N00204.AR.003594
NAS PENSACOLA
5090.3a

CONTAMINATION ASSESSMENT REPORT ADDENDUM SITE 13 UNDERGROUND STORAGE TANK 143 (UST143) NAVAL AVIATION DEPOT NAS PENSACOLA FL
8/1/1995
ABB ENVIRONMENTAL SERVICES, INC

CONTAMINATION ASSESSMENT REPORT ADDENDUM

SITE 13, UST 143
NAVAL AVIATION DEPOT

NAVAL AIR STATION
PENSACOLA, FLORIDA

Contract Task Order No. 008

Contract No. N62467-89-D-0317

Prepared by:

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Prepared for:

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Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29418

Byas Glover, Code 18410, Engineer-in-Charge

August 1995

CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/008 are complete and accurate and comply with all requirements of this contract.

DATE: July 18, 1995

NAME AND TITLE OF CERTIFYING OFFICIAL: Mark Diblin, P.G.

Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Pamela Wagner

Project Technical Lead

(DFAR 252.227-7036)

FOREWORD

To meet its mission objectives, the U.S. Navy performs a variety of operations, some requiring the use, handling, storage, or disposal of hazardous materials. Through accidental spills and leaks and conventional methods of past disposal, hazardous materials may have entered the environment in ways unacceptable by today's standards. With growing knowledge of the long-term effects of hazardous materials on the environment, the Department of Defense (DOD) initiated various programs to investigate and remediate conditions related to suspected past releases of hazardous materials at their facilities.

One of these programs is the Comprehensive Long-Term Environmental Action, Navy (CLEAN) Underground Storage Tank (UST) program. This program complies with Subtitle I of the Resource Conservation and Recovery Act and the Hazardous and Solid Waste Amendments of 1984. In addition, the UST program complies with all appropriate State and local storage tank regulations as they pertain to each naval facility.

The UST program includes the following activities:

- registration and management of Navy and Marine Corps storage tank systems,
- contamination assessment planning,
- site field investigations,
- preparation of contamination assessment reports,
- remedial (corrective) action planning,
- implementation of the remedial action plans, and
- tank and pipeline closures.

The Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) manages the UST program and the U.S. Environmental Protection Agency (USEPA) and the Florida Department of Environmental Protection (FDEP; formerly Florida Department of Environmental Regulation) oversee the Navy UST program at Naval Aviation Depot (NADEP) Pensacola.

Questions regarding the UST program at NADEP Pensacola should be addressed to Mr. Byas Glover, SOUTHNAVFACENGCOM, Code 18410, at (803) 743-0651.

ACKNOWLEDGMENTS

In preparing this report, the Underground Storage Tank Section (UST) of the Comprehensive Long-Term Environmental Action, Navy (CLEAN) Group at ABB Environmental Services, Inc. (ABB-ES), commends the support, assistance, and cooperation provided by the personnel at Naval Aviation Depot, Naval Air Station, Pensacola, Florida, and Southern Division, Naval Facilities Engineering Command.

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Pensacola, Florida

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Site 13 - UST 143, Naval Aviation Depot
Pensacola, Florida

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
AVGAS	aviation gasoline
BEI	Bechtel Environmental, Inc.
bdl	below detection limits
bls	below land surface
CA	contamination assessment
CAR	Contamination Assessment Report
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-Term Environmental Action, Navy
CompQAP	Comprehensive Quality Assurance Plan
CTO	Contract Task Order
DOD	Department of Defense
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
GTES	GT Environmental Services
NADEP	Naval Aviation Depot
NAS	Naval Air Station
NFAP	No Further Action Plan
PAH	polynuclear aromatic hydrocarbons
ppb	parts per billion
ppm	parts per million
SOUTHNAV-FACENGCOM	Southern Division, Naval Facilities Engineering Command
SWDA	Solid Waste Disposal Act of 1965
TRPH	total recoverable petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOA	volatile organic aromatics
VOH	volatile organic halocarbos
yd^3	cubic yard

1.0 SITE BACKGROUND AND DESCRIPTION

Site 13 is located in the southeast corner of Chevalier Field, Naval Aviation Depot (NADEP), Pensacola (Figure 1-1). It is the former location of a 500-gallon underground storage tank (UST) associated with the aviation gasoline (AVGAS) pipeline (Figure 1-2). The tank, designated UST 143, was situated next to the northeast corner of Building 627. The tank was constructed of unprotected steel and installed with a steel oil pit. At the time of removal, the oil pit contained a network of piping, valves, and a rubber hose on a steel reel. The purpose of the oil pits is uncertain, although the pits are suspected to have been used to dispense lube oil and air during aircraft maintenance.

UST 143 was removed in September 1994 by Phoenix Construction Company and their subcontractor, GT Environmental Services, Inc. (GTES). During the tank removal operations no visual contamination was detected by GTES personnel; however, one sample was collected from the soil around the UST. This soil sample was analyzed for total recoverable petroleum hydrocarbons (TRPH) and lead. A TRPH concentration of 49 parts per million (ppm) was detected in the soil sample (Appendix A). Subsequent to the UST removal, all excavated soil was returned to the excavation.

The UST site was transferred to ABB Environmental Services, Inc. (ABB-ES) for closure. The closure report for UST 143 is presented in Appendix A of the AVGAS Pipeline Area Contamination Assessment Report (CAR) submitted by ABB-ES dated August 1995. Because TRPH contamination had been detected at the site, and no polynuclear aromatic hydrocarbon (PAH) data were available for site soil, the maximum contaminant level (MCL) of 10 ppm for TRPH was applied to the site (FDEP, May 1994). Based on this information, a Discharge Reporting Form was filed with the closure report. The Discharge Reporting Form is also included in Appendix A of the August 1995 AVGAS Pipeline CAR.

The following report summarizes the data gathered during the Site 13 UST 143 closure and preliminary contamination assessment (CA). General information such as regional and local physiography, regional hydrogeology, investigative methodologies, and procedures are included in the August 1995 AVGAS Pipeline Area CAR.

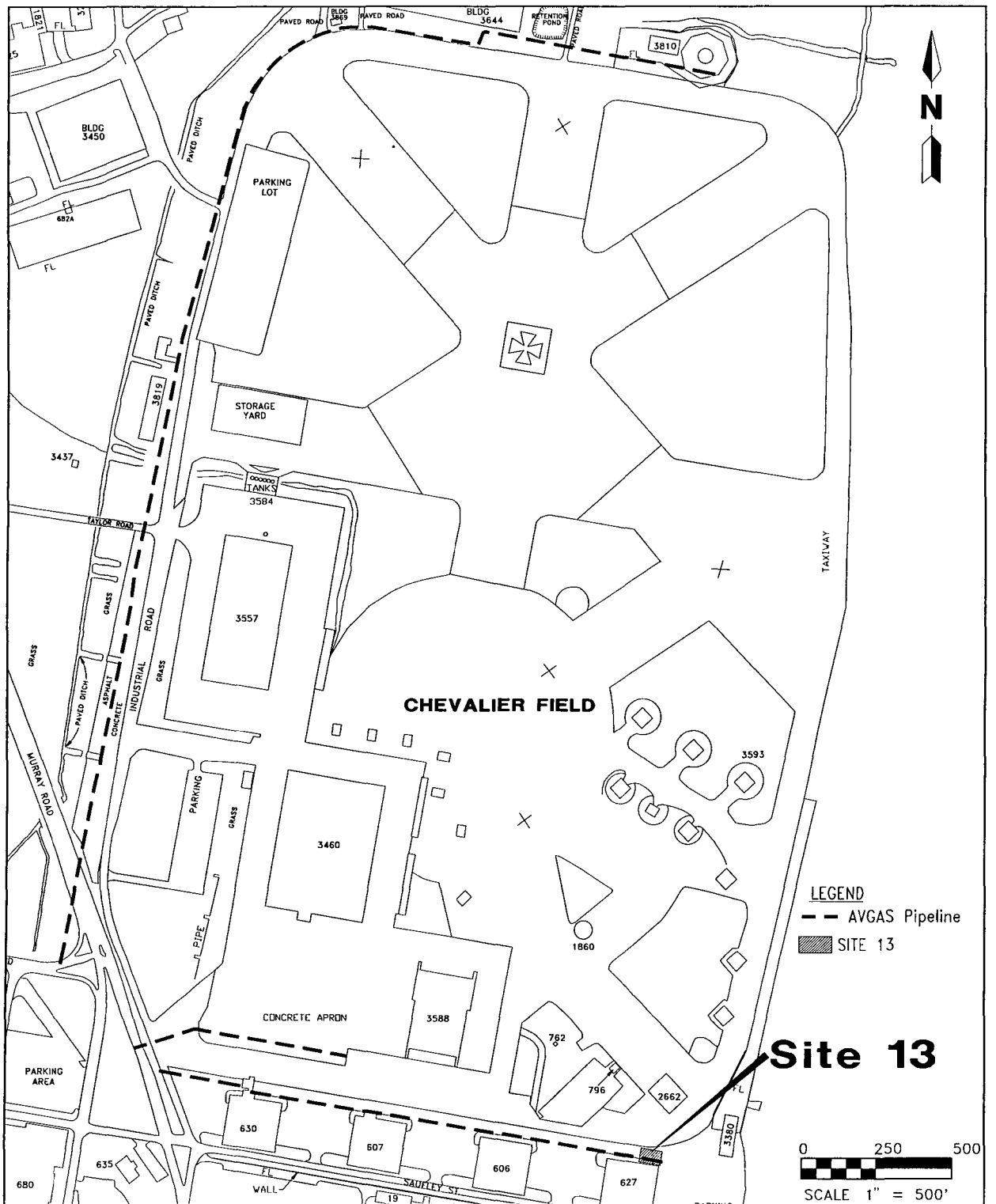

FIGURE 1-1
SITE LOCATION MAP

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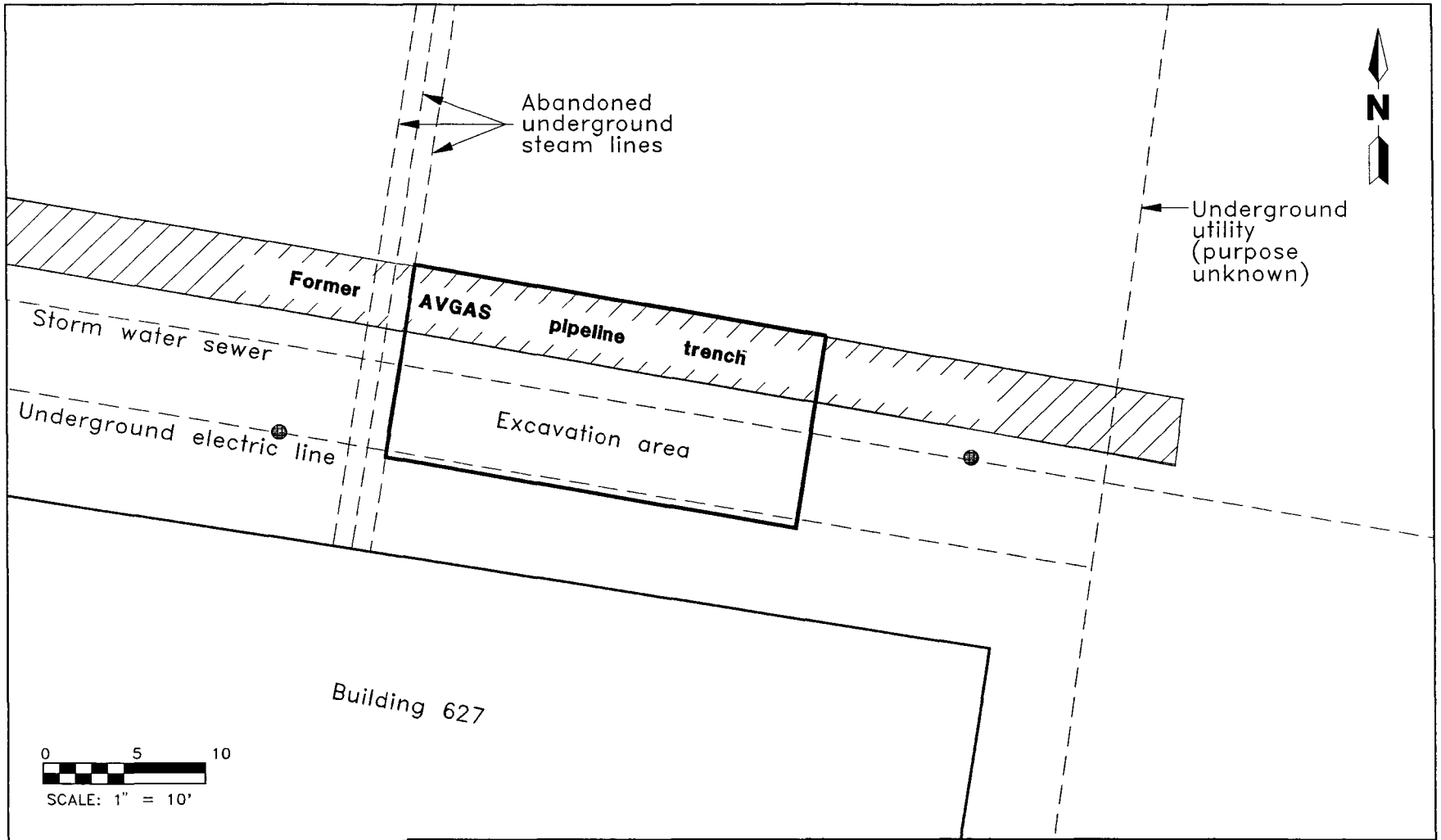
CONTAMINATION ASSESSMENT REPORT ADDENDUM
SITE 13, UST 143

NADEP PENSACOLA
PENSACOLA, FLORIDA



LEGEND

- Underground utilities
- Utility manhole cover

H:\PENSCOLA\FORMUST\WDW-NP\07-31-95

FIGURE 1-2
SITE PLAN

CONTAMINATION ASSESSMENT REPORT ADDENDUM
SITE 13, UST 143

NADEP PENSACOLA
PENSACOLA, FLORIDA

2.0 CONTAMINATION ASSESSMENT RESULTS

On November 3, 1994, ABB-ES personnel collected a composite soil sample from the source area at Site 13. The sample, 13B00101, was composited from soil collected at each corner and the center of the UST excavation area from 2 to 2.5 feet below land surface (bls). The soil sample was collected in accordance with ABB-ES' approved Comprehensive Quality Assurance Plan (CompQAP) using a hand-operated bucket auger. The sample was placed in the appropriate containers, labeled, packed in ice, and shipped by overnight carrier to a certified analytical laboratory for analysis. The sample was analyzed for the clean soil criteria described in Chapter 62-775.400 FAC. Figure 2-1 presents the soil sample location and laboratory analytical results. Table 2-1 presents a summary of the laboratory analytical sampling results from 13B00101.

Table 2-1
Summary of Soil Sample 13B00101 Analytical Results
November 1994

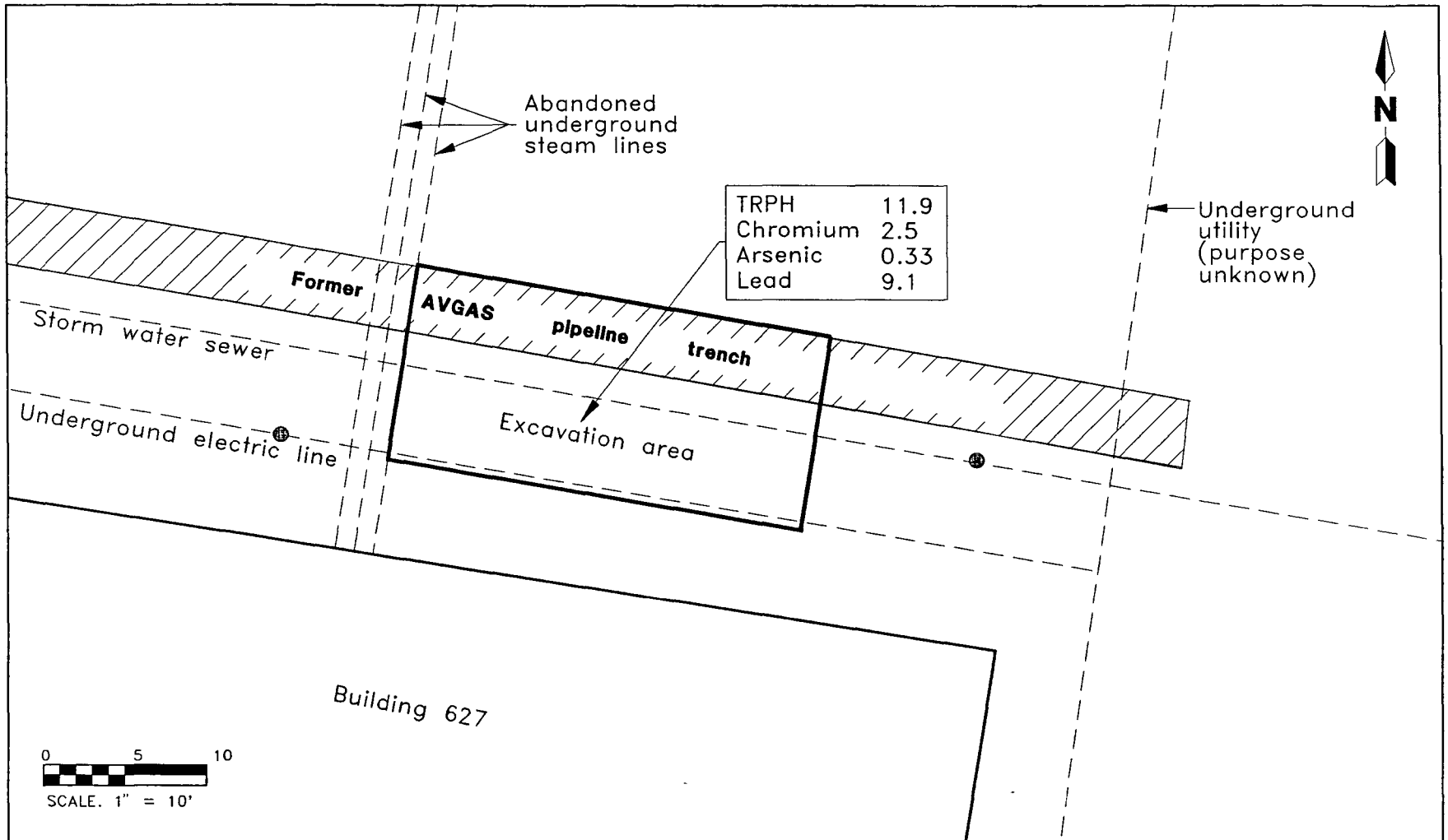
Contamination Assessment Report Addendum
Site 13 - UST 143, Naval Aviation Depot
Pensacola, Florida

Contaminant	13B00101 Concentration	Clean Soil[1] Maximum Concentration
Total volatile organic aromatics	bdl	100 ppb
Total polynuclear aromatic hydrocarbons	bdl	1 ppm
Total recoverable petroleum hydrocarbons	11.9 ppm	50[2] ppm
Cadmium	bdl	37 ppm
Chromium	2.5 ppm	50 ppm
Arsenic	0.33 ppm	10 ppm
Lead	9.1 ppm	108 ppm

[1]Chapter 62-775.400, Florida Administrative Code.
[2]Provided total polynuclear aromatic hydrocarbons (PAH) does not exceed 100 ppb and total volatile organic halocarbons (VOH) do not exceed 50 ppb. In all other cases the total recoverable petroleum hydrocarbons(TRPH) maximum concentration is 10 ppm (Chapter 62-775.400).

Note: bdl = below detection limits. ppb = parts per billion.
ppm = parts per million.

Volatile organic aromatic (VOA), PAH, and cadmium concentrations were below method detection limits for soil sample 13B00101. A TRPH concentration of 11.9 ppm was detected in the soil sample. Because total PAH concentrations were below 1 ppm, a TRPH clean soil maximum concentration of 50 ppm was applied according to Chapter 62-775.400, Florida Administrative Code (FAC). The TRPH concentration detected in sample 13B00101 was below this concentration. Chromium, arsenic, and



LEGEND

- Underground utilities
- Utility manhole cover
- TRPH Total recoverable petroleum hydrocarbons

Concentrations reported in parts per million.

H\PENSCOLA\FORMUST\WDW-NP\07-31-95

FIGURE 2-1
SOIL SAMPLING LOCATION AND ANALYTICAL RESULTS, NOVEMBER 11, 1994

CONTAMINATION ASSESSMENT REPORT ADDENDUM
SITE 13, UST 143

NADEP PENSACOLA
PENSACOLA, FLORIDA

lead concentrations were 2.5 ppm, 0.33 ppm, and 9.1 ppm, respectively, which are also below the State clean soil concentrations.

On March 10, 1995 the soil from the UST 143 excavation was removed by Bechtel Environmental, Inc. (BEI). The excavation area is shown on Figure 2-1. Approximately 66.7 cubic yards (yd^3) of soil was removed from an area 25 feet by 16 feet. Excavation continued until the water table was reached at 4.5 feet bls. The soil removed from the site consisted of very fine- to fine-grained sand ranging in color from very light gray to very pale orange. ABB-ES personnel present during the excavation reported no stained soil or other visual evidence of contamination. The Site 13 soil was stockpiled with soil excavated from other lube-oil USTs during BEI excavation activities at Chevalier Field. In May 1995, the stockpiled soil was removed from the base and taken to an incineration facility for thermal treatment.

3.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

3.1 SUMMARY. Based on the findings of the CA field investigations and laboratory analytical results, the following is a summary of existing conditions at the site.

- The source of contamination, the UST, has been removed.
- Site soil consists of very fine- to fine-grained sand. The color of the soil ranges from very light gray to very pale orange.
- Soil from the tank excavation area was removed and replaced with clean fill material. No visual evidence of soil contamination was observed in the excavation.
- No compounds exceeding FDEP clean soil criteria were detected in the soil sample collected from the Site 13 source area.

3.2 CONCLUSIONS. Based on the findings of the CA and site conditions, the following can be concluded.

- The soil at Site 13 meets FDEP requirements for clean soil.
- A groundwater investigation is not required in the absence of soil contamination or visual evidence of groundwater contamination.

3.3 RECOMMENDATIONS. Based on the findings, conclusions, and interpretations of the CA, ABB-ES recommends a *No Further Action Proposal* (NFAP) for Site 13.

4.0 PROFESSIONAL REVIEW CERTIFICATION

This contamination assessment report addendum was prepared under the supervision of a professional geologist registered in the State of Florida using sound hydrogeologic principles and professional judgment. This assessment is based on the geologic investigation and associated information detailed in the text and appended to this report or referenced in public literature. Recommendations are based upon interpretations of the applicable regulatory requirements, guidelines, and relevant issues discussed with regulatory personnel during the site investigation. If conditions that differ from those described are determined to exist, the undersigned geologist should be notified to evaluate the effects of any additional information on this assessment or the recommendations made in this report. This CAR Addendum was developed for Site 13-UST 143 at NADEP, NAS Pensacola, Florida, and should not be construed to apply to any other site.

_____

Michael J. Williams
Professional Geologist
P.G. No. 344

_____

Date

REFERENCES

Florida Department of Environmental Regulation, May 1994, Guidelines for Assessment and Remediation of Petroleum Contaminated Soil: Division of Waste Management, 42 p.

Florida Department of Transportation, 1982, Florida official transportation map: 1 sheet.

APPENDIX A

GT ENVIRONMENTAL SERVICES, INC. CORRESPONDENCE

GT Environmental Services, Inc.

One Purlieu Place, Suite 205 • Winter Park, FL 32792 • 407/671-0125 • Fax: 407/671-2705

NAS Pensacola / Chevalier Field
Closure Assessment / October 17, 1994
GT Environmental Services, Inc

Tanks 130, 138, 140, 143 had no visual contamination. Analytical was run for lead and TRPH. Contamination was detected on all the above tanks.

Tanks Removed		Contaminated		Method of Detection
#104		Soil/Groundwater		Visual
#107		Soil/Groundwater		Visual
#110		Soil		Visual
#116		Soil		Visual
#119		Soil/Groundwater		Visual
#122		Soil		Visual
#130		Soil	TPH 57 PPM	Analytical
#134	Galv.Tank	Soil		Visual
#136				Visual
#138		Soil	TPH 540 PPM	Analytical
#140			TPH 650 PPM; Lead 10PPM	Analytical
#143		Soil	TPH 49 PPM	Analytical

Note: Soil Samples were taken at points where visual contamination appeared. (Where no visual contamination appeared samples were taken from the ends and middle of soil from underground tanks)

Note: GT Environmental Services, Inc. used an HNU P.I.D. on all tank soil. Due to the heavy oil, the P.I.D. did not pick up any volatiles. We referred to the visual detection as required by the Florida Guidelines for Contamination Assessment for Oil Tanks.

APPENDIX B

LABORATORY ANALYTICAL DATA

Quanterra Environmental Services

Quanterra Incorporated
5910 Breckenridge Parkway, Suite H
Tampa, Florida 33610

813 621-0784 Telephone
813 623-6021 Fax

ANALYTICAL REPORT

PROJECT NO. 752734

FORMER UST LOCATIONS

PAMELA WAGNER

ABB ENVIRONMENTAL SERVICES

QUANTERRA INCORPORATED
Certification Numbers: E84059,HRS84297
FDEP CompQAP: 870270G

Joanne Anderson
Project Manager

November 25, 1994

Quanterra
Environmental Services

EXECUTIVE SUMMARY - Detection Highlights

B4K040018

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD
09B00901				
Chromium	3.6	2.6	mg/kg	SW846 6010A
Lead	20.5	0.53	mg/kg	SW846 7421
13B00101				
Petroleum Hydrocarbons Total Recoverable	11.9	5.3	mg/kg	MCAWW 418.1
Solids, Total (TS)	94.5	1.0	%	MCAWW 160.3
Arsenic	0.33	0.26	mg/kg	SW846 7060
Chromium	2.5 J	2 6	mg/kg	SW846 6010A
Lead	9.1	0.53	mg/kg	SW846 7421
09B00901D				
Petroleum Hydrocarbons Total Recoverable	97.2	5.3	mg/kg	MCAWW 418.1
Solids, Total (TS)	94.3	1.0	%	MCAWW 160.3
Arsenic	1.5	0.27	mg/kg	SW846 7060
Cadmium	0.52 J	0.53	mg/kg	SW846 6010A
Chromium	4 4	2.7	mg/kg	SW846 6010A
Lead	22.0	1 1	mg/kg	SW846 7421
EQUIPMENT BLANK				
Methylene chloride	1.0 B	1.0	ug/L	SW846 8240A
Arsenic	2.4 J	5.0	ug/L	SW846 7060
Lead	1.9 J	5.0	ug/L	SW846 7421

Quanterra
Environmental Services

ANALYTICAL METHODS SUMMARY

Parameters	Methods
Polychlorinated Biphenyls	SW846 8080
Volatile Organics	SW846 8240A
Volatile Organics	SW846 8240A
Semivolatile Organics	SW846 8270A
Petroleum Hydrocarbons Total Recoverable	MCAWW 418.1
Petroleum Hydrocarbons Total Recoverable	MCAWW 418.1 MODIFIED
Cadmium	SW846 6010A
Chromium	SW846 6010A
Cadmium	SW846 6010A
Chromium	SW846 6010A
Arsenic	SW846 7060
Lead	SW846 7421
Solids, Total (TS)	MCAWW 160.3 MODIFIED

References:

MCAWW Methods for Chemical Analysis of Water and Wastes, EMSL Cincinnati, OH March 1983 and subsequent revisions

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, September, 1986 and subsequent revisions

Quanterra
Environmental Services

SAMPLE SUMMARY

The analytical results of the samples listed below are presented on the following pages.

WO #	LABORATORY ID	SAMPLE IDENTIFICATION
A15LP	B4K040018-001	05B00601
A15LQ	B4K040018-002	06B00701
A15LR	B4K040018-003	07B00601
A15LT	B4K040018-004	PEN-3557-SB42
A15LU	B4K040018-005	09B00901
A15LV	B4K040018-006	13B00101
A15LW	B4K040018-007	09B00901D
A15M2	B4K040018-008	EQUIPMENT BLANK
A15M7	B4K040018-009	TRIP BLANK

Quanterra Environmental Services

ABB ENVIRONMENTAL SERVICES

13B00101

WO #: A15LV108
LAB #: B4K040018-006
MATRIX: SOLID

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Volatiles

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acrolein	ND	53	SW846 8240A	11/17/94	4322125
Acrylonitrile	ND	53	SW846 8240A	11/17/94	4322125
Benzene	ND	5.3	SW846 8240A	11/17/94	4322125
Bromodichloromethane	ND	5.3	SW846 8240A	11/17/94	4322125
Bromoform	ND	5.3	SW846 8240A	11/17/94	4322125
Bromomethane	ND	5.3	SW846 8240A	11/17/94	4322125
Carbon tetrachloride	ND	5.3	SW846 8240A	11/17/94	4322125
Chlorobenzene	ND	5.3	SW846 8240A	11/17/94	4322125
Dibromochloromethane	ND	5.3	SW846 8240A	11/17/94	4322125
Chloroethane	ND	5.3	SW846 8240A	11/17/94	4322125
2-Chloroethyl vinyl ether	ND	5 3	SW846 8240A	11/17/94	4322125
Chloroform	ND	5.3	SW846 8240A	11/17/94	4322125
Chloromethane	ND	5.3	SW846 8240A	11/17/94	4322125
1,2-Dichlorobenzene	ND	5.3	SW846 8240A	11/17/94	4322125
1,3-Dichlorobenzene	ND	5.3	SW846 8240A	11/17/94	4322125
1,4-Dichlorobenzene	ND	5.3	SW846 8240A	11/17/94	4322125
1,1-Dichloroethane	ND	5.3	SW846 8240A	11/17/94	4322125
1,2-Dichloroethane	ND	5.3	SW846 8240A	11/17/94	4322125
1,1-Dichloroethene	ND	5.3	SW846 8240A	11/17/94	4322125
cis-1,2-Dichloroethene	ND	5.3	SW846 8240A	11/17/94	4322125
trans-1,2-Dichloroethene	ND	5.3	SW846 8240A	11/17/94	4322125
1,2-Dichloropropane	ND	5.3	SW846 8240A	11/17/94	4322125
cis-1,3-Dichloropropene	ND	5.3	SW846 8240A	11/17/94	4322125

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	113	(85 - 138)
Toluene-d8	102	(89 - 128)
Bromofluorobenzene	100	(83 - 128)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

13B00101

WO #: A15LV108
LAB #: B4K040018-006
MATRIX: SOLID

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Volatiles

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
trans-1,3-Dichloropropene	ND	5.3	SW846 8240A	11/17/94	4322125
Ethylbenzene	ND	5.3	SW846 8240A	11/17/94	4322125
Trichlorofluoromethane	ND	5.3	SW846 8240A	11/17/94	4322125
Methylene chloride	ND	5.3	SW846 8240A	11/17/94	4322125
1,1,2,2-Tetrachloroethane	ND	5.3	SW846 8240A	11/17/94	4322125
Tetrachloroethene	ND	5.3	SW846 8240A	11/17/94	4322125
Toluene	ND	5.3	SW846 8240A	11/17/94	4322125
1,1,1-Trichloroethane	ND	5.3	SW846 8240A	11/17/94	4322125
1,1,2-Trichloroethane	ND	5.3	SW846 8240A	11/17/94	4322125
Trichloroethene	ND	5.3	SW846 8240A	11/17/94	4322125
Vinyl chloride	ND	5.3	SW846 8240A	11/17/94	4322125
Xylenes, Total	ND	5.3	SW846 8240A	11/17/94	4322125

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	113	(85 - 138)
Toluene-d8	102	(89 - 128)
Bromofluorobenzene	100	(83 - 128)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

13B00101

WO #: A15LV106
LAB #: B4K040018-006
MATRIX: SOLID

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

- GC Semi-Volatiles -

PARAMETER	RESULT (mg/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
PCB-1016	ND	1.1	SW846 8080	11/07-11/09/94	4311092
PCB-1221	ND	1.1	SW846 8080	11/07-11/09/94	4311092
PCB-1232	ND	1.1	SW846 8080	11/07-11/09/94	4311092
PCB-1242	ND	1.1	SW846 8080	11/07-11/09/94	4311092
PCB-1248	ND	1.1	SW846 8080	11/07-11/09/94	4311092
PCB-1254	ND	1.1	SW846 8080	11/07-11/09/94	4311092
PCB-1260	ND	1.1	SW846 8080	11/07-11/09/94	4311092

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Tetrachloro-m-xylene	113	(32 - 154)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

13B00101

WO #: A15LV107
LAB #: B4K040018-006
MATRIX: SOLID

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Semi-Volatiles

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acenaphthene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Acenaphthylene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Anthracene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Benzidine	ND	1,800	SW846 8270A	11/11-11/15/94	4315088
Benzo(a)anthracene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Benzo(b)fluoranthene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Benzo(k)fluoranthene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Benzo(ghi)perylene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Benzo(a)pyrene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Bis(2-chloroethoxy)methane	ND	350	SW846 8270A	11/11-11/15/94	4315088
Bis(2-chloroethyl)ether	ND	350	SW846 8270A	11/11-11/15/94	4315088
Bis(2-chloroisopropyl)ether	ND	350	SW846 8270A	11/11-11/15/94	4315088
Bis(2-ethylhexyl)phthalate	ND	350	SW846 8270A	11/11-11/15/94	4315088
4-Bromophenyl phenyl ether	ND	350	SW846 8270A	11/11-11/15/94	4315088
Butyl benzyl phthalate	ND	350	SW846 8270A	11/11-11/15/94	4315088
4-Chloro-3-methylphenol	ND	350	SW846 8270A	11/11-11/15/94	4315088
2-Chloronaphthalene	ND	350	SW846 8270A	11/11-11/15/94	4315088
2-Chlorophenol	ND	350	SW846 8270A	11/11-11/15/94	4315088
4-Chlorophenyl phenyl ether	ND	350	SW846 8270A	11/11-11/15/94	4315088
Chrysene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Dibenz(a,h)anthracene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Di-n-butyl phthalate	ND	350	SW846 8270A	11/11-11/15/94	4315088
1,2-Dichlorobenzene	ND	350	SW846 8270A	11/11-11/15/94	4315088

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	68	(10 - 155)
2-Fluorobiphenyl	73	(12 - 153)
Terphenyl-d14	100	(13 - 140)
2-Fluorophenol	70	(24 - 118)
Phenol-d5	67	(17 - 124)
2,4,6-Tribromophenol	104	(10 - 156)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

13B00101

WO #: A15LV107
LAB #: B4K040018-006
MATRIX: SOLID

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
1,3-Dichlorobenzene	ND	350	SW846 8270A	11/11-11/15/94	4315088
1,4-Dichlorobenzene	ND	350	SW846 8270A	11/11-11/15/94	4315088
3,3'-Dichlorobenzidine	ND	1,800	SW846 8270A	11/11-11/15/94	4315088
2,4-Dichlorophenol	ND	350	SW846 8270A	11/11-11/15/94	4315088
Diethyl phthalate	ND	350	SW846 8270A	11/11-11/15/94	4315088
2,4-Dimethylphenol	ND	350	SW846 8270A	11/11-11/15/94	4315088
Dimethyl phthalate	ND	350	SW846 8270A	11/11-11/15/94	4315088
Di-n-octyl phthalate	ND	350	SW846 8270A	11/11-11/15/94	4315088
4,6-Dinitro-2-methylphenol	ND	1,800	SW846 8270A	11/11-11/15/94	4315088
2,4-Dinitrophenol	ND	1,800	SW846 8270A	11/11-11/15/94	4315088
2,4-Dinitrotoluene	ND	350	SW846 8270A	11/11-11/15/94	4315088
2,6-Dinitrotoluene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Fluoranthene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Fluorene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Hexachlorobenzene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Hexachlorobutadiene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Hexachlorocyclopentadiene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Hexachloroethane	ND	350	SW846 8270A	11/11-11/15/94	4315088
Indeno(1,2,3-cd)pyrene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Isophorone	ND	350	SW846 8270A	11/11-11/15/94	4315088
Naphthalene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Nitrobenzene	ND	350	SW846 8270A	11/11-11/15/94	4315088
2-Nitrophenol	ND	350	SW846 8270A	11/11-11/15/94	4315088

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	68	(10 - 155)
2-Fluorobiphenyl	73	(12 - 153)
Terphenyl-d14	100	(13 - 140)
2-Fluorophenol	70	(24 - 118)
Phenol-d5	67	(17 - 124)
2,4,6-Tribromophenol	104	(-10 - 156)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

13B00101

WO #: A15LV107
LAB #: B4K040018-006
MATRIX: SOLID

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Semi-Volatiles

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
4-Nitrophenol	ND	1,800	SW846 8270A	11/11-11/15/94	4315088
N-Nitrosodimethylamine	ND	350	SW846 8270A	11/11-11/15/94	4315088
N-Nitrosodi-n-propylamine	ND	350	SW846 8270A	11/11-11/15/94	4315088
N-Nitrosodiphenylamine	ND	350	SW846 8270A	11/11-11/15/94	4315088
Pentachlorophenol	ND	1,800	SW846 8270A	11/11-11/15/94	4315088
Phenanthrene	ND	350	SW846 8270A	11/11-11/15/94	4315088
Phenol	ND	350	SW846 8270A	11/11-11/15/94	4315088
Pyrene	ND	350	SW846 8270A	11/11-11/15/94	4315088
1,2,4-Trichlorobenzene	ND	350	SW846 8270A	11/11-11/15/94	4315088
2,4,6-Trichlorophenol	ND	350	SW846 8270A	11/11-11/15/94	4315088

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	68	(10 - 155)
2-Fluorobiphenyl	73	(12 - 153)
Terphenyl-d14	100	(13 - 140)
2-Fluorophenol	70	(24 - 118)
Phenol-d5	67	(17 - 124)
2,4,6-Tribromophenol	104	(10 - 156)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

13B00101

WO #: A15LV
LAB #: B4K040018-006
MATRIX: SOLID

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Cadmium	ND	0.53	mg/kg	SW846 6010A	11/09-11/10/94	4312144
Chromium	2.5 J	2.6	mg/kg	SW846 6010A	11/09-11/10/94	4312144
Arsenic	0.33	0.26	mg/kg	SW846 7060	11/09-11/11/94	4312144
Lead	9.1	0.53	mg/kg	SW846 7421	11/09-11/11/94	4312144

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE (DETECTED), BUT BELOW QUANTITATION LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

13B00101

WO #: A15LV
LAB #: B4K040018-006
MATRIX: SOLID

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

- - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons Total Recoverable	11.9	5.3	mg/kg	MCAWW 418.1 M	11/14-11/15/94	4319111
Solids, Total (TS)	94.5	1.0	%	MCAWW 160.3 M	11/07-11/08/94	4311086

NOTE. DRY WEIGHT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

EQUIPMENT BLANK

WO #: A15M2107
LAB #: B4K040018-008
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acetone	ND	10	SW846 8240A	11/08/94	4313063
Benzene	ND	1.0	SW846 8240A	11/08/94	4313063
Dichlorobromomethane	ND	1.0	SW846 8240A	11/08/94	4313063
Bromoform	ND	1.0	SW846 8240A	11/08/94	4313063
Bromomethane	ND	1.0	SW846 8240A	11/08/94	4313063
2-Butanone	ND	10	SW846 8240A	11/08/94	4313063
Carbon disulfide	ND	1.0	SW846 8240A	11/08/94	4313063
Carbon tetrachloride	ND	1.0	SW846 8240A	11/08/94	4313063
Chlorobenzene	ND	1.0	SW846 8240A	11/08/94	4313063
Dibromochloromethane	ND	1 0	SW846 8240A	11/08/94	4313063
Chloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
Chloroform	ND	1.0	SW846 8240A	11/08/94	4313063
Chloromethane	ND	1.0	SW846 8240A	11/08/94	4313063
1,1-Dichloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
1,2-Dichloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
1,1-Dichloroethene	ND	1 0	SW846 8240A	11/08/94	4313063
1,2-Dichloroethene, Total	ND	1.0	SW846 8240A	11/08/94	4313063
1,2-Dichloropropane	ND	1.0	SW846 8240A	11/08/94	4313063
cis-1,3-Dichloropropene	ND	1.0	SW846 8240A	11/08/94	4313063
trans-1,3-Dichloropropene	ND	1.0	SW846 8240A	11/08/94	4313063
Ethylbenzene	ND	1.0	SW846 8240A	11/08/94	4313063
Methylene chloride	**1.0 B**	**1.0**	**SW846 8240A**	**11/08/94**	**4313063**
4-Methyl-2-pentanone	ND	10	SW846 8240A	11/08/94	4313063

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	109	(78 - 130)
Toluene-d8	100	(90 - 109)
Bromofluorobenzene	94	(81 - 117)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

EQUIPMENT BLANK

WO #: A15M2107
LAB #: B4K040018-008
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	ND	1.0	SW846 8240A	11/08/94	4313063
1,1,2,2-Tetrachloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
Tetrachloroethene	ND	1.0	SW846 8240A	11/08/94	4313063
Toluene	ND	1.0	SW846 8240A	11/08/94	4313063
1,1,1-Trichloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
1,1,2-Trichloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
Trichloroethene	ND	1.0	SW846 8240A	11/08/94	4313063
Vinyl chloride	ND	1.0	SW846 8240A	11/08/94	4313063
2-Hexanone	ND	10	SW846 8240A	11/08/94	4313063
Xylenes, Total	ND	1.0	SW846 8240A	11/08/94	4313063

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	109	(78 - 130)
Toluene-d8	100	(90 - 109)
Bromofluorobenzene	94	(81 - 117)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

EQUIPMENT BLANK

WO #: A15M2106
LAB #: B4K040018-008
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

- - - - - - - - - - - - - - - - - - - GC Semi-Volatiles - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
PCB-1016	ND	1.0	SW846 8080	11/10-11/21/94	4314125
PCB-1221	ND	1.0	SW846 8080	11/10-11/21/94	4314125
PCB-1232	ND	1.0	SW846 8080	11/10-11/21/94	4314125
PCB-1242	ND	1.0	SW846 8080	11/10-11/21/94	4314125
PCB-1248	ND	1.0	SW846 8080	11/10-11/21/94	4314125
PCB-1254	ND	1.0	SW846 8080	11/10-11/21/94	4314125
PCB-1260	ND	1.0	SW846 8080	11/10-11/21/94	4314125

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Tetrachloro-m-xylene	62	(33 - 122)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

EQUIPMENT BLANK

WO #: A15M2108
LAB #: B4K040018-008
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acenaphthene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Acenaphthylene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Anthracene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Benzidine	ND	50	SW846 8270A	11/10-11/16/94	4314121
Benzo(a)anthracene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Benzo(b)fluoranthene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Benzo(k)fluoranthene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Benzo(ghi)perylene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Benzo(a)pyrene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Bis(2-chloroethoxy)methane	ND	10	SW846 8270A	11/10-11/16/94	4314121
Bis(2-chloroethyl)ether	ND	10	SW846 8270A	11/10-11/16/94	4314121
Bis(2-chloroisopropyl)ether	ND	10	SW846 8270A	11/10-11/16/94	4314121
Bis(2-ethylhexyl)phthalate	ND	10	SW846 8270A	11/10-11/16/94	4314121
4-Bromophenyl phenyl ether	ND	10	SW846 8270A	11/10-11/16/94	4314121
Butyl benzyl phthalate	ND	10	SW846 8270A	11/10-11/16/94	4314121
4-Chloro-3-methylphenol	ND	10	SW846 8270A	11/10-11/16/94	4314121
2-Chloronaphthalene	ND	10	SW846 8270A	11/10-11/16/94	4314121
2-Chlorophenol	ND	10	SW846 8270A	11/10-11/16/94	4314121
4-Chlorophenyl phenyl ether	ND	10	SW846 8270A	11/10-11/16/94	4314121
Chrysene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Dibenz(a,h)anthracene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Di-n-butyl phthalate	ND	10	SW846 8270A	11/10-11/16/94	4314121
1,2-Dichlorobenzene	ND	10	SW846 8270A	11/10-11/16/94	4314121

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	63	(26 - 131)
2-Fluorobiphenyl	65	(27 - 119)
Terphenyl-d14	95	(10 - 165)
2-Fluorophenol	61	(10 - 116)
Phenol-d5	58	(10 - 175)
2,4,6-Tribromophenol	71	(10 - 155)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

EQUIPMENT BLANK

WO #: A15M2108
LAB #: B4K040018-008
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Semi-Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
1,3-Dichlorobenzene	ND	10	SW846 8270A	11/10-11/16/94	4314121
1,4-Dichlorobenzene	ND	10	SW846 8270A	11/10-11/16/94	4314121
3,3'-Dichlorobenzidine	ND	50	SW846 8270A	11/10-11/16/94	4314121
2,4-Dichlorophenol	ND	10	SW846 8270A	11/10-11/16/94	4314121
Diethyl phthalate	ND	10	SW846 8270A	11/10-11/16/94	4314121
2,4-Dimethylphenol	ND	10	SW846 8270A	11/10-11/16/94	4314121
Dimethyl phthalate	ND	10	SW846 8270A	11/10-11/16/94	4314121
Di-n-octyl phthalate	ND	10	SW846 8270A	11/10-11/16/94	4314121
4,6-Dinitro-2-methylphenol	ND	50	SW846 8270A	11/10-11/16/94	4314121
2,4-Dinitrophenol	ND	50	SW846 8270A	11/10-11/16/94	4314121
2,4-Dinitrotoluene	ND	10	SW846 8270A	11/10-11/16/94	4314121
2,6-Dinitrotoluene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Fluoranthene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Fluorene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Hexachlorobenzene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Hexachlorobutadiene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Hexachlorocyclopentadiene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Hexachloroethane	ND	10	SW846 8270A	11/10-11/16/94	4314121
Indeno(1,2,3-cd)pyrene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Isophorone	ND	10	SW846 8270A	11/10-11/16/94	4314121
Naphthalene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Nitrobenzene	ND	10	SW846 8270A	11/10-11/16/94	4314121
2-Nitrophenol	ND	10	SW846 8270A	11/10-11/16/94	4314121

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	63	(26 - 131)
2-Fluorobiphenyl	65	(27 - 119)
Terphenyl-d14	95	(10 - 165)
2-Fluorophenol	61	(10 - 116)
Phenol-d5	58	(10 - 175)
2,4,6-Tribromophenol	71	(10 - 155)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

EQUIPMENT BLANK

WO #: A15M2108
LAB #: B4K040018-008
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Semi-Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
4-Nitrophenol	ND	50	SW846 8270A	11/10-11/16/94	4314121
N-Nitrosodimethylamine	ND	10	SW846 8270A	11/10-11/16/94	4314121
N-Nitrosodi-n-propylamine	ND	10	SW846 8270A	11/10-11/16/94	4314121
N-Nitrosodiphenylamine	ND	10	SW846 8270A	11/10-11/16/94	4314121
Pentachlorophenol	ND	50	SW846 8270A	11/10-11/16/94	4314121
Phenanthrene	ND	10	SW846 8270A	11/10-11/16/94	4314121
Phenol	ND	10	SW846 8270A	11/10-11/16/94	4314121
Pyrene	ND	10	SW846 8270A	11/10-11/16/94	4314121
1,2,4-Trichlorobenzene	ND	10	SW846 8270A	11/10-11/16/94	4314121
2,4,6-Trichlorophenol	ND	10	SW846 8270A	11/10-11/16/94	4314121

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	63	(26 - 131)
2-Fluorobiphenyl	65	(27 - 119)
Terphenyl-d14	95	(10 - 165)
2-Fluorophenol	61	(10 - 116)
Phenol-d5	58	(10 - 175)
2,4,6-Tribromophenol	71	(10 - 155)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

EQUIPMENT BLANK

WO #: A15M2
LAB #: B4K040018-008
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Cadmium	ND	5.0	ug/L	SW846 6010A	11/09/94	4313024
Chromium	ND	50.0	ug/L	SW846 6010A	11/09/94	4313024
Arsenic	2.4 J	5.0	ug/L	SW846 7060	11/09-11/10/94	4313024
Lead	1.9 J	5.0	ug/L	SW846 7421	11/09/94	4313024

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE (DETECTED), BUT BELOW QUANTITATION LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

EQUIPMENT BLANK

WO #: A15M2
LAB #: B4K040018-008
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

- - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons Total Recoverable	ND	1.0	mg/L	MCAWW 418.1	11/11/94	4315096

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

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WO #: A15M7101
LAB #: B4K040018-009
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acetone	ND	10	SW846 8240A	11/08/94	4313063
Benzene	ND	1.0	SW846 8240A	11/08/94	4313063
Dichlorobromomethane	ND	1.0	SW846 8240A	11/08/94	4313063
Bromoform	ND	1.0	SW846 8240A	11/08/94	4313063
Bromomethane	ND	1.0	SW846 8240A	11/08/94	4313063
2-Butanone	ND	10	SW846 8240A	11/08/94	4313063
Carbon disulfide	ND	1.0	SW846 8240A	11/08/94	4313063
Carbon tetrachloride	ND	1.0	SW846 8240A	11/08/94	4313063
Chlorobenzene	ND	1.0	SW846 8240A	11/08/94	4313063
Dibromochloromethane	ND	1.0	SW846 8240A	11/08/94	4313063
Chloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
Chloroform	ND	1.0	SW846 8240A	11/08/94	4313063
Chloromethane	ND	1.0	SW846 8240A	11/08/94	4313063
1,1-Dichloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
1,2-Dichloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
1,1-Dichloroethene	ND	1.0	SW846 8240A	11/08/94	4313063
1,2-Dichloroethene, Total	ND	1.0	SW846 8240A	11/08/94	4313063
1,2-Dichloropropane	ND	1.0	SW846 8240A	11/08/94	4313063
cis-1,3-Dichloropropene	ND	1.0	SW846 8240A	11/08/94	4313063
trans-1,3-Dichloropropene	ND	1.0	SW846 8240A	11/08/94	4313063
Ethylbenzene	ND	1.0	SW846 8240A	11/08/94	4313063
Methylene chloride	ND	1.0	SW846 8240A	11/08/94	4313063
4-Methyl-2-pentanone	ND	10	SW846 8240A	11/08/94	4313063

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	111	(78 - 130)
Toluene-d8	100	(90 - 109)
Bromofluorobenzene	97	(81 - 117)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

TRIP BLANK

WO #: A15M7101
LAB #: B4K040018-009
MATRIX: WATER

DATE SAMPLED: 11/03/94
DATE RECEIVED: 11/04/94

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	ND	1.0	SW846 8240A	11/08/94	4313063
1,1,2,2-Tetrachloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
Tetrachloroethene	ND	1.0	SW846 8240A	11/08/94	4313063
Toluene	ND	1.0	SW846 8240A	11/08/94	4313063
1,1,1-Trichloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
1,1,2-Trichloroethane	ND	1.0	SW846 8240A	11/08/94	4313063
Trichloroethene	ND	1.0	SW846 8240A	11/08/94	4313063
Vinyl chloride	ND	1.0	SW846 8240A	11/08/94	4313063
2-Hexanone	ND	10	SW846 8240A	11/08/94	4313063
Xylenes, Total	ND	1.0	SW846 8240A	11/08/94	4313063

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	111	(78 - 130)
Toluene-d8	100	(90 - 109)
Bromofluorobenzene	97	(81 - 117)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

QUALITY CONTROL SECTION

- Quality Control Summary
- Laboratory Blanks
- Laboratory Control Sample
- Matrix Spike/Matrix Spike Duplicate Results
- Sample Custody Documentation

Quanterra

QUALITY ASSURANCE / QUALITY CONTROL PROGRAM SUMMARY

Quanterra Environmental Services considers continuous analytical method performance evaluations to be an integral portion of the data package, and routinely includes the pertinent QA/QC data associated with various analytical result reports. Brief discussions of the various QA/QC procedures utilized to measure acceptable method and matrix performance follow.

Surrogate Spike Recovery Evaluations

Known concentrations of designated surrogate spikes, consisting of a number of similar, non-method compounds or method compound analogues, are added, as appropriate, to routine GC and GC/MS sample fractions prior to extraction and analysis. The percent recovery determinations calculated from the subsequent analysis is an indication of the overall method efficiency for the individual sample. This surrogate spike recovery data is displayed alongside acceptable analytical method performance limits at the bottom of each applicable analytical result report sheet.

NOTE: Acceptable method performance for Base/Neutral Acid extractables is indicated by two (2) of three (3) surrogates for each fraction with a minimum recovery of ten (10) percent each. For Pesticides one (1) of two (2) surrogates meeting performance criteria is acceptable

Laboratory Analytical Method Blank Evaluations

Laboratory analytical method blanks are systematically prepared and analyzed in order to continuously evaluate the system interferences and background contamination levels associated with each analytical method These method blanks include all aspects of actual laboratory method analysis (chemical reagents, glassware, etc.), substituting laboratory reagent water or solid for actual sample. The method blank must not contain any analytes above the reported detection limit. The following common laboratory contaminants are exceptions to this rule provided they are not present at greater than five times the detection limit.

Volatiles	Semi-volatiles	Metals
Methylene chloride	Dimethyl phthalate	Calcium
Toluene	Diethly phthalate	Magnesium
2-Butanone	Di-n-butyl phthalate	Sodium
Acetone	Butyl benzyl phthalate	
	Bis (2-ethylhexyl) phthalate	

A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method blanks.

Laboratory Analytical Method Check Sample Evaluations

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to a laboratory reagent blank prior to extraction and analysis Percent recovery determinations demonstrate the performance of the analytical method. Failure of a check sample to meet established laboratory recovery criteria is cause to stop the analysis until the problem is resolved

QUALITY ASSURANCE / QUALITY CONTROL
PROGRAM SUMMARY
(cont'd)

At that time all associated samples must be re-analyzed. A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method check samples.

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Recovery Evaluations

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to two of three separate aliquots of a sequentially predetermined sample prior to extraction and analysis. Percent recovery determinations are calculated from both of the spiked samples by comparison to the actual values generated from the unspiked sample. These percent recovery determinations indicate the accuracy of the analysis at recovering actual analytical method compounds from the matrix. Relative percent difference determinations calculated from a comparison of the MS/MSD recoveries demonstrate the precision of the analytical method. Actual percent recovery and relative percent difference data is displayed alongside their respective acceptable analytical method performance limits in the QA/QC section of the report. The MS/MSD are considered in control when the precision is within established control limits and the associated check sample has been found to be acceptable A minimum of ten percent (10%) of all analyses are MS/MSD quality control samples.

**********EXAMPLE**********

COMPOUND	SAMPLE CONC.	MS %REC	MSD %REC	RPD	QC LIMITS RPD	QC LIMITS RECOVERY
4,4'-DDT	0	95	112	16	22	66-119
Benzene	10	86	93	8	20	39-150
(cmpd. name)	sample result	1st% recov.	2nd% recov.	Rel.% diff.	accep. method perform range	

Analytical Result Qualifiers

The following qualifiers, as defined below, may be appended to analytical results in order to allow proper interpretation of the results presented:

J - indicates an estimated concentration (typically used when a dilution, matrix interference or instrumental limitation prevents accurate quantitation of a particular analyte).

B - indicates the presence of a particular analyte in the laboratory blank analyzed concurrently with the samples. Results must be interpreted accordingly.

DIL - indicates that because of matrix interferences and/or high analyte concentrations, it was necessary to dilute the sample to a point where the surrogate or spike concentrations fell below a quantifiable amount and could not be reported

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K090000-063

- - - - - - - - - - - - - - - - - - - GC/MS Volatiles - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acetone	ND	10	11/08/94	4313063
Benzene	ND	1.0	11/08/94	4313063
Dichlorobromomethane	ND	1.0	11/08/94	4313063
Bromoform	ND	1 0	11/08/94	4313063
Bromomethane	ND	1.0	11/08/94	4313063
2-Butanone	ND	10	11/08/94	4313063
Carbon disulfide	ND	1.0	11/08/94	4313063
Carbon tetrachloride	ND	1.0	11/08/94	4313063
Chlorobenzene	ND	1.0	11/08/94	4313063
Dibromochloromethane	ND	1.0	11/08/94	4313063
Chloroethane	ND	1.0	11/08/94	4313063
Chloroform	ND	1.0	11/08/94	4313063
Chloromethane	ND	1.0	11/08/94	4313063
1,1-Dichloroethane	ND	1.0	11/08/94	4313063
1,2-Dichloroethane	ND	1 0	11/08/94	4313063
1,1-Dichloroethene	ND	1.0	11/08/94	4313063
1,2-Dichloroethene, Total	ND	1.0	11/08/94	4313063
1,2-Dichloropropane	ND	1.0	11/08/94	4313063
cis-1,3-Dichloropropene	ND	1.0	11/08/94	4313063
trans-1,3-Dichloropropene	ND	1.0	11/08/94	4313063
Ethylbenzene	ND	1.0	11/08/94	4313063
2-Hexanone	ND	10	11/08/94	4313063
Methylene chloride	2.4	1.0	11/08/94	4313063
4-Methyl-2-pentanone	ND	10	11/08/94	4313063
Styrene	ND	1.0	11/08/94	4313063

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	113	(78 - 130)
Toluene-d8	99	(90 - 109)
Bromofluorobenzene	98	(81 - 117)

NOTE

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K090000-063

- - - - - - - - - - - - - - - - - - - GC/MS Volatiles -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
1,1,2,2-Tetrachloroethane	ND	1.0	11/08/94	4313063
Tetrachloroethene	ND	1.0	11/08/94	4313063
Toluene	ND	1.0	11/08/94	4313063
1,1,1-Trichloroethane	ND	1 0	11/08/94	4313063
1,1,2-Trichloroethane	ND	1.0	11/08/94	4313063
Trichloroethene	ND	1 0	11/08/94	4313063
Vinyl chloride	ND	1 0	11/08/94	4313063
Xylenes, Total	ND	1.0	11/08/94	4313063

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	113	(78 - 130)
Toluene-d8	99	(90 - 109)
Bromofluorobenzene	98	(81 - 117)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K180000-125

- GC/MS Volatiles -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acrolein	ND	50	11/17/94	4322125
Acrylonitrile	ND	50	11/17/94	4322125
Benzene	ND	5.0	11/17/94	4322125
Bromodichloromethane	ND	5.0	11/17/94	4322125
Bromoform	ND	5.0	11/17/94	4322125
Bromomethane	ND	5.0	11/17/94	4322125
Carbon tetrachloride	ND	5.0	11/17/94	4322125
Chlorobenzene	ND	5.0	11/17/94	4322125
Dibromochloromethane	ND	5 0	11/17/94	4322125
Chloroethane	ND	5 0	11/17/94	4322125
2-Chloroethyl vinyl ether	ND	5 0	11/17/94	4322125
Chloroform	ND	5 0	11/17/94	4322125
Chloromethane	ND	5.0	11/17/94	4322125
1,2-Dichlorobenzene	ND	5 0	11/17/94	4322125
1,3-Dichlorobenzene	ND	5.0	11/17/94	4322125
1,4-Dichlorobenzene	ND	5.0	11/17/94	4322125
1,1-Dichloroethane	ND	5 0	11/17/94	4322125
1,2-Dichloroethane	ND	5.0	11/17/94	4322125
1,1-Dichloroethene	ND	5.0	11/17/94	4322125
cis-1,2-Dichloroethene	ND	5 0	11/17/94	4322125
trans-1,2-Dichloroethene	ND	5.0	11/17/94	4322125
1,2-Dichloropropane	ND	5.0	11/17/94	4322125
cis-1,3-Dichloropropene	ND	5.0	11/17/94	4322125
trans-1,3-Dichloropropene	ND	5.0	11/17/94	4322125
Ethylbenzene	ND	5.0	11/17/94	4322125

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	113	(85 - 138)
Toluene-d8	98	(89 - 128)
Bromofluorobenzene	100	(83 - 128)

NOTE

ND (NONE DETECTED)

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K180000-125

- - - - - - - - - - - - - - - - - - - GC/MS Volatiles - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Trichlorofluoromethane	ND	5.0	11/17/94	4322125
Methylene chloride	ND	5.0	11/17/94	4322125
1,1,2,2-Tetrachloroethane	ND	5.0	11/17/94	4322125
Tetrachloroethene	ND	5.0	11/17/94	4322125
Toluene	ND	5.0	11/17/94	4322125
1,1,1-Trichloroethane	ND	5 0	11/17/94	4322125
1,1,2-Trichloroethane	ND	5 0	11/17/94	4322125
Trichloroethene	ND	5.0	11/17/94	4322125
Vinyl chloride	ND	5.0	11/17/94	4322125
Xylenes, Total	ND	5.0	11/17/94	4322125

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	113	(85 - 138)
Toluene-d8	98	(89 - 128)
Bromofluorobenzene	100	(83 - 128)

NOTE

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K070000-092

- GC Semi-Volatiles -

PARAMETER	RESULT (mg/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
PCB-1016	ND	1.0	11/07-11/10/94	4311092
PCB-1221	ND	1.0	11/07-11/10/94	4311092
PCB-1232	ND	1.0	11/07-11/10/94	4311092
PCB-1242	ND	1.0	11/07-11/10/94	4311092
PCB-1248	ND	1.0	11/07-11/10/94	4311092
PCB-1254	ND	1 0	11/07-11/10/94	4311092
PCB-1260	ND	1.0	11/07-11/10/94	4311092

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Tetrachloro-m-xylene	120	(32 - 154)

NOTE.

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K100000-125

- GC Semi-Volatiles -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
PCB-1016	ND	1.0	11/10-11/21/94	4314125
PCB-1221	ND	1.0	11/10-11/21/94	4314125
PCB-1232	ND	1.0	11/10-11/21/94	4314125
PCB-1242	ND	1.0	11/10-11/21/94	4314125
PCB-1248	ND	1.0	11/10-11/21/94	4314125
PCB-1254	ND	1.0	11/10-11/21/94	4314125
PCB-1260	ND	1 0	11/10-11/21/94	4314125

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Tetrachloro-m-xylene	70	(33 - 122)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K110000-088

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acenaphthene	ND	330	11/11-11/15/94	4315088
Acenaphthylene	ND	330	11/11-11/15/94	4315088
Anthracene	ND	330	11/11-11/15/94	4315088
Benzidine	ND	1,700	11/11-11/15/94	4315088
Benzo(a)anthracene	ND	330	11/11-11/15/94	4315088
Benzo(b)fluoranthene	ND	330	11/11-11/15/94	4315088
Benzo(k)fluoranthene	ND	330	11/11-11/15/94	4315088
Benzo(ghi)perylene	ND	330	11/11-11/15/94	4315088
Benzo(a)pyrene	ND	330	11/11-11/15/94	4315088
Bis(2-chloroethoxy)methane	ND	330	11/11-11/15/94	4315088
Bis(2-chloroethyl)ether	ND	330	11/11-11/15/94	4315088
Bis(2-chloroisopropyl)ether	ND	330	11/11-11/15/94	4315088
Bis(2-ethylhexyl)phthalate	ND	330	11/11-11/15/94	4315088
4-Bromophenyl phenyl ether	ND	330	11/11-11/15/94	4315088
Butyl benzyl phthalate	ND	330	11/11-11/15/94	4315088
4-Chloro-3-methylphenol	ND	330	11/11-11/15/94	4315088
2-Chloronaphthalene	ND	330	11/11-11/15/94	4315088
2-Chlorophenol	ND	330	11/11-11/15/94	4315088
4-Chlorophenyl phenyl ether	ND	330	11/11-11/15/94	4315088
Chrysene	ND	330	11/11-11/15/94	4315088
Dibenz(a,h)anthracene	ND	330	11/11-11/15/94	4315088
Di-n-butyl phthalate	ND	330	11/11-11/15/94	4315088
1,2-Dichlorobenzene	ND	330	11/11-11/15/94	4315088
1,3-Dichlorobenzene	ND	330	11/11-11/15/94	4315088
1,4-Dichlorobenzene	ND	330	11/11-11/15/94	4315088

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	77	(10 - 155)
2-Fluorobiphenyl	74	(12 - 153)
Terphenyl-d14	96	(13 - 140)
2-Fluorophenol	70	(24 - 118)
Phenol-d5	78	(17 - 124)
2,4,6-Tribromophenol	87	(-10 - 156)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K110000-088

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
3,3'-Dichlorobenzidine	ND	1,700	11/11-11/15/94	4315088
2,4-Dichlorophenol	ND	330	11/11-11/15/94	4315088
Diethyl phthalate	ND	330	11/11-11/15/94	4315088
2,4-Dimethylphenol	ND	330	11/11-11/15/94	4315088
Dimethyl phthalate	ND	330	11/11-11/15/94	4315088
Di-n-octyl phthalate	ND	330	11/11-11/15/94	4315088
4,6-Dinitro-2-methylphenol	ND	1,700	11/11-11/15/94	4315088
2,4-Dinitrophenol	ND	1,700	11/11-11/15/94	4315088
2,4-Dinitrotoluene	ND	330	11/11-11/15/94	4315088
2,6-Dinitrotoluene	ND	330	11/11-11/15/94	4315088
Fluoranthene	ND	330	11/11-11/15/94	4315088
Fluorene	ND	330	11/11-11/15/94	4315088
Hexachlorobenzene	ND	330	11/11-11/15/94	4315088
Hexachlorobutadiene	ND	330	11/11-11/15/94	4315088
Hexachlorocyclopentadiene	ND	330	11/11-11/15/94	4315088
Hexachloroethane	ND	330	11/11-11/15/94	4315088
Indeno(1,2,3-cd)pyrene	ND	330	11/11-11/15/94	4315088
Isophorone	ND	330	11/11-11/15/94	4315088
Naphthalene	ND	330	11/11-11/15/94	4315088
Nitrobenzene	ND	330	11/11-11/15/94	4315088
2-Nitrophenol	ND	330	11/11-11/15/94	4315088
4-Nitrophenol	ND	1,700	11/11-11/15/94	4315088
N-Nitrosodimethylamine	ND	330	11/11-11/15/94	4315088
N-Nitrosodi-n-propylamine	ND	330	11/11-11/15/94	4315088

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	77	(10 - 155)
2-Fluorobiphenyl	74	(12 - 153)
Terphenyl-d14	96	(13 - 140)
2-Fluorophenol	70	(24 - 118)
Phenol-d5	78	(17 - 124)
2,4,6-Tribromophenol	87	(10 - 156)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K110000-088

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
N-Nitrosodiphenylamine	ND	330	11/11-11/15/94	4315088
Pentachlorophenol	ND	1,700	11/11-11/15/94	4315088
Phenanthrene	ND	330	11/11-11/15/94	4315088
Phenol	ND	330	11/11-11/15/94	4315088
Pyrene	ND	330	11/11-11/15/94	4315088
1,2,4-Trichlorobenzene	ND	330	11/11-11/15/94	4315088
2,4,6-Trichlorophenol	ND	330	11/11-11/15/94	4315088

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	77	(10 - 155)
2-Fluorobiphenyl	74	(12 - 153)
Terphenyl-d14	96	(13 - 140)
2-Fluorophenol	70	(24 - 118)
Phenol-d5	78	(17 - 124)
2,4,6-Tribromophenol	87	(10 - 156)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K100000-121

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acenaphthene	ND	10	11/10-11/16/94	4314121
Acenaphthylene	ND	10	11/10-11/16/94	4314121
Anthracene	ND	10	11/10-11/16/94	4314121
Benzidine	ND	50	11/10-11/16/94	4314121
Benzo(a)anthracene	ND	10	11/10-11/16/94	4314121
Benzo(b)fluoranthene	ND	10	11/10-11/16/94	4314121
Benzo(k)fluoranthene	ND	10	11/10-11/16/94	4314121
Benzo(ghi)perylene	ND	10	11/10-11/16/94	4314121
Benzo(a)pyrene	ND	10	11/10-11/16/94	4314121
Bis(2-chloroethoxy)methane	ND	10	11/10-11/16/94	4314121
Bis(2-chloroethyl)ether	ND	10	11/10-11/16/94	4314121
Bis(2-chloroisopropyl)ether	ND	10	11/10-11/16/94	4314121
Bis(2-ethylhexyl)phthalate	ND	10	11/10-11/16/94	4314121
4-Bromophenyl phenyl ether	ND	10	11/10-11/16/94	4314121
Butyl benzyl phthalate	ND	10	11/10-11/16/94	4314121
4-Chloro-3-methylphenol	ND	10	11/10-11/16/94	4314121
2-Chloronaphthalene	ND	10	11/10-11/16/94	4314121
2-Chlorophenol	ND	10	11/10-11/16/94	4314121
4-Chlorophenyl phenyl ether	ND	10	11/10-11/16/94	4314121
Chrysene	ND	10	11/10-11/16/94	4314121
Dibenz(a,h)anthracene	ND	10	11/10-11/16/94	4314121
Di-n-butyl phthalate	ND	10	11/10-11/16/94	4314121
1,2-Dichlorobenzene	ND	10	11/10-11/16/94	4314121
1,3-Dichlorobenzene	ND	10	11/10-11/16/94	4314121
1,4-Dichlorobenzene	ND	10	11/10-11/16/94	4314121

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	73	(26 - 131)
2-Fluorobiphenyl	76	(27 - 119)
Terphenyl-d14	103	(10 - 165)
2-Fluorophenol	73	(10 - 116)
Phenol-d5	68	(10 - 175)
2,4,6-Tribromophenol	79	(-10 - 155)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K100000-121

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
3,3'-Dichlorobenzidine	ND	50	11/10-11/16/94	4314121
2,4-Dichlorophenol	ND	10	11/10-11/16/94	4314121
Diethyl phthalate	ND	10	11/10-11/16/94	4314121
2,4-Dimethylphenol	ND	10	11/10-11/16/94	4314121
Dimethyl phthalate	ND	10	11/10-11/16/94	4314121
Di-n-octyl phthalate	ND	10	11/10-11/16/94	4314121
4,6-Dinitro-2-methylphenol	ND	50	11/10-11/16/94	4314121
2,4-Dinitrophenol	ND	50	11/10-11/16/94	4314121
2,4-Dinitrotoluene	ND	10	11/10-11/16/94	4314121
2,6-Dinitrotoluene	ND	10	11/10-11/16/94	4314121
Fluoranthene	ND	10	11/10-11/16/94	4314121
Fluorene	ND	10	11/10-11/16/94	4314121
Hexachlorobenzene	ND	10	11/10-11/16/94	4314121
Hexachlorobutadiene	ND	10	11/10-11/16/94	4314121
Hexachlorocyclopentadiene	ND	10	11/10-11/16/94	4314121
Hexachloroethane	ND	10	11/10-11/16/94	4314121
Indeno(1,2,3-cd)pyrene	ND	10	11/10-11/16/94	4314121
Isophorone	ND	10	11/10-11/16/94	4314121
Naphthalene	ND	10	11/10-11/16/94	4314121
Nitrobenzene	ND	10	11/10-11/16/94	4314121
2-Nitrophenol	ND	10	11/10-11/16/94	4314121
4-Nitrophenol	ND	50	11/10-11/16/94	4314121
N-Nitrosodimethylamine	ND	10	11/10-11/16/94	4314121
N-Nitrosodi-n-propylamine	ND	10	11/10-11/16/94	4314121

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	73	(26 - 131)
2-Fluorobiphenyl	76	(27 - 119)
Terphenyl-d14	103	(10 - 165)
2-Fluorophenol	73	(10 - 116)
Phenol-d5	68	(10 - 175)
2,4,6-Tribromophenol	79	(10 - 155)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K100000-121

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
N-Nitrosodiphenylamine	ND	10	11/10-11/16/94	4314121
Pentachlorophenol	ND	50	11/10-11/16/94	4314121
Phenanthrene	ND	10	11/10-11/16/94	4314121
Phenol	ND	10	11/10-11/16/94	4314121
Pyrene	ND	10	11/10-11/16/94	4314121
1,2,4-Trichlorobenzene	ND	10	11/10-11/16/94	4314121
2,4,6-Trichlorophenol	ND	10	11/10-11/16/94	4314121

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	73	(26 - 131)
2-Fluorobiphenyl	76	(27 - 119)
Terphenyl-d14	103	(10 - 165)
2-Fluorophenol	73	(10 - 116)
Phenol-d5	68	(10 - 175)
2,4,6-Tribromophenol	79	(10 - 155)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K040018

METALS

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE
		BATCH:4312144			
Arsenic	ND	0.25	mg/kg	SW846 7060	11/09-11/11/94
Cadmium	ND	0.50	mg/kg	SW846 6010A	11/09-11/10/94
Chromium	ND	2.5	mg/kg	SW846 6010A	11/09-11/10/94
Lead	ND	0.25	mg/kg	SW846 7421	11/09-11/11/94
		BATCH:4313024			
Arsenic	ND	5.0	ug/L	SW846 7060	11/09/94
Cadmium	ND	5.0	ug/L	SW846 6010A	11/09/94
Chromium	ND	50.0	ug/L	SW846 6010A	11/09/94
Lead	ND	5.0	ug/L	SW846 7421	11/09/94

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K150000-111

- - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons	ND	5.0	mg/kg	11/14-11/15/94	4319111
Petroleum Hydrocarbons	ND	5.0	mg/kg	11/17-11/18/94	4322088
Petroleum Hydrocarbons	ND	1.0	mg/L	11/11/94	4315096

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 4313063
LAB #: B4K090000-063 C

PREPARATION DATE: 11/08/94
DATE ANALYZED: 11/08/94

- GC/MS Volatiles -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
1,1-Dichloroethene	94	(66-120)
Benzene	100	(76-119)
Trichloroethene	100	(75-119)
Toluene	101	(76-119)
Chlorobenzene	103	(80-121)

Quanterra Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 4322125
LAB #: B4K180000-125 C

PREPARATION DATE: 11/17/94
DATE ANALYZED: 11/17/94

- GC/MS Volatiles -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
1,1-Dichloroethene	97	(67-120)
Benzene	94	(78-118)
Trichloroethene	102	(75-116)
Toluene	95	(77-118)
Chlorobenzene	105	(82-116)

Quanterra Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 4311092
LAB #: B4K070000-092 C

PREPARATION DATE: 11/07/94
DATE ANALYZED: 11/10/94

- - - - - - - - - - - - - - - - - - - GC Semi-Volatiles - - - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
PCB-1016	130	(32-143)
PCB-1260	110	(20-160)

Quanterra Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 4314125
LAB #: B4K100000-125 C

PREPARATION DATE: 11/10/94
DATE ANALYZED: 11/21/94

- GC Semi-Volatiles - - - - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
PCB-1016	86	(64-122)
PCB-1260	71	(28-146)

Quanterra Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 4315088
LAB #: B4K110000-088 C

PREPARATION DATE: 11/11/94
DATE ANALYZED: 11/15/94

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
Phenol	74	(35-98)
2-Chlorophenol	78	(36-96)
1,4-Dichlorobenzene	72	(49-127)
N-Nitrosodi-n-propylamine	87	(29-122)
1,2,4-Trichlorobenzene	71	(42-116)
4-Cnloro-3-methylphenol	81	(30-118)
Acenaphthene	89	(43-114)
4-Nitrophenol	113	(10-140)
2,4-Dinitrotoluene	98	(33-124)
Pentachlorophenol	104	(10-140)
Pyrene	91	(36-123)

Quanterra Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 4314121
LAB #: B4K100000-121 C

PREPARATION DATE: 11/10/94
DATE ANALYZED: 11/16/94

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
Phenol	78	(10-113)
2-Chlorophenol	80	(17-108)
1,4-Dichlorobenzene	68	(24-133)
N-Nitrosodi-n-propylamine	70	(12-139)
1,2,4-Trichlorobenzene	75	(27-119)
4-Chloro-3-methylphenol	85	(17-120)
Acenaphthene	85	(24-127)
4-Nitrophenol	97	(10-138)
2,4-Dinitrotoluene	96	(15-138)
Pentachlorophenol	99	(10-145)
Pyrene	93	(20-137)

Quanterra Environmental Services

CHECK SAMPLE REPORT

LAB #: B4K040018

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS	PREPARATION - ANALYSIS DATE
	BATCH:4312144		
Arsenic	106	(78-118)	11/09-11/10/94
Cadmium	98	(71-110)	11/09-11/10/94
Chromium	99	(80-110)	11/09-11/10/94
Lead	98	(69-120)	11/09-11/10/94
	BATCH.4313024		
Arsenic	104	(77-118)	11/09/94
Cadmium	98	(83-117)	11/09/94
Chromium	100	(89-117)	11/09/94
Lead	101	(83-119)	11/09/94

Quanterra Environmental Services

CHECK SAMPLE REPORT

LAB #: B4K040018

- - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Petroleum Hydrocarbons Total Recoverable	90	(65-114)	11/14-11/15/94	4319111
Petroleum Hydrocarbons Total Recoverable	91	(65-114)	11/17-11/18/94	4322088
Petroleum Hydrocarbons Total Recoverable	93	(73-122)	11/11/94	4315096

Quanterra Environmental Services

SAMPLE - SAMPLE DUP

WO #: A15LW

LAB #: B4K040018-007
MATRIX: SOLID

- - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT SMP	RESULT DUP	RPD	RPD LIMIT	EXTRACTION / ANALYSIS DATE	QC BATCH
Solids, Total (TS)	94.3	94.5	0.2	(0-20)	11/07-11/08/94	4311086

Quanterra Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 4315088
LAB #: B4K040018-001 S
MATRIX: SOLID

WO #: A15LP
PREPARATION DATE: 11/11/94
DATE ANALYZED: 11/15/94

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMIT
Phenol	86	69	(15-112)	22	(0-24)
2-Chlorophenol	83	70	(19-100)	18	(0-29)
1,4-Dichlorobenzene	81	63	(20-132)	26	(0-43)
N-Nitrosodi-n-propylamine	89	76	(25-114)	16	(0-44)
1,2,4-Trichlorobenzene	71	58	(38-136)	21	(0-24)
4-Chloro-3-methylphenol	91	83	(29-101)	9.8	(0-35)
Acenaphthene	93	89	(34-122)	4.7	(0-22)
4-Nitrophenol	120	121	(10-147)	0.82	(0-58)
2,4-Dinitrotoluene	95	98	(10-119)	2.9	(0-41)
Pentachlorophenol	103	90	(20-112)	14	(0-39)
Pyrene	95	94	(38-141)	1.1	(0-26)

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

LAB #: B4K040018-001

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMITS	PREPARATION - ANALYSIS DATE
	BATCH:4312144 MATRIX: SOLID					
Arsenic	86	78	(30-155)	9.8	(0-20)	11/09-11/11/94
Cadmium	90	94	(80-120)	4.1	(0-20)	11/09-11/10/94
Chromium	90	92	(80-120)	2.8	(0-20)	11/09-11/10/94
Lead	152	165	(30-157)	7.9	(0-27)	11/09-11/14/94

NOTE:

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra Environmental Services, Tampa
Sample Shipper Evaluation and Receipt Form

Client: ABB Project Name/Number. Former UST location

Samples Received by: Carol McNulty Date Received: 11/4/94
Signature

Sample Evaluation Form by: Carol McNulty
Signature

Type of shipping containers samples received in.

Quanterra cooler X Client cooler _____

Quanterra shipper _____ Box _____ Other _____

Any "NO" responses or discrepancies should be explained in the "Comments" section

		Yes	No
1)	Were custody seals on shipping container(s) intact?	X	
2)	Were custody papers properly included with samples?	X	
3)	Were custody papers properly filled out (ink, signed, match labels)?	X	
4)	Did all bottles arrive in good condition (unbroken)?	X	
5)	Were all bottle labels complete (sample no., date, signed, analysis preservatives)?	X	
6)	Were correct bottles used for the tests indicated?	X	
7)	Were proper sample preservativion techniques indicated?	X	
8)	Were samples received within adequate holding times?	X	
9)	Were all VOA bottles checked for the presence of air bubbles? (If air bubbles were found, indicate in comment section)	X	
10)	Were samples in direct contact with wet ice? NOTE TEMPERATURE BELOW	X	
11)	Were samples accepted into the laboratory? (If "No", see comments)	X	

Cooler # _____ Temp 3 C — Cooler # _____ Temp _____ C

Comments _____

WADSWORTH/ALERT LABORATORIES
Sampling, testing, mobile labs

5910 Breckenridge Pkwy
Suite H
Tampa, FL 33610

(813) 621-0784
Fax (813) 623-6021

Chain of Custody Record

Record ____ of ____

#

Client	Project Name / Location
AMB-ES	[illegible]
Sampler(s)	**Project #**
[illegible]	[illegible]

Item #	Date	Time	MATRIX	Sample Location	No Of CONTAINERS	VOC-	PAH-	METALS-	TRPH-	EDB-	[illegible]	[illegible]				Remarks
1	11-2-94	1245	SW	[illegible]	[illegible]	2	1	1	1	1						
2		1210	[illegible]	[illegible]	[illegible]	1					1					
3		[illegible]		[illegible]	[illegible]						1					
4		1 40		[illegible]	[illegible]	1					1					
5		1330		[illegible]	[illegible]	1						1				
6		1405		[illegible]	[illegible]	1					1					
7		1420		[illegible]	2	1					1					
8		—		[illegible]	[illegible]	1					1					
9																
10																
11																

Total Containers [illegible] 22 Number of Coolers in Shipment [illegible] Bailers [illegible]

Report To.
[illegible]

Additional Comments.
(1) 2240 Tup Cnr
[illegible]
NO PCB [illegible]
[illegible] # 2105144142
[illegible] # 4356

Transfer Number	Item Number(s)	Relinquished By / Company	Accepted By / Company	Date	Time
1	1-1	[illegible]	[illegible]	[illegible]	
2	[illegible]	[illegible]	[illegible]	[illegible]	
3		[illegible]	[illegible]	[illegible]	
4					
5					
6					

Original Accompanies Shipment