber

Enclosed is the Material Safety Data Sheet (MSDS) for each Golden Bear product of interest to you. Please be sure to read these sheets carefully so you will understand the physical properties of each product and the proper procedures and precautions to use when handling it.

If you have questions or need further assistance, please contact your Golden Bear Sales Representative. We look forward to supplying your needs in the future.

Sincerely,

Jerry L. Davis,
Laboratory Director
WITCO CORPORATION
GOLDEN BEAR PRODUCTS
LUBRICANTS GROUP

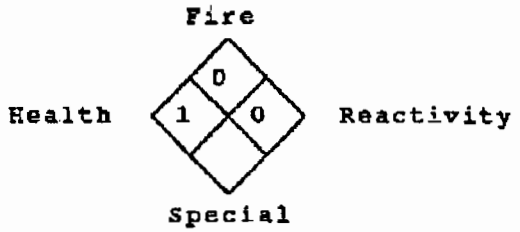
JLD/ens
Enclosure(s)

# WITCO MATERIAL SAFETY DATA SHEET

PRODUCT NAME: COHEREX



NFPA HAZARD RATING
4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant




## DIVISION AND LOCATION---SECTION I

Division: GOLDEN BEAR
Location: OILDALE, CA
P.O. BOX 5446,MANOR & NORRIS ROADS,OILDALE,CA,93388-5446
Emergency Telephone Number: (805) 393-7110
Transportation Emergency: CHEMTREC 1-(800) 424-9300 (U.S. and Canada)

## CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:
Petroleum Hydrocarbon in Water Emulsion
Formula: not applicable
Hazardous Decomposition Products:
carbon monoxide and carbon dioxide from burning.
oxides of nitrogen
oxides of sulfur
Incompatibility (Keep away from):
strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.

| Toxic and Hazardous Ingredients: | CAS # |
|---|---|
| heavy naphthenic distillate (petroleum) and/or | 64742-34-3 |
| heavy naphthenic extract (petroleum) | 64742-11-6 |

Form: Oily liquid emulsion Odor: no objectionable odor
Appearance: Color:
Specific Gravity (water=1): about 1
Boiling Point: 100°C (212°F)
Melting Point: not applicable
Solubility in Water (by weight %): readily dispersible
Volatile (by weight %): less than 45 at 25 °C
Evaporation Rate: (water = 1) 1
Vapor Pressure (mm Hg at 20°C): same as water
Vapor Density (air=1): same as water
pH (as is): 4.5 to 6.5
Stability: Product is stable under normal conditions
Viscosity SUS at 100°F: Greater than or = to 100
Other physical properties:
Viscosity = or greater than 18.6 cSt at 40°C

(Continued on next page)

PRODUCT NAME: COHEREX



## FIRE AND EXPLOSION DATA---SECTION III

**Special Fire Fighting Procedures:**

none

**Unusual Fire and Explosion Hazards:**

Dense smoke. Fire fighters should wear an approved self-contained breathing apparatus.

**Flashpoint:** not applicable

**Flammable limits %:**

no data available

**Extinguishing agents:**

Drychemical or Waterspray or $CO_2$ or Foam
Water may cause frothing.
Water may be ineffective.
Closed containers exposed to fire may be cooled with water.

## HEALTH HAZARD DATA---SECTION IV

**Permissible concentrations (air):**

If used in applications where a mist may be generated, observe a TWA/PEL of 5 $mg/m^3$ for mineral oil mist (OSHA and ACGIH).

**Chronic effects of overexposure:**

Prolonged skin contact may cause irritation and under extreme conditions, skin cancer. See COMMENTS section.

**Acute toxicological properties:**

no data available

**Emergency First Aid Procedures:**

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.
Skin Contact: Wash with soap and water.
Inhalation: Remove victim to fresh air.
If Swallowed: Contact a physician immediately.

**ROUTES OF ENTRY:**

Ingestion and, if a mist is generated, inhalation.

**TARGET ORGAN(S):**

Skin. Respiratory tract if a mist is generated. (The respiratory tract may become irritated).

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:**

Persons susceptible to dermatitis (skin rash) may aggravate their condition by skin contact with this product.

(Continued on next page)

# WITCO MATERIAL SAFETY DATA SHEET

PRODUCT NAME: COHEREX



## SPECIAL PROTECTION INFORMATION---SECTION V

Ventilation Type Required (Local,mechanical,special):
Local if necessary to maintain allowable PEL(permissible exposure limit) or TLV(threshhold limit value)

Respiratory Protection (Specify type):
Use NIOSH/MSHA certified respirator with organic vapor cartridge if vapor concentration exceeds permissible exposure limit

Protective Gloves:
oil resistant

Eye Protection:
chemical safety goggles

Other Protective Equipment:
none

## HANDLING OF SPILLS OR LEAKS---SECTION VI

Procedures for Clean-Up:
In case of spill or leak absorb on an inert material such as earth, sand or vermiculite; sweep up and dispose of in accordance with federal, state and local regulations. If spilled into water, remove bulk of the product by skimming.

Waste Disposal:
Dispose of in accordance with all applicable federal, state and local regulations.

## SPECIAL PRECAUTIONS---SECTION VII

Precautions to be taken in handling and storage:
Avoid prolonged or repeated contact with skin or breathing of vapors, mists or fumes. Launder contaminated clothing before reuse. Keep containers tightly closed. Avoid strong oxidizers. Eliminate all sources of ignition such as flames or sparks.

## TRANSPORTATION DATA---SECTION VIII

D.O.T.: Not Regulated
Reportable Quantity: not applicable
Freight Classification: 65 Petroleum Oil, n.o.i.b.n.
Special Transportation Notes:
none

(Continued on next page)

PRODUCT NAME: COHEREX



## ENVIRONMENTAL/SAFETY REGULATIONS---SECTION IX

Section 313 (Title III Superfund Amendment and Reauthorization Act):

This product does not contain any chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

## COMMENTS

This product contains petroleum oils similar to ones categorized by the International Agency for Research on Cancer (IARC) as causing skin cancer in mice after prolonged and repeated contact. Any potential hazard can be minimized by using recommended protective equipment to avoid skin contact and by washing thoroughly after handling.

Prepared by: J.T.Cook
Title: MANAGER OF QUALITY CONTROL
Original Date: 12/14/82
Revision Date: 08/14/92
Supersedes : 02/07/89
Date Sent : 08/01/95

Sent to: KATHY GERBER
GROUND WATER TECHNOLOGY

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

## TELEPHONE LOG

| | | | |
|---|---|---|---|
| **Name:** | John Pepettrilli and Jerry Davis | **Date:** | 8/1/95 |
| **Contact:** | Witco Co. | **Page:** | 1 of 1 |
| **Location:** | Oildale, CA | **Project Name:** | |
| **Address:** | | **Project No.:** | 830012201.09.030 |
| **Phone No.:** | (805) 399-7110 ext 220 | **Engineer Name:** | Chuck Schick |
| **Subject:** | Telephone conversation with John Pepettrilli and Jerry Davis | | |
| | AOC-RR | | |

### SUMMARY OF CONVERSATION:

Telephone Interview with John Pepettrilli on 8/1/95

1. "Golden Bear Oil" used as dust suppressant sounds simular to current product Coherex (Trade Name).

2. Coherex is an emulsified petroleum-based resin. It is not toxic.

3. Witco does not have the capicity to track down what product Holloman AFB would have used 15 to 25 years ago.

4. Will have MSDS faxed to GTI.

Telephone Interview with Jerry Daviston (Chemist) 8/4/95

1. Coherex does not contain benzene or ethylbenzene. It is a heavy hydrocarbon around the Carbon 20+ range.

2. Coherex is a liquid that is not viscus and is yellow.

3. Coherex can be diluted in water.

## APPENDIX A-16

AF Form 1430, Real Property Accountable Record - Buildings, Subject: Building 80.

| HOLLOMAN AIR FORCE BASE, NEW MEXICO 1947 | 17 Jul 59 | 1E | 1947 | ~~2001-15~~ ~~2001-3~~ | ~~51015~~ ~~52010-8~~ 51070 |
|---|---|---|---|---|---|
| INSTALLATION NAME AND NO. | DATE | DRAW. NO. | RP ACCOUNT NO. | CONTROL NO. | BUILDING NO. |

**DIMENSIONS** *(Width x length)*

| MAIN BUILDING | OFFSETS | WINGS | BASEMENTS |
|---|---|---|---|
| 32'0" x ~~80'6"~~ 60' | | | |

**MATERIALS**

| FOUNDATION | FLOOR | WALL | ROOF |
|---|---|---|---|
| Conc | Conc | Prefab Metal | Metal |

**HEATING**

| SOURCE | TYPE | FUEL |
|---|---|---|
| Furnace | Oil Fired 750,000 btu | Oil |

| NO. OF USABLE FLOORS | FIRE PROTECTION NO. | TYPE |
|---|---|---|
| 1 | 2 | EXTING |

| UTILITY CONNECTIONS | BLDG EQPT | NO. | TOTAL CAPACITY |
|---|---|---|---|
| WATER 1- 3/4" | AIR CONDITIONING | | |
| SEWER | | | |
| ELECTRIC 1-3-W#8 in 1"C | EVAPORATIVE COOLING | | |
| GAS 1-1" | MECHANICAL COOLING | 1 | 9 gph |
| STEAM | | | |
| CONDENSATE | HOT WATER FACILITIES | | |

| | CODE |
|---|---|
| STATE NEW MEXICO | 35 ~~732~~ |
| ASSIGNMENT ~~AFSC~~ TAC | ~~SYS~~ T |
| TYPE OF CONSTRUCTION PERMANENT | ~~1~~ P |
| CONDITION USABLE | 1 |
| OCCUPANCY AIR FORCE | AF |
| AIR FORCE INTEREST OWNED | 1 |
| UNIT OF MEASURE *(Other than area)* | |
| QUANTITY | |
| NOMENCLATURE ~~Bt-Pav-Gr&ND-Ecldg~~ ~~SHOP&SHLTR,LOGL~~ | 214943 ~~218-842~~ |
| CATEGORY ~~SHP SHLTR LGMTV~~ | ~~218-842~~ |
| REMARKS ~~Whse, Troop Subsis 442-765~~ MWR Sup/NAF C-Stor Oct 92 740-672 | |

| VOUCHER NO. | DATE | DESCRIPTION | DATE COMPLETED | AREA UNIT AMOUNT | AREA UNIT TOTAL | COST | | TOTAL COST | |
|---|---|---|---|---|---|---|---|---|---|
| 20-60 | 17 Jul 59 | Original ~~Original~~ Building | 1959 | 1920 | 1920 | 19,464 | 00 | 19,464 | 00 |
| 286-60 | 22 Apr 60 | Inventory | 1960 | | | | | | |
| 359-60 | 23 May 60 | Instl furnace | 1960 | | | 675 | 73 | 20,139 | 73 |
| 146-62 | 14 Dec 61 | Inventory | | | | | | | |
| 142-63 | 2 Jan 63 | Inventory | 1962 | | | | | | |
| BALANCES FORWARDED | | | | | 1,920 | | | 20,139 | 73 |

AF FORM 1430 15 JUN 56 REPLACES DA FORM 5-47, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

| VOUCHER NO. | DATE | DESCRIPTION | DATE COMPLETED | AREA UNIT AMOUNT | AREA UNIT TOTAL | COST | | TOTAL COST | |
|---|---|---|---|---|---|---|---|---|---|
| | | BALANCES FORWARDED | | | 1,920 | | | 20,139 | 73 |
| 1-65 | 1 Jul 64 | Inventory | | | | | | | |
| 1-65 | 1 Jul 64 | Removed Heat Plant | | | | 900 | 00 | 19,239 | 73 |
| 61-66 | 15 Sep 65 | Heating Plant | 1965 | | | 900 | 00 | 20,139 | 73 |
| 24-69 | 30 Jul 68 | Delete Heating Plant | 1968 | | | 900 | 00 | 19,239 | 73 |
| 254-69 | 3 Apr 69 | INVENTORY | 1969 | | | | | | |
| 84-0169 | 14 Sep 84 | Auth Ch in Use | 14 Sep 84 | | | | | | |
| 88-0081 | 22 Dec 87 | Auth Chg in Use, Ct Acct & Org Codes | 22 Dec 87 | | | | | | |
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| | | BALANCES FORWARDED | | | | | | | |

GPO 910393

51050 MWR Sup/NAF C Ste 740-672
~~51070~~ ~~Whse, Troop Subsis~~
~~51020~~ ~~218-842 BE PAV GRND FCLTY~~
~~51015~~ Jon ~~SHP SHLTR LCMTV~~ ~~219-943~~ ~~442-765~~ 80 A

| HOLLOMAN AFB, NM<br>INSTALLATION NAME AND NUMBER | 16 Mar 83<br>DATE | AF-1947<br>RP ACCOUNT NO. | CONTROL NO. | FACILITY NOMENCLATURE AND NO. |
|---|---|---|---|---|

| VOUCHER NO. | DATE | DESCRIPTION | DATE COMPLETED | AREA UNIT AMOUNT | AREA UNIT TOTAL | COST | TOTAL COST |
|---|---|---|---|---|---|---|---|
| | | BALANCE BOUGHT FORWARD | | | 1900 | | 19,239.73 |
| 83-0101 | 16 Mar 83 | HO 81-0146<br>Alt RR Engin Fac (Insulate Bldg 80) | 12 Nov 82 | | | 8,443.00 | 27,682.73 |
| 84-0169 | 14 Sep 84 | Auth Ch in Use | 14 Sep 84 | | | | |
| 86-0139 | Apr 85 | Inventory of Facility | Apr 85 | | | | |
| 88-0081 | 22 Dec 87 | Correction of RP Category, Cost Account Code, & Organization Code | 22 Dec 87 | | | | |
| 89-0031 | 03 JAN 89 | INVENTORY OF FACILITIES | 21DEC 88 | | | | |
| 93-0035 | 2 Nov 92 | Corrections to RP Inventory (Auth Change in Category Code) | | | | | |
| 93-0076 | 1 Feb 93 | FACILITY INENTORY, ADJ | 5 Jan 93 | | | -208.00 | 27,474.73 |
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| | | BALANCES FORWARD | | | | | |

## APPENDIX A-17

Base Drawings; Holloman AFB, Shop Locomotive Base, Site Plan, Drawing No. 2, 17 March 1958.

## APPENDIX A-18

Base Drawings, Holloman AFB, Shop Locomotive Base, Sections and Details, Drawing No. 4, 18 March 1958.

# APPENDIX B

# PHOTOGRAPHS

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers

**Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area

**Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
westward view

**Comments:**
Northern portion of current tank enclosure
(Roll A, Photo 24)

holloman.4x6

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers

**Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area

**Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
southwest view

**Comments:**
Current tank enclosure
(Roll A, Photo 25)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers

**Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area

**Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
south-southwest view

**Comments:**
Mobile generators and electrical switch gear (Roll A, Photo 26)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
southwest view

**Comments:**
Current arrangement with above ground storage tank (JP-8). During the time of the release fuel (JP-4) was stored in a 5,000 gallon tanker truck (Roll 1, Photo 1)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
south-southwest view

**Comments:**
Current configuration of above ground piping and tie-in stations.
(Roll 1, Photo 2)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
southward view

**Comments:**
Current configuration of above ground piping and tie-in stations, and mobile generators.
(Roll 1, Photo 3)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area **Site Location:** Holloman AFB

**Photographer:**
Chuck Schick

**Date:**
11/30/94

**Direction:**
southward view

**Comments:**
Close up of above ground piping and tie-in stations. The reported surface release occurred in the vicinity of the two middle tie-in stations.

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area **Site Location:** Holloman AFB

**Photographer:**
Chuck Schick

**Date:**
11/30/94

**Direction:**
southward view

**Comments:**
From southeast corner of Building 933. Looking at two manways for the buildings sewage holding tank.

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
northward view

**Comments:**
From the southeast corner of Building 933 towards the current above ground JP-8 storage tank.
(Roll 1, Photo 16)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
northeast view

**Comments:**
From southeast corner of Building 933. Foreground is a low area south of the above ground storage tank and reported area that the released JP-4 flowed.
(Roll 1, Photo 17)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
east-northeast view

**Comments:**
Foreground shows the low area south of the above ground storage tank. Background shows the generator run-up area, reported source of the release.
(Roll 1, Photo 18)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.05030

**Site Name:** AOC-BBMS generator run-up area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/29/94

**Direction:**
eastward view

**Comments:**
Southern portion of the low area south of the above ground storage tank.
(Roll 1, Photo 19)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers

**Project Number:** 83001 2201.09030

**Site Name:** AOC-RR former tank area

**Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**
westward view

**Comments:**
From vicinity of the southeast corner of the mounded soil where partially buried tanks containing "golden bear oil" were located.
(Roll 2, Photo 1)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.09030

**Site Name:** AOC-RR former tank area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**
northwest view

**Comments:**
View of the mounded soil as indicated by tumbleweeds, where partially buried tanks containing "golden bear oil" were located.
(Roll 2, Photo 2)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.09030

**Site Name:** AOC-RR former tank area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**
north-northwest view

**Comments:**
View of mounded soil as indicated by tumbleweeds, where partially buried tanks containing "golden bear oil" were located. Note 2-inch steel pipe.
(Roll 2, Photo 3)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers

**Project Number:** 83001 2201.09030

**Site Name:** AOC-RR former tank area

**Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**

**Comments:**
Closeup of the eastern 2-inch steel pipe sticking out of the ground. Use or purpose of this pipe is unknown.
(Roll 2, Photo 4)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.09030

**Site Name:** AOC-RR former tank area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**

**Comments:**
Closeup of the western 2-inch steel pipe sticking out of the ground. Use or purpose of this pipe is unknown.
(Roll 2, Photo 5)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.09030

**Site Name:** AOC-RR former tank area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**
northeast view

**Comments:**
View of former partially buried storage tank in foreground (as noted by tumbleweeds) and former locomotive repair shop (Building 80) in background. (Roll 2, Photo 6)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers **Project Number:** 83001 2201.09030

**Site Name:** AOC-RR former tank area **Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**
northeast view

**Comments:**
View of former partially buried tanks in foreground. Former locomotive repair shop (Building 80) and northern portion of Site 08 (refuse collection truck washrack) fenced area near cottonwood tree.
(Roll 2, Photo 7)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers

**Project Number:** 83001 2201.09030

**Site Name:** AOC-RR former tank area

**Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**
east - northeast

**Comments:**
Southern portion of partially buried tank in foreground and Site 08 (refuse collection truck washrack) in background.
(Roll 2, Photo 8)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers

**Project Number:** 83001 2201.09030

**Site Name:** AOC-RR Building 80

**Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**
southward view

**Comments:**
Former locomotive repair shop (Building 80), shows remaining portion of rails that used to transport the locomotive to the repair shop. (Roll 1, Photo 26)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers

**Project Number:** 83001 2201.09030

**Site Name:** AOC-RR Building 80

**Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**
southward view

**Comments:**
Inside view of Building 80, the former subsurface repair pit consist of elongated north-south oriented patched concrete work (installed 11/93) in the center of the Building.
(Roll 2, Photo 11)

**Groundwater Technology**
**Photographic Record**

**Client:** Army Corps of Engineers

**Project Number:** 83001 2201.09030

**Site Name:** AOC-RR Building 80

**Site Location:** Holloman AFB

**Photographer:**
Kathy Gerber

**Date:**
11/30/94

**Direction:**
southward view

**Comments:**
Western side of Building 80, foreground is the vicinity of reported recently backfilled area (cause of former hole unknown). Background, to the southwest is the location of the former partially buried tanks.
(Roll 2, Photo 13)