N00204.AR.003616
NAS PENSACOLA
5090.3a

CONTAMINATION REPORT ADDENDUM SITE 3 UNDERGROUND STORAGE TANK 107 (UST107) NAS PENSACOLA FL

8/1/1995

ABB ENVIRONMENTAL SERVICES, INC

CONTAMINATION ASSESSMENT REPORT ADDENDUM

SITE 3, UST 107
NAVAL AVIATION DEPOT

NAVAL AIR STATION
PENSACOLA, FLORIDA

Unit Identification Code: N00204

Contract No. N62467-89-D-0317/008

Prepared by:

ABB Environmental Services, Inc.
2590 Executive Center Circle, East
Tallahassee, Florida 32301

Prepared for:

Department of the Navy, Southern Division
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: August 17, 1995

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

NAME AND TITLE OF CERTIFYING OFFICIAL: Michael J. Williams, P.G.
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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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
AVGAS	aviation gasoline
BEI	Bechtel Environmental, Inc.
BDL	below detection limits
bls	below land surface
BRAC	Base Realignment and Closure
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 Proposal
NS	not sampled
NTTC	Naval Technical Training Center
OVA	organic vapor analyzer
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
VOC	volatile organic compound
VOH	volatile organic halocarbons
yd^3	cubic yard

1.0 SITE BACKGROUND AND DESCRIPTION

Site 3 is located on the northwest edge 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 107, was located next to Industrial Road approximately 200 feet north of Building 3819. The tank was constructed of unprotected steel and installed next to a steel "oil pit". At the time of removal, the "oil pit" contained a variety of piping, valves, and a rubber hose on a steel reel. The purpose of the pits is uncertain, although the suspected usage was to dispense lube oil and air during aircraft maintenance.

UST 107 was removed in September 1994 by Phoenix Construction Company and their subcontractor, GT Environmental Services, Inc. (GTES). During the tank removal operations a visual observation of both soil and groundwater was reported by GTES personnel. No confirmatory samples were collected by GTES. Subsequent to the UST removal, all excavated soil was returned to the excavation. A copy of the GTES letter summarizing their findings is included in Appendix A, GTES Correspondence, of this report.

The UST site was transferred to ABB Environmental Services, Inc. (ABB-ES) for closure. The closure report for UST 107 is presented in Appendix A, Site Background Information and Documentation, of the AVGAS Pipeline Area Contamination Assessment Report (CAR) submitted by ABB-ES in August 1995. Because visual observation of site soil and groundwater had been reported, 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.

In January 1995, the demolition of Chevalier Field commenced. The airfield and many of its associated facilities are being demolished as part of the base realignment and closure (BRAC) program. A Naval Technical Training Center (NTTC) is being constructed on the former airfield. Figure 1-3 presents a map of the future facilities at NTTC in the Site 3 area.

As a result of BRAC construction, Site 3 underwent drastic changes during the course of this investigation. During the contamination assessment (CA) a truck scale was built on the Site 3 location. An area approximately 80 feet by 15 feet is now covered by the scales and their concrete pad. Consideration of these factors has played a major role in formulating the remedial alternatives recommended for this site.

The maps included in this report present the Site 3 area as it was prior to demolition and construction. Changes occurring in the site area which affected the investigation are discussed in the text of this report.

The following report summarizes the data gathered during the Site 3 UST closure and preliminary CA. General information such as regional and local physiography, regional hydrology, investigative methodologies, and procedures are included in the August 1995 AVGAS Pipeline Area CAR.

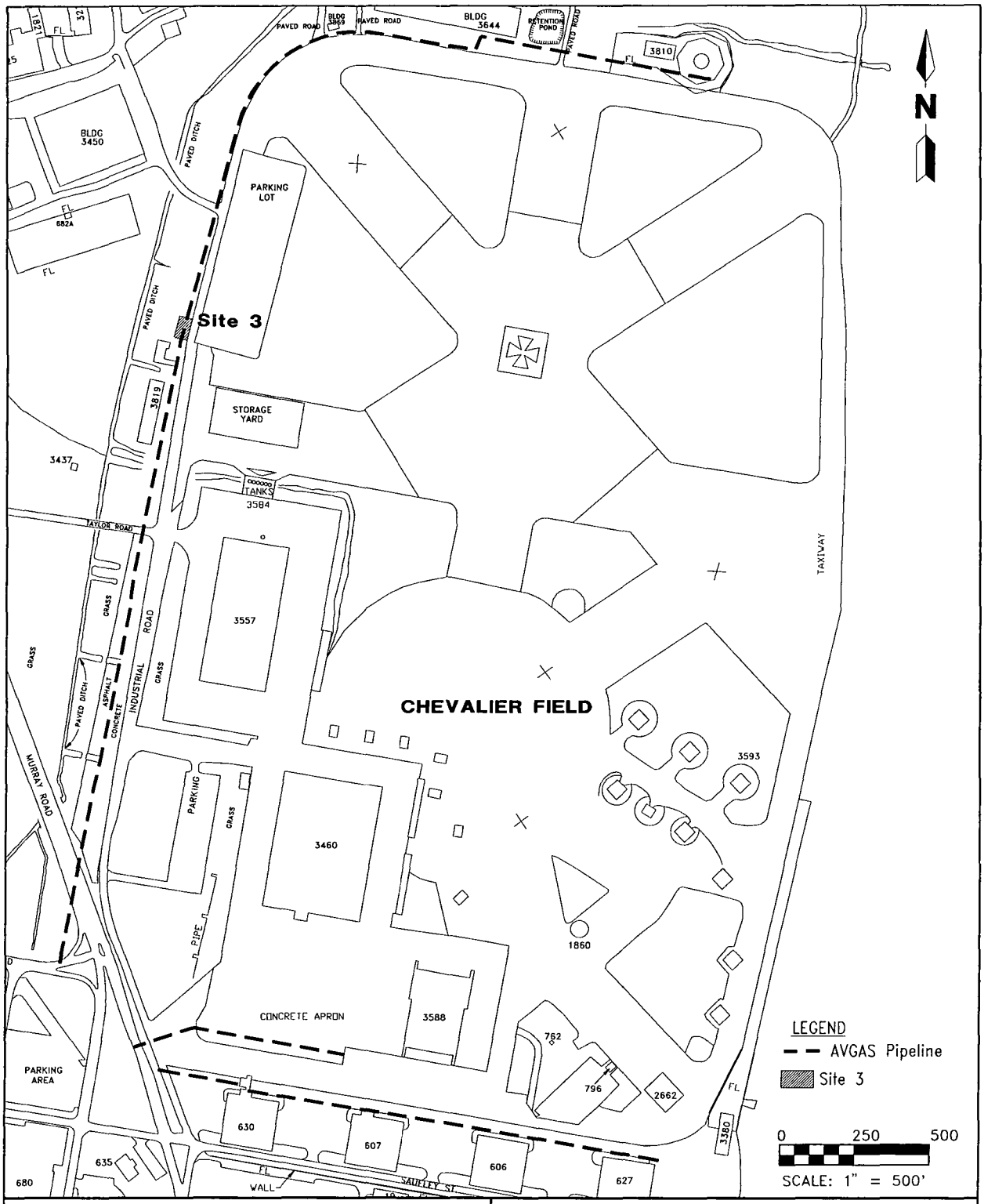

FIGURE 1-1
SITE LOCATION MAP

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CONTAMINATION ASSESSMENT REPORT ADDENDUM, AVGAS PIPELINE AREA SITE 3, UST 107

NADEP PENSACOLA
PENSACOLA, FLORIDA

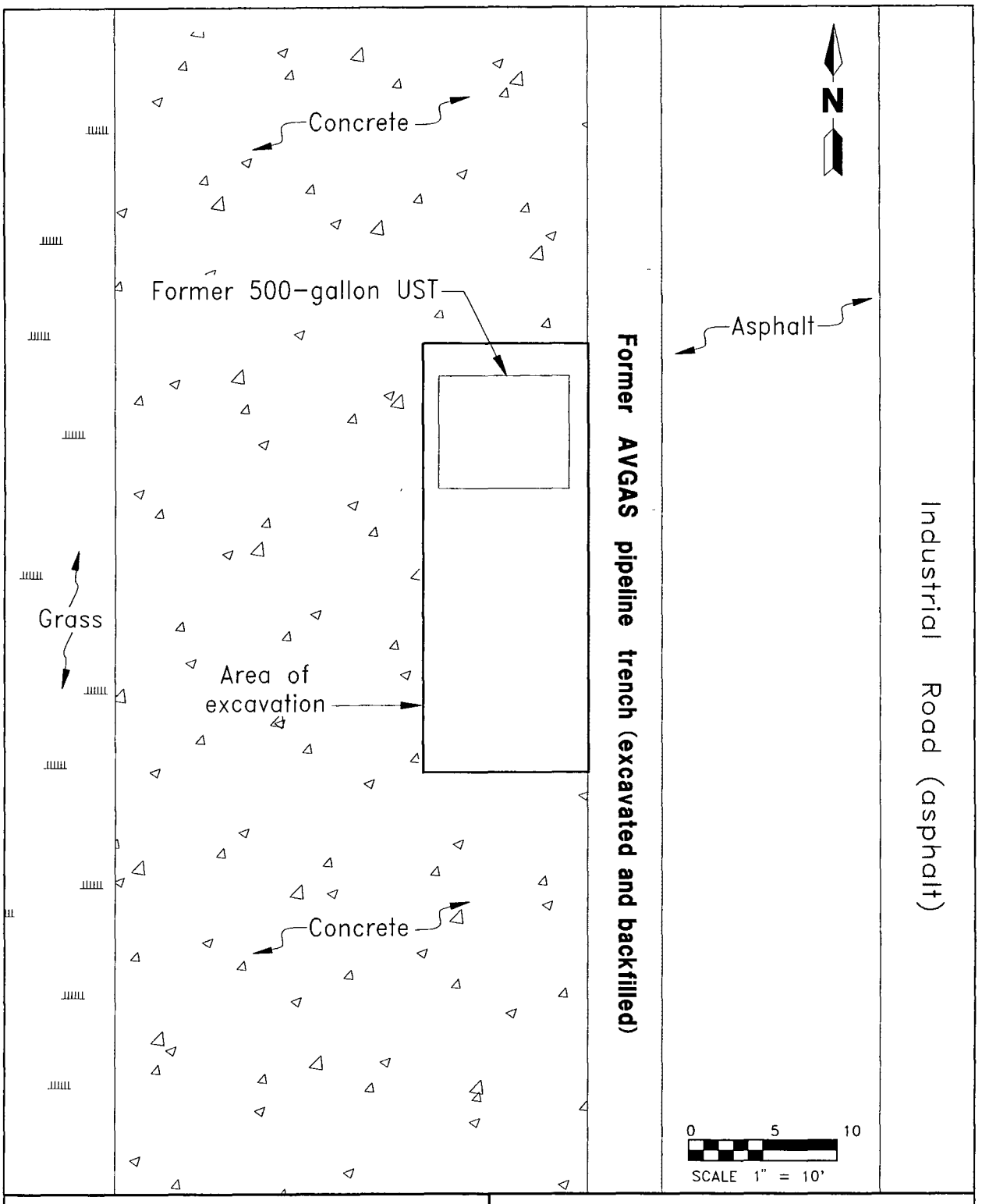

FIGURE 1-2
SITE PLAN, PRE-BRAC CONSTRUCTION

H /PENSCOLA/SITE-3/NP/08-18-95

CONTAMINATION ASSESSMENT REPORT ADDENDUM, AVGAS PIPELINE AREA SITE 3, UST 107

NADEP PENSACOLA
PENSACOLA, FLORIDA

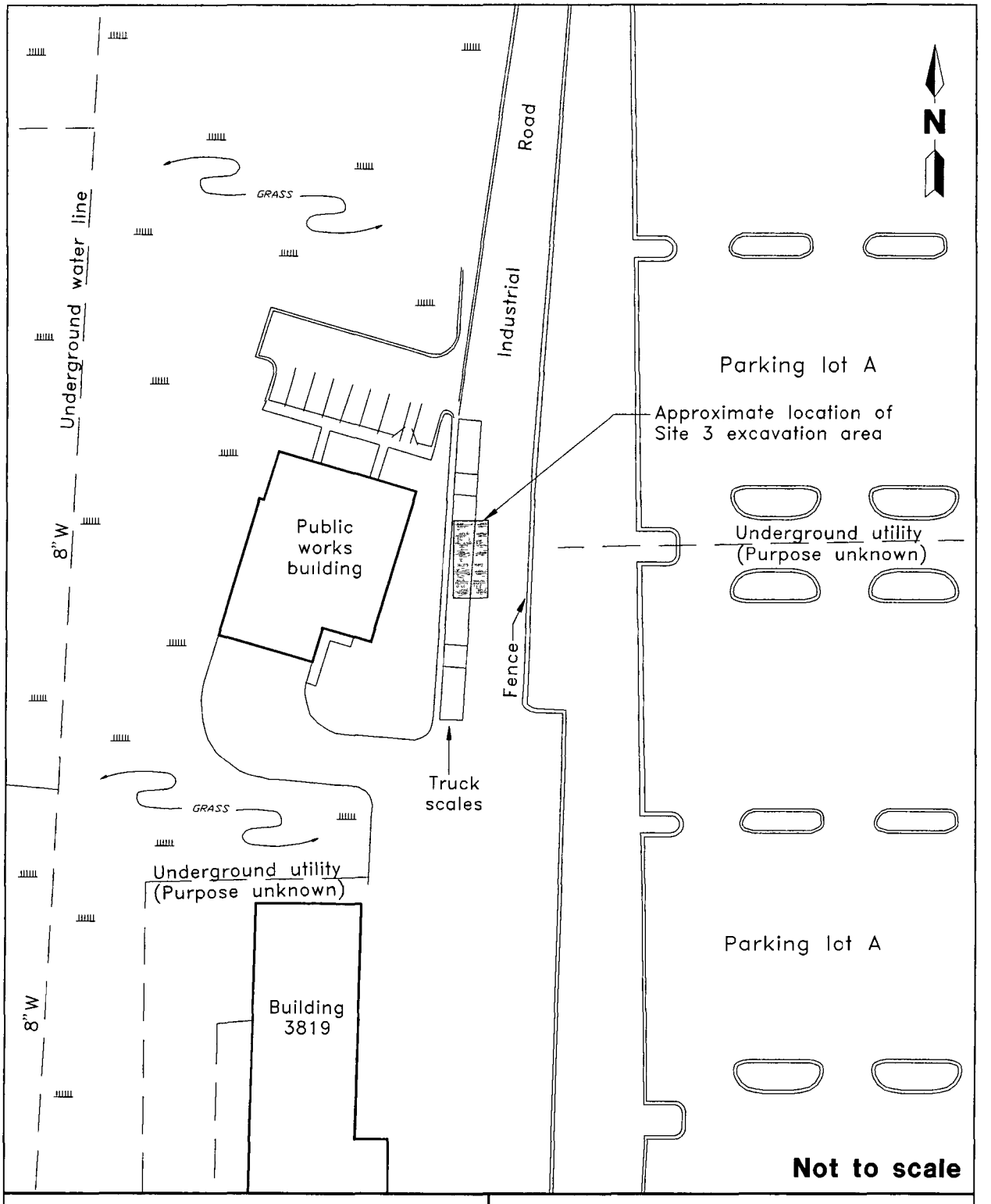

FIGURE 1-3
SITE PLAN,
POST BRAC CONSTRUCTION

H /PENSACOLA/POSTBRAC/NP/8-18-95

CONTAMINATION ASSESSMENT REPORT ADDENDUM, AVGAS PIPELINE AREA SITE 3, UST 107

NADEP PENSACOLA
PENSACOLA, FLORIDA

2.0 CONTAMINATION ASSESSMENT RESULTS

2.1 SOIL ASSESSMENT RESULTS. All soil samples were collected in accordance with ABB-ES' approved Comprehensive Quality Assurance Plan (CompQAP) using a stainless steel hand-operated auger. Samples were placed in the appropriate containers, labeled, packed in ice, and shipped by overnight carrier to a certified analytical laboratory for analysis.

2.1.1 Initial Soil Assessment On September 23, 1994, ABB-ES personnel advanced six soil borings (03B001 through 03B006) around the perimeter of the UST 107 excavation area. The purpose of these borings was to gather lithologic information and visually inspect the soil around the excavation for contamination. Organic vapor analyzer (OVA) headspace measurements were also collected from these borings. Visual inspection revealed stained soil on the southwest edge of the excavation; however, no volatile organic compound (VOC) concentrations greater than 1 part per million (ppm) were detected. Table 2-1 summarizes the data collected from these borings. Figure 2-1 presents the lithologic soil boring locations and OVA screening results. Soil boring data are presented in Appendix B, Lithologic Logs, of this report.

On October 26, 1994, a composite soil sample, 03B00701, was collected from the soil which had been returned to the Site 3 excavation area. This sample was composited from soil collected at each corner and the center of the UST excavation area from 1.5 to 2 feet below land surface (bls). The sample was analyzed for the clean soil criteria described in 62-775.400 FAC. Figure 2-1 presents the composite soil sampling locations and the analytical results of 03B00701. Laboratory data sheets for soil sample 03B00701 are attached to this report in Appendix C, Laboratory Analytical Data.

Volatile organic aromatic (VOA) and polynuclear aromatic hydrocarbon (PAH) concentrations were below method detection limits for soil sample 03B00101. A total recoverable petroleum hydrocarbons (TRPH) concentration of 690 ppm was detected in the soil sample. Because PAH and VOA concentrations were below detection limits, a TRPH clean soil maximum concentration of 50 ppm was applied in accordance with Chapter 62-775.400, Florida Administrative Code (FAC). Chromium, arsenic, and lead concentrations were below the respective State maximum concentrations.

On January 23, 1995, excessively contaminated soil from the former location of UST 107 was removed by Bechtel Environmental, Inc. (BEI). The excavation area is shown on Figure 2-1. Approximately 34 cubic yards (yd^3) of soil were removed from an area 28 feet by 11 feet. Excavation continued until the water table was reached at 3 feet bls. The soil removed from the site consisted of fine-grained, well-sorted sand, ranging in color from dark yellowish orange to very light gray. ABB-ES personnel present during the excavation reported no stained soil or other visual evidence of contamination on the walls of the excavation. The Site 3 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. Soil transportation and disposal manifests are included in Appendix A of the AVGAS Pipeline Area CAR.

Table 2-1
Summary of Lithologic Soil Boring Data,
September 1994

Contamination Assessment Report Addendum
Site 3 - UST 107, Naval Aviation Depot
Pensacola, Florida

Soil Boring Designation	Sample Depth (feet bls)	Unfiltered OVA Reading[1] (ppm)	Visual Observations
03B001	2.5 to 3.0	<1	No staining, no petroleum odor
03B002	2.5 to 3.0	1	No staining, no petroleum odor
03B003	2 5 to 3.0	<1	No staining, no petroleum odor
03B004	0.5 to 1 0	<1	Soil staining, no petroleum odor
	2.5 to 3.0	<1	No staining, no petroleum odor
03B005	2.5 to 3.0	<1	No staining, organic odor
03B006	2 5 to 3.0	<1	No staining, organic odor

[1]Filtered readings were not taken due to the very low volatile concentrations encountered at the sites.

Notes: bls = below land surface
OVA = organic vapor analyzer.
ppm = parts per million

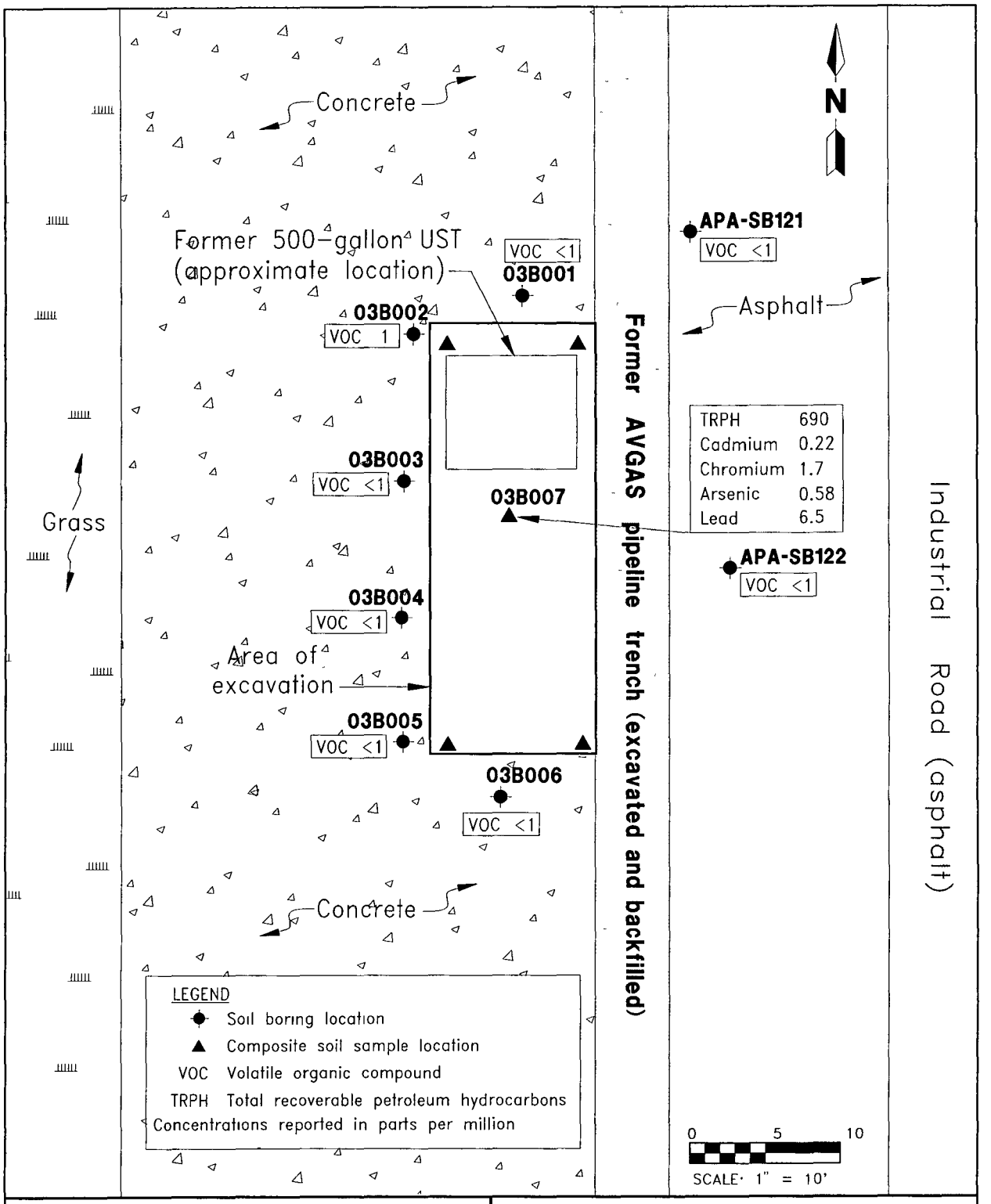

FIGURE 2-1
CLOSURE ASSESSMENT SOIL BORING LOCATIONS AND ANALYTICAL RESULTS, OCTOBER 1994

CONTAMINATION ASSESSMENT REPORT ADDENDUM, AVGAS PIPELINE AREA SITE 3, UST 107

NADEP PENSACOLA
PENSACOLA, FLORIDA

H /PENSCOLA/SITE-3/NP/8-14-95

2.1.2 Confirmatory Soil Assessment On February 4, 1995, four confirmatory soil samples, 03B00802 through 03B01102, were collected from the north, south, east, and west sides of the excavation area, respectively. Due to conditions at the site which were influenced by the activities of heavy equipment and construction debris, soil samples were collected at locations as close to the edge of the excavation as possible. These soil samples were collected from 1.5 to 2 feet bls. All four samples were analyzed for total recoverable petroleum hydrocarbons (TRPHs), arsenic, cadmium, chromium, and lead, in accordance with Chapter 62-770.600, FAC. Table 2-2 summarizes the confirmatory sampling results. Figure 2-2 presents confirmatory sample locations and laboratory analytical results.

No parameters detected in any of the four samples exceeded Florida's clean soil maximum concentration.

2.2 GROUNDWATER ASSESSMENT RESULTS. On March 14, 1995, ABB-ES supervised the installation of one temporary shallow monitoring well in the source area of Site 3. The temporary monitoring well, 03Z001, was installed to a depth of 12 feet bls and sampled on the same day. Figure 2-3 presents the location and sampling results for 03Z001.

The groundwater sample, 03Z00101, was analyzed for Used Oil Group parameter in accordance with Chapter 62-770.600, FAC. No Used Oil Group constituents were detected in the sample. Laboratory data sheets are presented in Appendix C, Laboratory Analytical Data, of this report.

Table 2-2
Summary of Soil Sample Analytical Results
October 1994 through February 1995

Contamination Assessment Report Addendum
Site 3 - UST 107, Naval Aviation Depot
Pensacola, Florida

Contaminant	Soil Sample Designation					Clean Soil[1] Maximum Concentration
	03B00701	03B00802	03B00902	03B01002	03B01102	
Volatile Organic Aromatics (VOA). Reported in parts per billion (ppb).						
Total VOA	BDL	NS	NS	NS	NS	100
Polynuclear Aromatic Hydrocarbons (PAH). Reported in ppb.						
Total PAH	BDL	NS	NS	NS	NS	1000
Total Recoverable Petroleum Hydrocarbons (TRPH). Reported in parts per million (ppm).						
TRPH	690	<5.1	49.5	26 6	6 8	504
Total Metals. Reported in milligrams per kilogram (mg/kg).						
Cadmium	0.22 J	<0 51	<0.54	<0.51	<0.51	37
Chromium	1.7 J	<2.5	<2.7	8.1	<2.6	50
Arsenic	0.58	<0.25	0.37	<0.25	<0.26	10
Lead	6.5	0 61	1.8	5.5	0.51	108

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

Notes. Total VOA = the sum concentration of benzene, toluene, ethylbenzene, and xylenes.
Total PAH = the sum concentration of PAH compounds detected by USEPA Method 8270A.
NS = not sampled.
BDL = below detection limits.

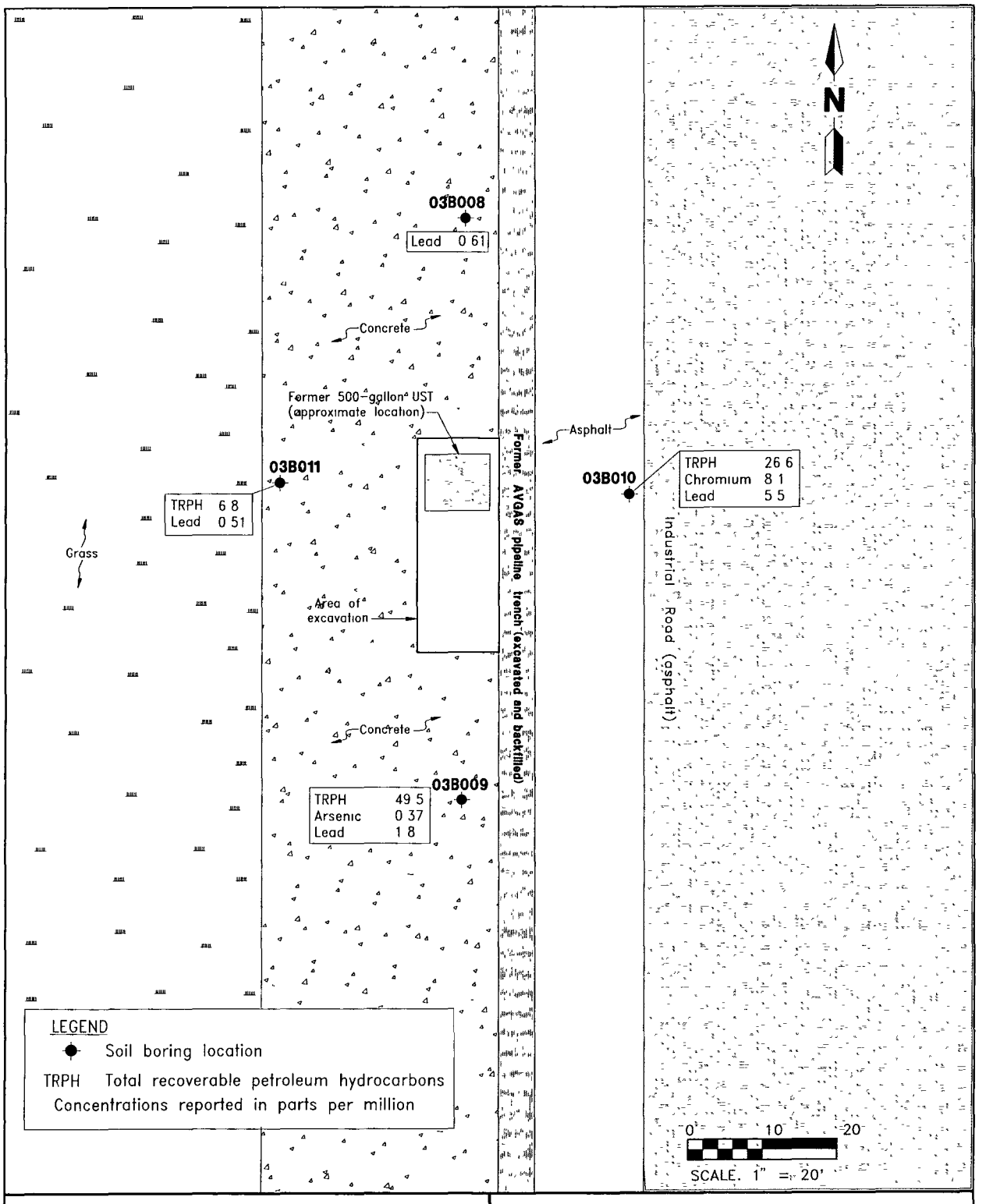

FIGURE 2-2
CONFIRMATION SOIL SAMPLE LOCATIONS AND ANALYTICAL RESULTS, FEBRUARY 4, 1995

CONTAMINATION ASSESSMENT REPORT ADDENDUM, AVGAS PIPELINE AREA SITE 3, UST 107

NADEP PENSACOLA
PENSACOLA, FLORIDA

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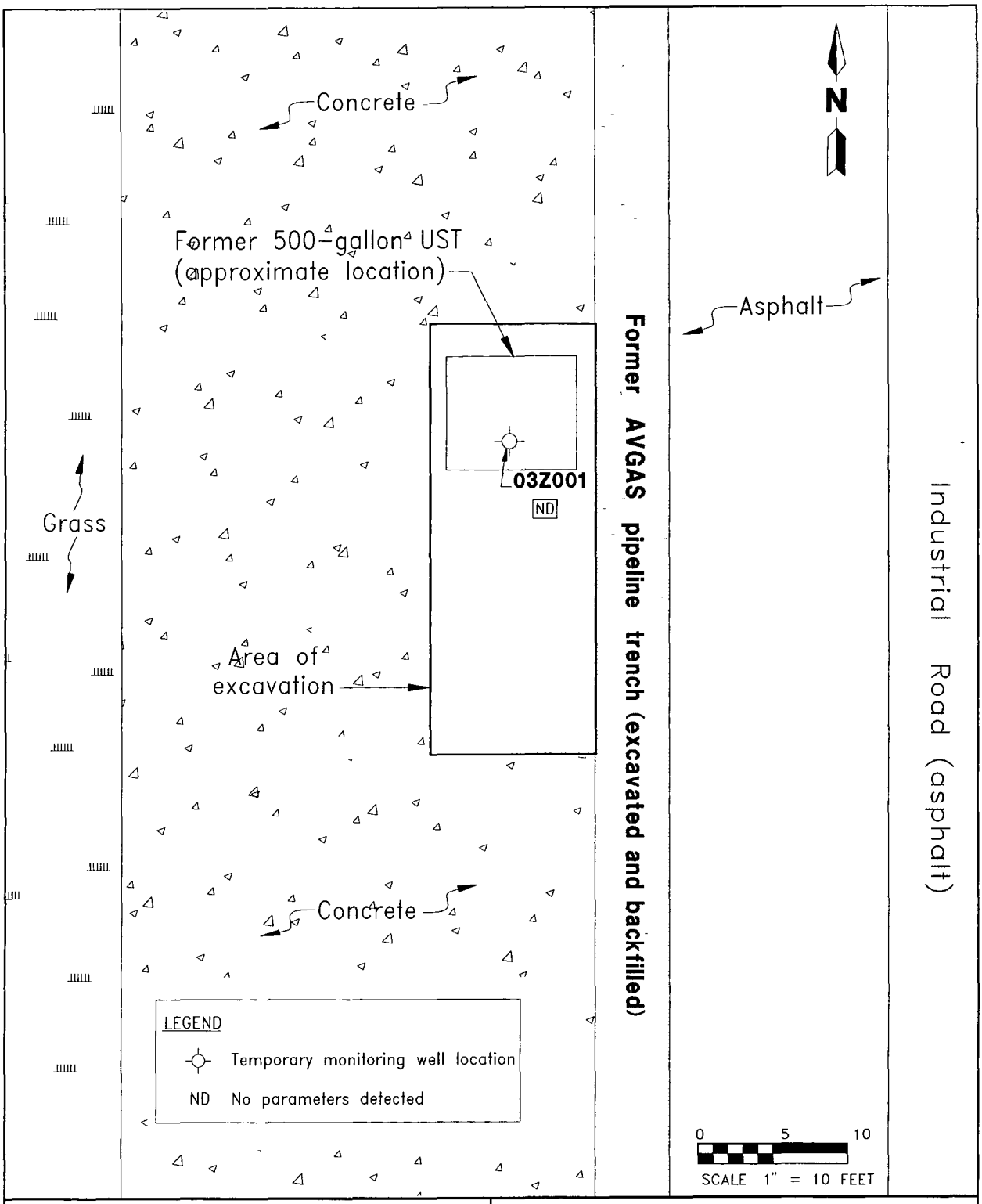

FIGURE 2-3
TEMPORARY MONITORING WELL LOCATION AND ANALYTICAL RESULTS, MARCH 14, 1995

CONTAMINATION ASSESSMENT REPORT ADDENDUM, AVGAS PIPELINE AREA SITE 3, UST 107

NADEP PENSACOLA
PENSACOLA, FLORIDA

H /PENSCOLA/SITE-3/NP/8-14-95

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.

- Site soil consists of fine-grained, well sorted sand. The color of the soil ranges from very light gray to dark yellowish orange.
- The source of contamination, the UST, has been removed.
- Excessively contaminated soil from the tank excavation area was removed. No visual evidence of soil contamination was observed, and laboratory analytical soil sampling results did not exceed State clean soil maximum concentrations.
- The analytical results of the source area monitoring well groundwater sample indicated no petroleum constituents present in the groundwater. No Used Oil Group constituents were detected.

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

- The soil at Site 3 meets FDEP requirements for clean soil.
- The groundwater at Site 3 has not been impacted by the soil contamination detected during this investigation.

3.3 RECOMMENDATIONS. Based on the findings, conclusions, and interpretations of the CA, ABB-ES recommends a *No Further Action Proposal* (NFAP) for Site 3.

4.0 PROFESSIONAL REVIEW CERTIFICATION

This CAR 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

GTES 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

LITHOLOGIC LOGS

TITLE: NADEP PENSACOLA		**LOG of WELL:** NA	**BORING NO.** 03B001
CLIENT: SOUTHDIVNAVFACENGCOM			**PROJECT NO:** 07527
CONTRACTOR: Southern Waste Services		**DATE STARTED:** 9/23/94	**COMPLTD:** 9/23/94
METHOD: Hand Auger	**CASE SIZE:** NA	**SCREEN INT.:** NA	**PROTECTION LEVEL:** D
TOC ELEV.: NA FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 3.5FT.	**DPTH TO ∇** ~3.5 FT.
LOGGED BY: P. Wagner and J. Ullo	**WELL DEVELOPMENT DATE:** NA		**SITE:** Site 3-UST 107

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Concrete.				
							SP		
					SAND. Dark yellowish orange, fine-grained, well sorted, damp.				
				0					
5									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NADEP PENSACOLA		**LOG of WELL:** NA	**BORING NO.** 03B002
CLIENT: SOUTHDIVNAVFACENGCOM			**PROJECT NO:** 07527
CONTRACTOR: Southern Waste Services		**DATE STARTED:** 9/23/94	**COMPLTD:** 9/23/94
METHOD: Hand Auger	**CASE SIZE:** NA	**SCREEN INT.:** NA	**PROTECTION LEVEL:** D
TOC ELEV.: NA FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 3.5FT.	**DPTH TO ∇** ~3.5 FT.
LOGGED BY: P. Wagner and J. Ullo	**WELL DEVELOPMENT DATE:** NA		**SITE:** Site 3-UST 107

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Concrete.				
							SP		
					SAND. Dark yellowish orange, fine-grained, well sorted, damp.				
				1					
5									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NADEP PENSACOLA	**LOG of WELL:** NA	**BORING NO.** 03B003
CLIENT: SOUTHDIVNAVFACENGCOM		**PROJECT NO:** 07527
CONTRACTOR: Southern Waste Services	**DATE STARTED:** 9/23/94	**COMPLTD:** 9/23/94
METHOD: Hand Auger	**CASE SIZE:** NA / **SCREEN INT.:** NA	**PROTECTION LEVEL:** D
TOC ELEV.: NA FT.	**MONITOR INST.:** OVA / **TOT DPTH:** 3.5FT.	**DPTH TO ∇** ~3.5 FT.
LOGGED BY: P. Wagner and J. Ullo	**WELL DEVELOPMENT DATE:** NA	**SITE:** Site 3-UST 107

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Concrete				
							SC		
					SAND. Fine-grained with some plastic gray clay balls and layers, (jumbled, not continuous), poorly sorted, damp.				
				0					
5									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NADEP PENSACOLA		**LOG of WELL:** NA	**BORING NO.** 03B004
CLIENT: SOUTHDIVNAVFACENGCOM			**PROJECT NO:** 07527
CONTRACTOR: Southern Waste Services		**DATE STARTED:** 9/23/94	**COMPLTD:** 9/23/94
METHOD: Hand Auger	**CASE SIZE:** NA	**SCREEN INT.:** NA	**PROTECTION LEVEL:** D
TOC ELEV.: NA FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 3.5FT.	**DPTH TO ∇** ~3.5 FT.
LOGGED BY: P. Wagner and J. Ullo	**WELL DEVELOPMENT DATE:** NA		**SITE:** Site 3-UST 107

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Concrete.				
							SP		
				0	SAND Dark yellowish orange, fine-grained, well sorted, possibly stained, no odor, damp.				
					SAND. Light gray to medium gray, fine-grained, well sorted, no odor, damp.				
				0					
5									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NADEP PENSACOLA		**LOG of WELL:** NA	**BORING NO.** 03B005
CLIENT: SOUTHDIVNAVFACENGCOM			**PROJECT NO:** 07527
CONTRACTOR: Southern Waste Services		**DATE STARTED:** 9/23/94	**COMPLTD:** 9/23/94
METHOD: Hand Auger	**CASE SIZE:** NA	**SCREEN INT.:** NA	**PROTECTION LEVEL:** D
TOC ELEV.: NA FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 3.5FT.	**DPTH TO ∇** ~3.5 FT.
LOGGED BY: P. Wagner and J. Ullo	**WELL DEVELOPMENT DATE:** NA		**SITE:** Site 3-UST 107

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Concrete.				
					SAND Moderate reddish brown, fine-grained, well sorted, damp		SP		
					SAND. Mottled reddish brown and grayish orange, fine-grained, well sorted.				
				0	SAND. Mottled very light gray and dark gray, fine-grained, well sorted, organic odor.				
5									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NADEP PENSACOLA		**LOG of WELL:** NA	**BORING NO.** 03B006
CLIENT: SOUTHDIVNAVFACENGCOM			**PROJECT NO:** 07527
CONTRACTOR: Southern Waste Services		**DATE STARTED:** 9/23/94	**COMPLTD:** 9/23/94
METHOD: Hand Auger	**CASE SIZE:** NA	**SCREEN INT.:** NA	**PROTECTION LEVEL:** D
TOC ELEV.: NA FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 3.5FT.	**DPTH TO ∇** ~3.5 FT.
LOGGED BY: P. Wagner and J. Ullo	**WELL DEVELOPMENT DATE:** NA		**SITE:** Site 3-UST 107

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Concrete.				
					SAND. Very pale orange, fine-grained, well sorted.		SP		
				0	SAND Mottled light gray and dark gray, fine-grained, well sorted, organic odor, damp.				
5									

 ABB ENVIRONMENTAL SERVICES, INC.

APPENDIX C

LABORATORY ANALYTICAL DATA

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

813 621-0784 Telephone
813 623-6021 Fax

ANALYTICAL REPORT

PROJECT NO. 7527.34

UST SITES, NADEP PENSACOLA

KAREN HARTNETT

ABB ENVIRONMENTAL SERVICES

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

Joanne Anderson
Project Manager

November 14, 1994

Quanterra
Environmental Services

EXECUTIVE SUMMARY - Detection Highlights

B4J270040

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD
02B00601				
Toluene	1.5 J	5.2	ug/kg	SW846 8240A
Acenaphthene	2,400 J	6,800	ug/kg	SW846 8270A
Anthracene	3,300 J	6,800	ug/kg	SW846 8270A
Benzo(a)anthracene	4,600 J	6,800	ug/kg	SW846 8270A
Benzo(b)fluoranthene	2,900 J	6,800	ug/kg	SW846 8270A
Benzo(k)fluoranthene	3,400 J	6,800	ug/kg	SW846 8270A
Benzo(a)pyrene	2,900 J	6,800	ug/kg	SW846 8270A
Chrysene	5,500 J	6,800	ug/kg	SW846 8270A
Fluoranthene	13,000	6,800	ug/kg	SW846 8270A
Fluorene	1,700 J	6,800	ug/kg	SW846 8270A
Phenanthrene	9,900	6,800	ug/kg	SW846 8270A
Pyrene	8,800	6,800	ug/kg	SW846 8270A
Petroleum Hydrocarbons Total Recoverable	59,800	1,030	mg/kg	MCAWW 418.1
Solids, Total (TS)	97.1	1.0	%	MCAWW 160.3
Arsenic	0.16 J	0.25	mg/kg	SW846 7060
Chromium	0.68 J	2.5	mg/kg	SW846 6010A
Lead	2.8	0.25	mg/kg	SW846 7421
03B00701				
Petroleum Hydrocarbons Total Recoverable	690	26.2	mg/kg	MCAWW 418.1
Solids, Total (TS)	95.3	1.0	%	MCAWW 160.3
Arsenic	0.58	0.50	mg/kg	SW846 7060
Cadmium	0.22 J	0.50	mg/kg	SW846 6010A
Chromium	1.7 J	2.5	mg/kg	SW846 6010A
Lead	6.5	0.25	mg/kg	SW846 7421
08B00101				
Petroleum Hydrocarbons Total Recoverable	47.9	5.3	mg/kg	MCAWW 418.1
Solids, Total (TS)	95.1	1.0	%	MCAWW 160.3
Chromium	0.94 J	2.5	mg/kg	SW846 6010A
Lead	5.0	0.25	mg/kg	SW846 7421
08B00101D				
Di-n-butyl phthalate	480B	340	ug/kg	SW846 8270A
Petroleum Hydrocarbons Total Recoverable	98.7	5.2	mg/kg	MCAWW 418.1

Quanterra Environmental Services

EXECUTIVE SUMMARY - Detection Highlights

B4J270040

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD
Solids, Total (TS)	95.9	1.0	%	MCAWW 160.3
Arsenic	0.15 J	0.25	mg/kg	SW846 7060
Chromium	1.1 J	2.5	mg/kg	SW846 6010A
Lead	7.9	0.25	mg/kg	SW846 7421
10B00701				
Benzo(b)fluoranthene	420 J	1,800	ug/kg	SW846 8270A
Benzo(k)fluoranthene	450 J	1,800	ug/kg	SW846 8270A
Benzo(ghi)perylene	650 J	1,800	ug/kg	SW846 8270A
Chrysene	430 J	1,800	ug/kg	SW846 8270A
Fluoranthene	450 J	1,800	ug/kg	SW846 8270A
Indeno(1,2,3-cd)pyrene	460 J	1,800	ug/kg	SW846 8270A
Phenol	440 J	1,800	ug/kg	SW846 8270A
Petroleum Hydrocarbons Total Recoverable	138	5.4	mg/kg	MCAWW 418.1
Solids, Total (TS)	93.0	1.0	%	MCAWW 160.3
Arsenic	1.0	0.25	mg/kg	SW846 7060
Cadmium	0.49 J	0.50	mg/kg	SW846 6010A
Chromium	19.1	2.5	mg/kg	SW846 6010A
Lead	62.0	10.0	mg/kg	SW846 7421
04B00901				
Petroleum Hydrocarbons Total Recoverable	149	5.3	mg/kg	MCAWW 418.1
Solids, Total (TS)	94.9	1.0	%	MCAWW 160.3
Arsenic	0.68	0.25	mg/kg	SW846 7060
Cadmium	0.30 J	0.50	mg/kg	SW846 6010A
Chromium	2.4 J	2.5	mg/kg	SW846 6010A
Lead	23.0	2.5	mg/kg	SW846 7421
11B00101				
Petroleum Hydrocarbons Total Recoverable	116	5.4	mg/kg	MCAWW 418.1
Solids, Total (TS)	91.8	1.0	%	MCAWW 160.3
Arsenic	0.82	0.50	mg/kg	SW846 7060
Chromium	2.4 J	2.5	mg/kg	SW846 6010A
Lead	32.4	1.0	mg/kg	SW846 7421
12B00101				
Petroleum Hydrocarbons Total Recoverable	527	10.7	mg/kg	MCAWW 418.1

Quanterra
Environmental Services

EXECUTIVE SUMMARY - Detection Highlights

B4J270040

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD
Solids, Total (TS)	93.2	1.0	%	MCAWW 160.3
Arsenic	0.68	0.50	mg/kg	SW846 7060
Cadmium	0.92	0.50	mg/kg	SW846 6010A
Chromium	9.0	2.5	mg/kg	SW846 6010A
Lead	136	5.0	mg/kg	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 MODIFIED
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
A11PT	B4J270040-001	02B00601
A11Q1	B4J270040-002	03B00701
A11Q8	B4J270040-003	08B00101
A11QC	B4J270040-004	08B00101D
A11QE	B4J270040-005	10B00701
A11QH	B4J270040-006	04B00901
A11QJ	B4J270040-007	11B00101
A11QK	B4J270040-008	12B00101
A11QM	B4J270040-009	TRIP BLANK

Quanterra

ABB ENVIRONMENTAL SERVICES

03B00701

WO #: A11Q1108
LAB #: B4J270040-002
MATRIX: SOLID

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

GC/MS Volatiles

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acrolein	ND	52	SW846 8240A	11/01/94	430605
Acrylonitrile	ND	52	SW846 8240A	11/01/94	430605
Benzene	ND	5.2	SW846 8240A	11/01/94	430605
Bromodichloromethane	ND	5.2	SW846 8240A	11/01/94	430605
Bromoform	ND	5.2	SW846 8240A	11/01/94	430605
Bromomethane	ND	5.2	SW846 8240A	11/01/94	430605
Carbon tetrachloride	ND	5.2	SW846 8240A	11/01/94	430605
Chlorobenzene	ND	5.2	SW846 8240A	11/01/94	430605
Dibromochloromethane	ND	5.2	SW846 8240A	11/01/94	430605
Chloroethane	ND	5.2	SW846 8240A	11/01/94	430605
2-Chloroethyl vinyl ether	ND	5.2	SW846 8240A	11/01/94	430605
Chloroform	ND	5.2	SW846 8240A	11/01/94	430605
Chloromethane	ND	5.2	SW846 8240A	11/01/94	430605
1,2-Dichlorobenzene	ND	5.2	SW846 8240A	11/01/94	430605
1,3-Dichlorobenzene	ND	5.2	SW846 8240A	11/01/94	430605
1,4-Dichlorobenzene	ND	5.2	SW846 8240A	11/01/94	430605
1,1-Dichloroethane	ND	5.2	SW846 8240A	11/01/94	430605
1,2-Dichloroethane	ND	5.2	SW846 8240A	11/01/94	430605
1,1-Dichloroethene	ND	5.2	SW846 8240A	11/01/94	430605
cis-1,2-Dichloroethene	ND	5.2	SW846 8240A	11/01/94	430605
trans-1,2-Dichloroethene	ND	5.2	SW846 8240A	11/01/94	430605
1,2-Dichloropropane	ND	5.2	SW846 8240A	11/01/94	430605
cis-1,3-Dichloropropene	ND	5.2	SW846 8240A	11/01/94	430605

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	104	(85 - 138)
Toluene-d8	100	(89 - 128)
Bromofluorobenzene	102	(83 - 128)

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

Quanterra

ABB ENVIRONMENTAL SERVICES

03B00701

WO #: A11Q1108
LAB #: B4J270040-002
MATRIX: SOLID

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

GC/MS Volatiles

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
trans-1,3-Dichloropropene	ND	5.2	SW846 8240A	11/01/94	4306051
Ethylbenzene	ND	5.2	SW846 8240A	11/01/94	4306051
Trichlorofluoromethane	ND	5.2	SW846 8240A	11/01/94	4306051
Methylene chloride	ND	5.2	SW846 8240A	11/01/94	4306051
1,1,2,2-Tetrachloroethane	ND	5.2	SW846 8240A	11/01/94	4306051
Tetrachloroethene	ND	5.2	SW846 8240A	11/01/94	4306051
Toluene	ND	5.2	SW846 8240A	11/01/94	4306051
1,1,1-Trichloroethane	ND	5.2	SW846 8240A	11/01/94	4306051
1,1,2-Trichloroethane	ND	5.2	SW846 8240A	11/01/94	4306051
Trichloroethene	ND	5.2	SW846 8240A	11/01/94	4306051
Vinyl chloride	ND	5.2	SW846 8240A	11/01/94	4306051
Xylenes, Total	ND	5.2	SW846 8240A	11/01/94	4306051

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	104	(85 - 138)
Toluene-d8	100	(89 - 128)
Bromofluorobenzene	102	(83 - 128)

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

Quanterra

ABB ENVIRONMENTAL SERVICES

03B00701

WO #: A11Q1106
LAB #: B4J270040-002
MATRIX: SOLID

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

- GC Semi-Volatiles -

PARAMETER	RESULT (mg/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
PCB-1016	ND	1.0	SW846 8080	11/07-11/09/94	431109
PCB-1221	ND	1.0	SW846 8080	11/07-11/09/94	431109
PCB-1232	ND	1.0	SW846 8080	11/07-11/09/94	431109
PCB-1242	ND	1.0	SW846 8080	11/07-11/09/94	431109
PCB-1248	ND	1.0	SW846 8080	11/07-11/09/94	431109
PCB-1254	ND	1.0	SW846 8080	11/07-11/09/94	431109
PCB-1260	ND	1.0	SW846 8080	11/07-11/09/94	431109

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Tetrachloro-m-xylene	98	(32 - 154)

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

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03B00701

WO #: A11Q1
LAB #: B4J270040-002
MATRIX: SOLID

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons Total Recoverable	690	26.2	mg/kg	MCAWW 418.1 M	11/07-11/08/94	4312113
Solids, Total (TS)	95.3	1.0	%	MCAWW 160.3 M	11/11/94	4315080

NOTE: AS RECEIVED

Quanterra

ABB ENVIRONMENTAL SERVICES

03B00701

WO #: A11Q1107
LAB #: B4J270040-002
MATRIX: SOLID

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

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

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acenaphthene	ND	690	SW846 8270A	11/01-11/03/94	430506
Acenaphthylene	ND	690	SW846 8270A	11/01-11/03/94	430506
Anthracene	ND	690	SW846 8270A	11/01-11/03/94	430506
Benzidine	ND	3,600	SW846 8270A	11/01-11/03/94	430506
Benzo(a)anthracene	ND	690	SW846 8270A	11/01-11/03/94	430506
Benzo(b)fluoranthene	ND	690	SW846 8270A	11/01-11/03/94	430506
Benzo(k)fluoranthene	ND	690	SW846 8270A	11/01-11/03/94	430506
Benzo(ghi)perylene	ND	690	SW846 8270A	11/01-11/03/94	430506
Benzo(a)pyrene	ND	690	SW846 8270A	11/01-11/03/94	430506
Bis(2-chloroethoxy)methane	ND	690	SW846 8270A	11/01-11/03/94	430506
Bis(2-chloroethyl)ether	ND	690	SW846 8270A	11/01-11/03/94	430506
Bis(2-chloroisopropyl)ether	ND	690	SW846 8270A	11/01-11/03/94	430506
Bis(2-ethylhexyl)phthalate	ND	690	SW846 8270A	11/01-11/03/94	430506
4-Bromophenyl phenyl ether	ND	690	SW846 8270A	11/01-11/03/94	[illegible] 06
Butyl benzyl phthalate	ND	690	SW846 8270A	11/01-11/03/94	4[illegible]06
4-Chloro-3-methylphenol	ND	690	SW846 8270A	11/01-11/03/94	430506
2-Chloronaphthalene	ND	690	SW846 8270A	11/01-11/03/94	430506
2-Chlorophenol	ND	690	SW846 8270A	11/01-11/03/94	430506
4-Chlorophenyl phenyl ether	ND	690	SW846 8270A	11/01-11/03/94	430506
Chrysene	ND	690	SW846 8270A	11/01-11/03/94	430506
Dibenz(a,h)anthracene	ND	690	SW846 8270A	11/01-11/03/94	430506
Di-n-butyl phthalate	ND	690	SW846 8270A	11/01-11/03/94	430506
1,2-Dichlorobenzene	ND	690	SW846 8270A	11/01-11/03/94	430506

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	75	(10 - 155)
2-Fluorobiphenyl	77	(12 - 153)
Terphenyl-d14	85	(13 - 140)
2-Fluorophenol	68	(24 - 118)
Phenol-d5	80	(17 - 124)
2,4,6-Tribromophenol	78	(10 - 156)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
SAMPLE VISCOSITY RESULTED ELEVATED DETECTION LIMITS DUE TO REQUIRED DILUTION.

Quanterra

ABB ENVIRONMENTAL SERVICES

03B00701

WO #: A11Q1107
LAB #: B4J270040-002
MATRIX: SOLID

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

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

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
1,3-Dichlorobenzene	ND	690	SW846 8270A	11/01-11/03/94	430506
1,4-Dichlorobenzene	ND	690	SW846 8270A	11/01-11/03/94	430506
3,3'-Dichlorobenzidine	ND	3,600	SW846 8270A	11/01-11/03/94	430506
2,4-Dichlorophenol	ND	690	SW846 8270A	11/01-11/03/94	430506
Diethyl phthalate	ND	690	SW846 8270A	11/01-11/03/94	430506
2,4-Dimethylphenol	ND	690	SW846 8270A	11/01-11/03/94	430506
Dimethyl phthalate	ND	690	SW846 8270A	11/01-11/03/94	430506
Di-n-octyl phthalate	ND	690	SW846 8270A	11/01-11/03/94	430506
4,6-Dinitro-2-methylphenol	ND	3,600	SW846 8270A	11/01-11/03/94	430506
2,4-Dinitrophenol	ND	3,600	SW846 8270A	11/01-11/03/94	430506
2,4-Dinitrotoluene	ND	690	SW846 8270A	11/01-11/03/94	430506
2,6-Dinitrotoluene	ND	690	SW846 8270A	11/01-11/03/94	430506
Fluoranthene	ND	690	SW846 8270A	11/01-11/03/94	430506
Fluorene	ND	690	SW846 8270A	11/01-11/03/94	430506
Hexachlorobenzene	ND	690	SW846 8270A	11/01-11/03/94	430506
Hexachlorobutadiene	ND	690	SW846 8270A	11/01-11/03/94	430506
Hexachlorocyclopentadiene	ND	690	SW846 8270A	11/01-11/03/94	430506
Hexachloroethane	ND	690	SW846 8270A	11/01-11/03/94	430506
Indeno(1,2,3-cd)pyrene	ND	690	SW846 8270A	11/01-11/03/94	430506
Isophorone	ND	690	SW846 8270A	11/01-11/03/94	430506
Naphthalene	ND	690	SW846 8270A	11/01-11/03/94	430506
Nitrobenzene	ND	690	SW846 8270A	11/01-11/03/94	430506
2-Nitrophenol	ND	690	SW846 8270A	11/01-11/03/94	430506

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	75	(10 - 155)
2-Fluorobiphenyl	77	(12 - 153)
Terphenyl-d14	85	(13 - 140)
2-Fluorophenol	68	(24 - 118)
Phenol-d5	80	(17 - 124)
2,4,6-Tribromophenol	78	(10 - 156)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
SAMPLE VISCOSITY RESULTED ELEVATED DETECTION LIMITS DUE TO REQUIRED DILUTION.

Quanterra

ABB ENVIRONMENTAL SERVICES

03B00701

WO #: A11Q1107
LAB #: B4J270040-002
MATRIX: SOLID

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

GC/MS Semi-Volatiles

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
4-Nitrophenol	ND	3,600	SW846 8270A	11/01-11/03/94	430506
N-Nitrosodimethylamine	ND	690	SW846 8270A	11/01-11/03/94	430506
N-Nitrosodi-n-propylamine	ND	690	SW846 8270A	11/01-11/03/94	430506
N-Nitrosodiphenylamine	ND	690	SW846 8270A	11/01-11/03/94	430506
Pentachlorophenol	ND	3,600	SW846 8270A	11/01-11/03/94	430506
Phenanthrene	ND	690	SW846 8270A	11/01-11/03/94	430506
Phenol	ND	690	SW846 8270A	11/01-11/03/94	430506
Pyrene	ND	690	SW846 8270A	11/01-11/03/94	430506
1,2,4-Trichlorobenzene	ND	690	SW846 8270A	11/01-11/03/94	430506
2,4,6-Trichlorophenol	ND	690	SW846 8270A	11/01-11/03/94	430506

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	75	(10 - 155)
2-Fluorobiphenyl	77	(12 - 153)
Terphenyl-d14	85	(13 - 140)
2-Fluorophenol	68	(24 - 118)
Phenol-d5	80	(17 - 124)
2,4,6-Tribromophenol	78	(10 - 156)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
SAMPLE VISCOSITY RESULTED ELEVATED DETECTION LIMITS DUE TO REQUIRED DILUTION.

Quanterra

ABB ENVIRONMENTAL SERVICES

03B00701

WO #: A11Q1
LAB #: B4J270040-002
MATRIX: SOLID

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Cadmium	0.22 J	0.50	mg/kg	SW846 6010A	10/28-10/31/94	4301093
Chromium	1.7 J	2.5	mg/kg	SW846 6010A	10/28-10/31/94	4301093
Arsenic	0.58	0.50	mg/kg	SW846 7060	10/28-11/03/94	4301093
Lead	6.5	0.25	mg/kg	SW846 7421	10/28-11/07/94	4301093

NOTE: AS RECEIVED
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

TRIP BLANK

WO #: A11QM101
LAB #: B4J270040-009
MATRIX: WATER

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acetone	ND	10	SW846 8240A	11/02/94	430610
Benzene	ND	1.0	SW846 8240A	11/02/94	430610
Dichlorobromomethane	ND	1.0	SW846 8240A	11/02/94	430610
Bromoform	ND	1.0	SW846 8240A	11/02/94	430610
Bromomethane	ND	1.0	SW846 8240A	11/02/94	430610
2-Butanone	ND	10	SW846 8240A	11/02/94	430610
Carbon disulfide	ND	1.0	SW846 8240A	11/02/94	430610
Carbon tetrachloride	ND	1.0	SW846 8240A	11/02/94	430610
Chlorobenzene	ND	1.0	SW846 8240A	11/02/94	430610
Dibromochloromethane	ND	1.0	SW846 8240A	11/02/94	430610
Chloroethane	ND	1.0	SW846 8240A	11/02/94	430610
Chloroform	ND	1.0	SW846 8240A	11/02/94	430610
Chloromethane	ND	1.0	SW846 8240A	11/02/94	430610
1,1-Dichloroethane	ND	1.0	SW846 8240A	11/02/94	4 10
1,2-Dichloroethane	ND	1.0	SW846 8240A	11/02/94	430610
1,1-Dichloroethene	ND	1.0	SW846 8240A	11/02/94	430610
1,2-Dichloroethene, Total	ND	1.0	SW846 8240A	11/02/94	430610
1,2-Dichloropropane	ND	1.0	SW846 8240A	11/02/94	430610
cis-1,3-Dichloropropene	ND	1.0	SW846 8240A	11/02/94	430610
trans-1,3-Dichloropropene	ND	1.0	SW846 8240A	11/02/94	430610
Ethylbenzene	ND	1.0	SW846 8240A	11/02/94	430610
Methylene chloride	ND	1.0	SW846 8240A	11/02/94	430610
4-Methyl-2-pentanone	ND	10	SW846 8240A	11/02/94	430610

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	105	(78 - 130)
Toluene-d8	101	(90 - 109)
Bromofluorobenzene	98	(81 - 117)

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

Quanterra

ABB ENVIRONMENTAL SERVICES

TRIP BLANK

WO #: A11QM101
LAB #: B4J270040-009
MATRIX: WATER

DATE SAMPLED: 10/26/94
DATE RECEIVED: 10/27/94

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	ND	1.0	SW846 8240A	11/02/94	4306105
1,1,2,2-Tetrachloroethane	ND	1.0	SW846 8240A	11/02/94	4306105
Tetrachloroethene	ND	1.0	SW846 8240A	11/02/94	4306105
Toluene	ND	1.0	SW846 8240A	11/02/94	4306105
1,1,1-Trichloroethane	ND	1.0	SW846 8240A	11/02/94	4306105
1,1,2-Trichloroethane	ND	1.0	SW846 8240A	11/02/94	4306105
Trichloroethene	ND	1.0	SW846 8240A	11/02/94	4306105
Vinyl chloride	ND	1.0	SW846 8240A	11/02/94	4306105
2-Hexanone	ND	10	SW846 8240A	11/02/94	4306105
Xylenes, Total	ND	1.0	SW846 8240A	11/02/94	4306105

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	105	(78 - 130)
Toluene-d8	101	(90 - 109)
Bromofluorobenzene	98	(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
Environmental Services

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 #: B4K020000-051

GC/MS Volatiles

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acrolein	ND	50	11/01/94	4306051
Acrylonitrile	ND	50	11/01/94	4306051
Benzene	ND	5.0	11/01/94	4306051
Bromodichloromethane	ND	5.0	11/01/94	4306051
Bromoform	ND	5.0	11/01/94	4306051
Bromomethane	ND	5.0	11/01/94	4306051
Carbon tetrachloride	ND	5.0	11/01/94	4306051
Chlorobenzene	ND	5.0	11/01/94	4306051
Dibromochloromethane	ND	5.0	11/01/94	4306051
Chloroethane	ND	5.0	11/01/94	4306051
2-Chloroethyl vinyl ether	ND	5.0	11/01/94	4306051
Chloroform	ND	5.0	11/01/94	4306051
Chloromethane	ND	5.0	11/01/94	4306051
1,2-Dichlorobenzene	ND	5.0	11/01/94	4306051
1,3-Dichlorobenzene	ND	5.0	11/01/94	4306051
1,4-Dichlorobenzene	ND	5.0	11/01/94	4306051
1,1-Dichloroethane	ND	5.0	11/01/94	4306051
1,2-Dichloroethane	ND	5.0	11/01/94	4306051
1,1-Dichloroethene	ND	5.0	11/01/94	4306051
cis-1,2-Dichloroethene	ND	5.0	11/01/94	4306051
trans-1,2-Dichloroethene	ND	5.0	11/01/94	4306051
1,2-Dichloropropane	ND	5.0	11/01/94	4306051
cis-1,3-Dichloropropene	ND	5.0	11/01/94	4306051
trans-1,3-Dichloropropene	ND	5.0	11/01/94	4306051
Ethylbenzene	ND	5.0	11/01/94	4306051

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	102	(85 - 138)
Toluene-d8	99	(89 - 128)
Bromofluorobenzene	103	(83 - 128)

NOTE:

ND (NONE DETECTED)

Quanterra

INTRA-LAB BLANK REPORT

LAB #: B4K020000-051

- GC/MS Volatiles -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Trichlorofluoromethane	ND	5.0	11/01/94	4306051
Methylene chloride	ND	5.0	11/01/94	4306051
1,1,2,2-Tetrachloroethane	ND	5.0	11/01/94	4306051
Tetrachloroethene	ND	5.0	11/01/94	4306051
Toluene	ND	5.0	11/01/94	4306051
1,1,1-Trichloroethane	ND	5.0	11/01/94	4306051
1,1,2-Trichloroethane	ND	5.0	11/01/94	4306051
Trichloroethene	ND	5.0	11/01/94	4306051
Vinyl chloride	ND	5.0	11/01/94	4306051
Xylenes, Total	ND	5.0	11/01/94	4306051

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	102	(85 - 138)
Toluene-d8	99	(89 - 128)
Bromofluorobenzene	103	(83 - 128)

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B4K020000-105

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acetone	ND	10	11/02/94	4306105
Benzene	ND	1.0	11/02/94	4306105
Bromoform	ND	1.0	11/02/94	4306105
Bromomethane	ND	1.0	11/02/94	4306105
Carbon tetrachloride	ND	1.0	11/02/94	4306105
Chlorobenzene	ND	1.0	11/02/94	4306105
Dibromochloromethane	ND	1.0	11/02/94	4306105
Chloroethane	ND	1.0	11/02/94	4306105
Chloroform	ND	1.0	11/02/94	4306105
Chloromethane	ND	1.0	11/02/94	4306105
1,1-Dichloroethane	ND	1.0	11/02/94	4306105
1,2-Dichloroethane	ND	1.0	11/02/94	4306105
1,1-Dichloroethene	ND	1.0	11/02/94	4306105
1,2-Dichloropropane	ND	1.0	11/02/94	4306105
cis-1,3-Dichloropropene	ND	1.0	11/02/94	4306105
trans-1,3-Dichloropropene	ND	1.0	11/02/94	4306105
Ethylbenzene	ND	1.0	11/02/94	4306105
Methylene chloride	ND	1.0	11/02/94	4306105
1,1,2,2-Tetrachloroethane	ND	1.0	11/02/94	4306105
Tetrachloroethene	ND	1.0	11/02/94	4306105
Toluene	ND	1.0	11/02/94	4306105
1,1,1-Trichloroethane	ND	1.0	11/02/94	4306105
1,1,2-Trichloroethane	ND	1.0	11/02/94	4306105
Trichloroethene	ND	1.0	11/02/94	4306105
Vinyl chloride	ND	1.0	11/02/94	4306105

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane	104	(78 - 130)
Toluene-d8	101	(90 - 109)
Bromofluorobenzene	100	(81 - 117)

NOTE:

ND (NONE DETECTED)

Quanterra

INTRA-LAB BLANK REPORT

LAB #: B4K020000-105

- GC/MS Volatiles -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Dichlorobromomethane	ND	1.0	11/02/94	4306105
2-Butanone	ND	10	11/02/94	4306105
Carbon disulfide	ND	1.0	11/02/94	4306105
1,2-Dichloroethene, Total	ND	1.0	11/02/94	4306105
2-Hexanone	ND	10	11/02/94	4306105
4-Methyl-2-pentanone	ND	10	11/02/94	4306105
Styrene	ND	1.0	11/02/94	4306105
Xylenes, Total	ND	1.0	11/02/94	4306105

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane	104	(78 - 130)
Toluene-d8	101	(90 - 109)
Bromofluorobenzene	100	(81 - 117)

NOTE:

ND (NONE DETECTED)

Quanterra

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

INTRA-LAB BLANK REPORT

LAB #: B4K010000-063

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

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acenaphthene	ND	330	11/01-11/03/94	4305063
Acenaphthylene	ND	330	11/01-11/03/94	4305063
Anthracene	ND	330	11/01-11/03/94	4305063
Benzidine	ND	1,700	11/01-11/03/94	4305063
Benzo(a)anthracene	ND	330	11/01-11/03/94	4305063
Benzo(b)fluoranthene	ND	330	11/01-11/03/94	4305063
Benzo(k)fluoranthene	ND	330	11/01-11/03/94	4305063
Benzo(ghi)perylene	ND	330	11/01-11/03/94	4305063
Benzo(a)pyrene	ND	330	11/01-11/03/94	4305063
Bis(2-chloroethoxy)methane	ND	330	11/01-11/03/94	4305063
Bis(2-chloroethyl)ether	ND	330	11/01-11/03/94	4305063
Bis(2-chloroisopropyl)ether	ND	330	11/01-11/03/94	4305063
Bis(2-ethylhexyl)phthalate	ND	330	11/01-11/03/94	4305063
4-Bromophenyl phenyl ether	ND	330	11/01-11/03/94	4[illegible]63
Butyl benzyl phthalate	ND	330	11/01-11/03/94	43[illegible]063
4-Chloro-3-methylphenol	ND	330	11/01-11/03/94	4305063
2-Chloronaphthalene	ND	330	11/01-11/03/94	4305063
2-Chlorophenol	ND	330	11/01-11/03/94	4305063
4-Chlorophenyl phenyl ether	ND	330	11/01-11/03/94	4305063
Chrysene	ND	330	11/01-11/03/94	4305063
Dibenz(a,h)anthracene	ND	330	11/01-11/03/94	4305063
Di-n-butyl phthalate	1.1 J	330	11/01-11/03/94	4305063
1,2-Dichlorobenzene	ND	330	11/01-11/03/94	4305063
1,3-Dichlorobenzene	ND	330	11/01-11/03/94	4305063
1,4-Dichlorobenzene	ND	330	11/01-11/03/94	4305063

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	71	(10 - 155)
2-Fluorobiphenyl	66	(12 - 153)
Terphenyl-d14	86	(13 - 140)
2-Fluorophenol	60	(24 - 118)
Phenol-d5	67	(17 - 124)
2,4,6-Tribromophenol	70	(10 - 156)

NOTE:

ND (NONE DETECTED)

Quanterra

INTRA-LAB BLANK REPORT

LAB #: B4K010000-063

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

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
3,3'-Dichlorobenzidine	ND	1,700	11/01-11/03/94	4305063
2,4-Dichlorophenol	ND	330	11/01-11/03/94	4305063
Diethyl phthalate	ND	330	11/01-11/03/94	4305063
2,4-Dimethylphenol	ND	330	11/01-11/03/94	4305063
Dimethyl phthalate	ND	330	11/01-11/03/94	4305063
Di-n-octyl phthalate	ND	330	11/01-11/03/94	4305063
4,6-Dinitro-2-methylphenol	ND	1,700	11/01-11/03/94	4305063
2,4-Dinitrophenol	ND	1,700	11/01-11/03/94	4305063
2,4-Dinitrotoluene	ND	330	11/01-11/03/94	4305063
2,6-Dinitrotoluene	ND	330	11/01-11/03/94	4305063
Fluoranthene	ND	330	11/01-11/03/94	4305063
Fluorene	ND	330	11/01-11/03/94	4305063
Hexachlorobenzene	ND	330	11/01-11/03/94	4305063
Hexachlorobutadiene	ND	330	11/01-11/03/94	4305063
Hexachlorocyclopentadiene	ND	330	11/01-11/03/94	4305063
Hexachloroethane	ND	330	11/01-11/03/94	4305063
Indeno(1,2,3-cd)pyrene	ND	330	11/01-11/03/94	4305063
Isophorone	ND	330	11/01-11/03/94	4305063
Naphthalene	ND	330	11/01-11/03/94	4305063
Nitrobenzene	ND	330	11/01-11/03/94	4305063
2-Nitrophenol	ND	330	11/01-11/03/94	4305063
4-Nitrophenol	ND	1,700	11/01-11/03/94	4305063
N-Nitrosodimethylamine	ND	330	11/01-11/03/94	4305063
N-Nitrosodi-n-propylamine	ND	330	11/01-11/03/94	4305063

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	71	(10 - 155)
2-Fluorobiphenyl	66	(12 - 153)
Terphenyl-d14	86	(13 - 140)
2-Fluorophenol	60	(24 - 118)
Phenol-d5	67	(17 - 124)
2,4,6-Tribromophenol	70	(10 - 156)

NOTE:

ND (NONE DETECTED)

Quanterra

INTRA-LAB BLANK REPORT

LAB #: B4K010000-063

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

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
N-Nitrosodiphenylamine	ND	330	11/01-11/03/94	4305063
Pentachlorophenol	ND	1,700	11/01-11/03/94	4305063
Phenanthrene	ND	330	11/01-11/03/94	4305063
Phenol	ND	330	11/01-11/03/94	4305063
Pyrene	ND	330	11/01-11/03/94	4305063
1,2,4-Trichlorobenzene	ND	330	11/01-11/03/94	4305063
2,4,6-Trichlorophenol	ND	330	11/01-11/03/94	4305063

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	71	(10 - 155)
2-Fluorobiphenyl	66	(12 - 153)
Terphenyl-d14	86	(13 - 140)
2-Fluorophenol	60	(24 - 118)
Phenol-d5	67	(17 - 124)
2,4,6-Tribromophenol	70	(10 - 156)

NOTE:

ND (NONE DETECTED)

Quanterra

INTRA-LAB BLANK REPORT

LAB #: B4J270040

- METALS -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION ANALYSIS DAT
		BATCH:4301093			
Arsenic	ND	0.25	mg/kg	SW846 7060	10/28-11/03/9
Cadmium	ND	0.50	mg/kg	SW846 6010A	10/28-10/31/9
Chromium	0.28 J	2.5	mg/kg	SW846 6010A	10/28-10/31/9
Lead	ND	0.25	mg/kg	SW846 7421	10/28-11/07/9

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra

INTRA-LAB BLANK REPORT

LAB #: B4K080000-113

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons	ND	5.0	mg/kg	11/07-11/08/94	4312113

NOTE:

ND (NONE DETECTED)

Quanterra

CHECK SAMPLE REPORT

QC BATCH: 4306051
LAB #: B4K020000-051 C

PREPARATION DATE: 11/01/94
DATE ANALYZED: 11/01/94

- GC/MS Volatiles -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
1,1-Dichloroethene	89	(67-120)
Benzene	98	(78-118)
Trichloroethene	105	(75-116)
Toluene	99	(77-118)
Chlorobenzene	99	(82-116)

Quanterra

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

CHECK SAMPLE REPORT

QC BATCH: 4305063
LAB #: B4K010000-063 C

PREPARATION DATE: 11/01/94
DATE ANALYZED: 11/03/94

GC/MS Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
Phenol	94	(35-98)
2-Chlorophenol	94	(36-96)
1,4-Dichlorobenzene	88	(49-127)
N-Nitrosodi-n-propylamine	87	(29-122)
1,2,4-Trichlorobenzene	85	(42-116)
4-Chloro-3-methylphenol	100	(30-118)
Acenaphthene	93	(43-114)
4-Nitrophenol	101	(10-140)
2,4-Dinitrotoluene	99	(33-124)
Pentachlorophenol	92	(10-140)
Pyrene	89	(36-123)

Quanterra

LCS - DCS REPORT

QC BATCH: 4306105
LAB #: B4K020000-105 C

WO #:
PREPARATION DATE: 11/02/94
DATE ANALYZED: 11/02/94

- GC/MS Volatiles -

COMPOUND	LCS PERCENT RECOVERY	DCS PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMITS
1,1-Dichloroethene	94	90	(66-120)	4.2	41
Benzene	98	98	(76-119)	0.36	19
Trichloroethene	97	99	(75-119)	2.3	18
Toluene	98	99	(76-119)	0.91	18
Chlorobenzene	101	103	(80-121)	2.0	19

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

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: B4J270040

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS	PREPARATION - ANALYSIS DATE
	BATCH:4301093		
Arsenic	92	(78-118)	10/28-11/03/94
Cadmium	94	(71-110)	10/28-10/31/94
Chromium	93	(80-110)	10/28-10/31/94
Lead	99	(69-120)	10/28-11/07/94

Quanterra

CHECK SAMPLE REPORT

LAB #: B4J270040

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

COMPOUND	SPIKE PERCENT RECOVERY	LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Petroleum Hydrocarbons Total Recoverable	82	(65-114)	11/07-11/08/94	4312113

Quanterra

SAMPLE - SAMPLE DUP

WO #: A11QK

LAB #: B4J270040-008
MATRIX: SOLID

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

PARAMETER	RESULT SMP	RESULT DUP	RPD	RPD LIMIT	EXTRACTION / ANALYSIS DATE	QC BATCH
Solids, Total (TS)	93.2	92.5	0.7	(0-20)	11/11/94	431508

Quanterra Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 4306105
LAB #: B4K010014-001 S
MATRIX: WATER

WO #: A13QU
PREPARATION DATE: 11/02/94
DATE ANALYZED: 11/02/94

GC/MS Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMIT
1,1-Dichloroethene	97	97	(63-123)	0.18	(0-19)
Benzene	103	99	(76-126)	3.8	(0-16)
Trichloroethene	102	98	(75-115)	4.2	(0-10)
Toluene	102	99	(75-122)	3.6	(0-23)
Chlorobenzene	113	104	(74-113)	7.9	(0-13)

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

Quanterra

MATRIX SPIKE REPORT

QC BATCH: 4311092
LAB #: B4J270040-001 S
MATRIX: SOLID

WO #: A11PT
PREPARATION DATE: 11/07/94
DATE ANALYZED: 11/09/94

GC Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMIT
PCB-1016	78	78	(59-140)	0	(0-40)
PCB-1260	48	52	(69-101)	7.0	(0-16)

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

Quanterra

MATRIX SPIKE REPORT

LAB #: B4J270040-001

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMITS	PREPARATION ANALYSIS DAT
	BATCH:4301093 MATRIX: SOLID					
Arsenic	98	80	(30-155)	20	(0-20)	10/28-11/03/9
Cadmium	90	96	(80-120)	6.4	(0-20)	10/28-10/31/9
Chromium	83	92	(80-120)	9.7	(0-20)	10/28-10/31/9
Lead	98	96	(30-157)	1.3	(0-27)	10/28-11/07/9

NOTE:

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

Quanterra

MATRIX SPIKE REPORT

Lot #: B4J270040

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

COMPOUND	RECOVERY PERCENT MS	MSD	Q/C LIMITS	RPD	RPD LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Lab# B4J270040- 8 Matrix: SOLID							
Petroleum Hydrocarbons Total Recoverable	120	103	(50-140)	15	30	11/07-11/08/94	431211

ENSECO-WADSWORTH/ALERT LABORATORIES
SAMPLE SHIPPER EVALUATION AND RECEIPT FORM

Client: ABB-ES Project Name/Number: 7527.34 UST Sites

Samples Received By: Allanna S Lynn (Signature) Date Received: 10/27/94

Sample Evaluation Form By: Allanna S Lynn (Signature) LAB No: B4J270040

Type of shipping container samples received in? WAL Cooler ✓

Client Cooler ____ WAL Shipper ____ Box ____ Other _____

Any "NO" responses or discrepancies should be explained in comments section.

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

Cooler # _____ Temp 5 °C Cooler # _____ Temp _____ °C

Cooler # _____ Temp _____ °C Cooler # _____ Temp _____ °C

Comments: _____

LABORATORIES
Sampling, testing, mobile labs
5910 Breckenridge Pkwy
Suite H
Tampa, FL 33610
(813) 621-0784
Fax (813) 623-6021

Record ____ of ____

5626

Client: HLC-ES
Project Name / Location: LST SITES, NAVAL PENSACOLA
Sampler(s): [illegible]
Project #: 7527.54

Item #	Date	Time	MATRIX	Sample Location	No Of CONTAINERS	VOC-8240	PAH-	METALS-	TRPH-	EDB-	8240, TRPH, [illegible]					Remarks
1	10-26-94	1110	Soil	02B00601	2	1					1					Hot!
2	↓	1200	↓	03B00701	2	1					1					
3	↓	1[illegible]0	↓	02B00101	2	1					1					
4	↓	—	↓	02B00101D	2	1					1					
5	↓	1400	↓	10B00701	2	1					1					
6	↓	1453	↓	04B00901	2	1					1					
7	↓	1645	↓	11B00101	2	1					1					
8	↓	1710	↓	12B00101	2	1					1					
9	—	—	H_2O	TRIP BLANK	2	3										
10																
11																

Total Containers: 19
Number of Coolers in Shipment: 1
Bailers: [illegible]

Report To: PAULA JACKER

Additional Comments:
STANDARD TURNAROUND
TE, 210214042

Transfer Number	Item Number(s)	Relinquished By / Company	Accepted By / Company	Date	Time
1	1-9	[illegible] / HLC	FED EX	[illegible]	[illegible]
2			[illegible]		0410
3					
4					
5					
6					

Original Accompanies Shipment

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

813 621-0784 Telephone
813 623-6021 Fax

ANALYTICAL REPORT

AV-GAS PIPELINE AREA NADEP

KAREN HARTNETT

ABB ENVIRONMENTAL SERVICES

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

Joanne Anderson
Joanne Anderson
Project Manager

February 23, 1995

Quanterra
Environmental Services

EXECUTIVE SUMMARY - Detection Highlights

B5B080044

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD
06B00902				
Petroleum Hydrocarbons, Total Recoverable	26.3	6.2	mg/kg	SW846 9073
Solids, Total (TS)	81.0	1.0	%	MCAWW 160.3
Lead	20.2	0.31	mg/kg	SW846 6010A
06B01002				
Petroleum Hydrocarbons, Total Recoverable	21.0	6.1	mg/kg	SW846 9073
Solids, Total (TS)	81.4	1.0	%	MCAWW 160.3
Lead	0.90	0.31	mg/kg	SW846 6010A
06B01102				
Solids, Total (TS)	80.1	1.0	%	MCAWW 160.3
Lead	1.9	0.31	mg/kg	SW846 6010A
06B00802				
Solids, Total (TS)	81.5	1.0	%	MCAWW 160.3
Lead	1.5	0.31	mg/kg	SW846 6010A
03B00802				
Solids, Total (TS)	98.3	1.0	%	MCAWW 160.3
Lead	0.61	0.25	mg/kg	SW846 6010A
03B00902				
Petroleum Hydrocarbons, Total Recoverable	49.5	5.4	mg/kg	SW846 9073
Solids, Total (TS)	93.4	1.0	%	MCAWW 160.3
Arsenic	0.37	0.27	mg/kg	SW846 6010A
Lead	1.8	0.27	mg/kg	SW846 6010A
03B01002				
Petroleum Hydrocarbons, Total Recoverable	26.6	5.1	mg/kg	SW846 9073

Quanterra
Environmental Services

EXECUTIVE SUMMARY - Detection Highlights

B5B080044

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD
Solids, Total (TS)	98.4	1.0	%	MCAWW 160.3
Chromium	8.1	2.5	mg/kg	SW846 6010A
Lead	5.5	0.25	mg/kg	SW846 6010A
03B01102				
Solids, Total (TS)	97.9	1.0	%	MCAWW 160.3
Lead	0.51	0.26	mg/kg	SW846 6010A

Quanterra
Environmental Services

ANALYTICAL METHODS SUMMARY

Parameters	Methods
Petroleum Hydrocarbons, Total Recoverable	SW846 9073
Arsenic	SW846 6010A
Cadmium	SW846 6010A
Chromium	SW846 6010A
Lead	SW846 6010A
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
A2N7K	B5B080044-001	06B00902
A2N7L	B5B080044-002	06B01002
A2N7M	B5B080044-003	06B01102
A2N7N	B5B080044-004	06B00802
A2N7Q	B5B080044-005	03B00802
A2N7T	B5B080044-006	03B00902
A2N7V	B5B080044-007	03B01002
A2N7W	B5B080044-008	03B01102

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Environmental Services

ABB ENVIRONMENTAL SERVICES

03B00802

WO #: A2N7Q
LAB #: B5B080044-005
MATRIX: SOLID

DATE SAMPLED: 2/04/95
DATE RECEIVED: 2/08/95

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Arsenic	ND	0.25	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Cadmium	ND	0.51	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Chromium	ND	2.5	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Lead	0.61	0.25	mg/kg	SW846 6010A	2/13- 2/14/95	5044016

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

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03B00802

WO #: A2N7Q
LAB #: B5B080044-005
MATRIX: SOLID

DATE SAMPLED: 2/04/95
DATE RECEIVED: 2/08/95

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons, Total Recoverable	ND	5.1	mg/kg	SW846 9073	2/20- 2/22/95	5053062
Solids, Total (TS)	98.3	1.0	%	MCAWW 160.3 M	2/09- 2/10/95	5040101

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

Quanterra Environmental Services

ABB ENVIRONMENTAL SERVICES

03B00902

WO #: A2N7T
LAB #: B5B080044-006
MATRIX: SOLID

DATE SAMPLED: 2/04/95
DATE RECEIVED: 2/08/95

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Arsenic	0.37	0.27	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Cadmium	ND	0.54	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Chromium	ND	2.7	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Lead	1.8	0.27	mg/kg	SW846 6010A	2/13- 2/14/95	5044016

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

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03B00902

WO #: A2N7T
LAB #: B5B080044-006
MATRIX: SOLID

DATE SAMPLED: 2/04/95
DATE RECEIVED: 2/08/95

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons, Total Recoverable	49.5	5.4	mg/kg	SW846 9073	2/20- 2/22/95	5053062
Solids, Total (TS)	93.4	1.0	%	MCAWW 160.3 M	2/09- 2/10/95	5040101

NOTE: AS RECEIVED

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03B01002

WO #: A2N7V
LAB #: B5B080044-007
MATRIX: SOLID

DATE SAMPLED: 2/04/95
DATE RECEIVED: 2/08/95

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Arsenic	ND	0.25	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Cadmium	ND	0.51	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Chromium	8.1	2.5	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Lead	5.5	0.25	mg/kg	SW846 6010A	2/13- 2/14/95	5044016

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

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03B01002

WO #: A2N7V
LAB #: B5B080044-007
MATRIX: SOLID

DATE SAMPLED: 2/04/95
DATE RECEIVED: 2/08/95

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons, Total Recoverable	26.6	5.1	mg/kg	SW846 9073	2/20- 2/22/95	5053062
Solids, Total (TS)	98.4	1.0	%	MCAWW 160.3 M	2/09- 2/10/95	5040101

NOTE: AS RECEIVED

Quanterra Environmental Services

ABB ENVIRONMENTAL SERVICES

03B01102

WO #: A2N7W
LAB #: B5B080044-008
MATRIX: SOLID

DATE SAMPLED: 2/04/95
DATE RECEIVED: 2/08/95

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Arsenic	ND	0.26	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Cadmium	ND	0.51	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Chromium	ND	2.6	mg/kg	SW846 6010A	2/13- 2/14/95	5044016
Lead	0.51	0.26	mg/kg	SW846 6010A	2/13- 2/14/95	5044016

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

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ABB ENVIRONMENTAL SERVICES

03B01102

WO #: A2N7W
LAB #: B5B080044-008
MATRIX: SOLID

DATE SAMPLED: 2/04/95
DATE RECEIVED: 2/08/95

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons, Total Recoverable	ND	5.1	mg/kg	SW846 9073	2/20- 2/22/95	5053062
Solids, Total (TS)	97.9	1.0	%	MCAWW 160.3 M	2/09- 2/10/95	5040101

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
Environmental Services

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.

Quanterra
Environmental Services

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.

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Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B5B080044

METALS

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE
		BATCH:5044016			
Arsenic	ND	0.25	mg/kg	SW846 6010A	2/13- 2/14/95
Cadmium	ND	0.50	mg/kg	SW846 6010A	2/13- 2/14/95
Chromium	ND	2.5	mg/kg	SW846 6010A	2/13- 2/14/95
Lead	ND	0.25	mg/kg	SW846 6010A	2/13- 2/14/95

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B5B140000-037

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons,	ND	5.0	mg/kg	2/14- 2/15/95	5045037
Petroleum Hydrocarbons,	ND	5.0	mg/kg	2/20- 2/22/95	5053062

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: B5B080044

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS	PREPARATION - ANALYSIS DATE
	BATCH:5044016		
Arsenic	92	(80-120)	2/13- 2/14/95
Cadmium	96	(80-120)	2/13- 2/14/95
Chromium	95	(80-120)	2/13- 2/14/95
Lead	94	(80-120)	2/13- 2/14/95

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: B5B080044

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

COMPOUND	SPIKE PERCENT RECOVERY	LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Petroleum Hydrocarbons, Total Recoverable	87	(65-114)	2/14- 2/15/95	5045037
Petroleum Hydrocarbons, Total Recoverable	99	(65-114)	2/20- 2/22/95	5053062

Quanterra
Environmental Services

SAMPLE - SAMPLE DUP

WO #: A2N7W

LAB #: B5B080044-008
MATRIX: SOLID

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

PARAMETER	RESULT SMP	RESULT DUP	RPD	RPD LIMIT	EXTRACTION / ANALYSIS DATE	QC BATCH
Solids, Total (TS)	97.9	97.9	0.004	(0-20)	2/09- 2/10/95	5040101

Quanterra Environmental Services

MATRIX SPIKE REPORT

Lot #: B5B080044

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

COMPOUND	RECOVERY PERCENT MS	MSD	Q/C LIMITS	RPD	RPD LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Lab# B5B080044- 2 Matrix: SOLID							
Petroleum Hydrocarbons, Total Recoverable	79	82	(50-140)	3.9	30	2/14- 2/15/95	5045037
Lab# B5B080044- 4 Matrix: SOLID							
Petroleum Hydrocarbons, Total Recoverable	83	82	(50-140)	1.4	30	2/20- 2/22/95	5053062

Quanterra Environmental Services, Tampa
Sample Shipper Evaluation and Receipt Form

Client: ABB Project Name/Number: _____

Samples Received by: Carol McNulty Date Received: 2/8/95
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)	N/A	
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 2 C Cooler # _____ Temp. _____ C

Comments: C.o.C. does not show Proj Name or metals requested
Per Battles: HY-gas Pipeline area near Pensacola
+ all soil samples get As, Cd, CR, Pb + TRPH per Battles

308/bjj/52/forms/shipper.xls

Interlaboratory Chain of Custody

QUANTERRA, INCORPORATED
BRECKENRIDGE PKWY., STE. H
TAMPA, FL 33610
PHONE (813) 621-0784 FAX (813) 623-6021

Quanterra Environmental Services

CLIENT CODE _____
QUOTE / SAR NUMBER _____
Chain-of Custody Record

76875

PROJ. NO. | PROJECT NAME/LOCATION

SAMPLERS. *(Signature)*

STA. NO	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TERA METALS						REMARKS
	2-6-95	0855	✓		06B00902	1		1					
	↓	0924	✓		06B01002	1		1					
	↓	0955	✓		06B01102	1		1					
	2-5-95	1550	✓		06B00802	1		1					
	2-4-95	1445	✓		03B00802	1		1					small sample volume
	↓	1530	✓		03B00902	1		1					" "
	↓	1545	✓		03B01002	1		1					" "
	↓	1610	✓		03B01102	1		1					" "

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by *(Signature)*	Date / Time	Received by. *(Signature)*
P.W. [illegible] / ABB	2-7-95 1700	Carol McNulty 2/8/95			
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by *(Signature)*	Date / Time	Received by: *(Signature)*

Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks
				STANDARD TURNAROUND

Distribution Original Accompanies Shipment. Copy returned with Report.

QBM 004

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. 7527.34

SITE 3, NADEP PENSACOLA

KAREN HARTNETT

ABB ENVIRONMENTAL SERVICES

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

Joanne Anderson
Project Manager

March 28, 1995

Thomas R. Newman
Quality Assurance Manager

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

813 621 0784 Telephone
813 623-6021 Fax

Quanterra
Environmental Services

May 9, 1995

ABB Environmental Services
Attention : John McVoy
2590 Executive Center Circle E.
Tallahassee, FL 32301

Dear Mr. McVoy:

This correspondence is intended as clarification of an analytical report for lot B5C310047 (Project No 7527.34) submitted by Quanterra Environmental Services Tampa (Quanterra) to ABB Environmental Services (ABB).

On March 31, 1995 samples were received by Quanterra from ABB for the referenced project At the time the sample analysis request was submitted, tentatively identified compounds (TICs) were not requested by Project Management at Quanterra. The software (Thruput) used to quantitate the data from the analysis by Method 8270A automatically uploaded the TICs to the Quanterra Information Management System (QuantIMS), the system from which the final analytical report is generated. If TICs are not requested by Project Management for a particular sample lot, then the TIC report will not be reviewed as part of the data verification process. As a result, the first report received by ABB for the referenced project included a TIC report that had not been analytically reviewed.

At a later date, the request was received from Project Management at Quanterra to include a TIC report for Method 8270A. Due to this request, TICs that did not meet the guidelines specified in Method 8270A were edited from the report. As a result the second analytical report received by ABB for the referenced project included a TIC report that had been analytically reviewed.

If we can be of any further assistance on this matter, please call Kevin Bull or me at (813) 621-0784.

Sincerely,

Thomas R. Newman
Quality Assurance Manager

TRN/kmb

Enclosures
cc: Randy Grubbs, Laboratory Manager
Joanne Anderson, Project Manager
Peggy Sleevi, Corporate Director of Quality Assurance

CAT50509 DOC

Quanterra
Environmental Services

EXECUTIVE SUMMARY - Detection Highlights

B5C150072

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD

NO DETECTABLE PARAMETERS CONTAINED IN THIS REPORT

Quanterra
Environmental Services

ANALYTICAL METHODS SUMMARY

Parameters	Methods
Volatile Organics	USEPA 624
Semivolatile Organics	USEPA 625
Cadmium	MCAWW 200.7
Chromium	MCAWW 200.7
Petroleum Hydrocarbons Total Recoverable	MCAWW 418.1
Arsenic	MCAWW 200.7
Lead	MCAWW 200.7

References:

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

USEPA Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, 40CFR, Part 136, Appendix A, October 26,1984 and subsequent revisions

Quanterra Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00101

WO #: A3CPE106 DATE SAMPLED: 3/14/95
LAB #: B5C150072-001 DATE RECEIVED: 3/15/95
MATRIX: WATER

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acrolein	ND	10	USEPA 624	03/22/95	5082172
Acrylonitrile	ND	10	USEPA 624	03/22/95	5082172
Benzene	ND	1.0	USEPA 624	03/22/95	5082172
Bromodichloromethane	ND	1.0	USEPA 624	03/22/95	5082172
Bromoform	ND	1.0	USEPA 624	03/22/95	5082172
Bromomethane	ND	1.0	USEPA 624	03/22/95	5082172
Carbon tetrachloride	ND	1.0	USEPA 624	03/22/95	5082172
Chlorobenzene	ND	1.0	USEPA 624	03/22/95	5082172
Dibromochloromethane	ND	1.0	USEPA 624	03/22/95	5082172
Chloroethane	ND	1.0	USEPA 624	03/22/95	5082172
2-Chloroethyl vinyl ether	ND	1.0	USEPA 624	03/22/95	5082172
Chloroform	ND	1.0	USEPA 624	03/22/95	5082172
Chloromethane	ND	1.0	USEPA 624	03/22/95	5082172
1,2-Dichlorobenzene	ND	1.0	USEPA 624	03/22/95	5082172
1,3-Dichlorobenzene	ND	1.0	USEPA 624	03/22/95	5082172
1,4-Dichlorobenzene	ND	1.0	USEPA 624	03/22/95	5082172
1,1-Dichloroethane	ND	1.0	USEPA 624	03/22/95	5082172
1,2-Dichloroethane	ND	1.0	USEPA 624	03/22/95	5082172
1,1-Dichloroethene	ND	1.0	USEPA 624	03/22/95	5082172
cis-1,2-Dichloroethene	ND	1.0	USEPA 624	03/22/95	5082172
trans-1,2-Dichloroethene	ND	1.0	USEPA 624	03/22/95	5082172
1,2-Dichloropropane	ND	1.0	USEPA 624	03/22/95	5082172
cis-1,3-Dichloropropene	ND	1.0	USEPA 624	03/22/95	5082172

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

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

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00101

WO #: A3CPE106 DATE SAMPLED: 3/14/95
LAB #: B5C150072-001 DATE RECEIVED: 3/15/95
MATRIX: WATER

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
trans-1,3-Dichloropropene	ND	1.0	USEPA 624	03/22/95	5082172
Ethylbenzene	ND	1.0	USEPA 624	03/22/95	5082172
Trichlorofluoromethane	ND	1.0	USEPA 624	03/22/95	5082172
Methylene chloride	ND	1.0	USEPA 624	03/22/95	5082172
1,1,2,2-Tetrachloroethane	ND	1.0	USEPA 624	03/22/95	5082172
Tetrachloroethene	ND	1.0	USEPA 624	03/22/95	5082172
Toluene	ND	1.0	USEPA 624	03/22/95	5082172
1,1,1-Trichloroethane	ND	1.0	USEPA 624	03/22/95	5082172
1,1,2-Trichloroethane	ND	1.0	USEPA 624	03/22/95	5082172
Trichloroethene	ND	1.0	USEPA 624	03/22/95	5082172
Vinyl chloride	ND	1.0	USEPA 624	03/22/95	5082172
Xylenes, Total	ND	1.0	USEPA 624	03/22/95	5082172

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

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

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00101

WO #: A3CPE106
LAB #: B5C150072-001
MATRIX: WATER

DATE SAMPLED: 3/14/95
DATE RECEIVED: 3/15/95
DATE EXTRACTED: 3/22/95
DATE ANALYZED: 3/22/95

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS
with their estimated concentrations

PARAMETER	RESULT	UNIT	QC BATCH
None		--	5082172

OTHER COMPOUNDS

PARAMETER	RESULT	UNIT	QC BATCH
None		--	5082172

Quanterra Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00101

WO #: A3CPE107 DATE SAMPLED: 3/14/95
LAB #: B5C150072-001 DATE RECEIVED: 3/15/95
MATRIX: WATER

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

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acenaphthene	ND	10	USEPA 625	03/17-03/22/95	5076100
Acenaphthylene	ND	10	USEPA 625	03/17-03/22/95	5076100
Anthracene	ND	10	USEPA 625	03/17-03/22/95	5076100
Benzidine	ND	50	USEPA 625	03/17-03/22/95	5076100
Benzo(a)anthracene	ND	10	USEPA 625	03/17-03/22/95	5076100
Benzo(b)fluoranthene	ND	10	USEPA 625	03/17-03/22/95	5076100
Benzo(k)fluoranthene	ND	10	USEPA 625	03/17-03/22/95	5076100
Benzo(g,h,i)perylene	ND	10	USEPA 625	03/17-03/22/95	5076100
Benzo(a)pyrene	ND	10	USEPA 625	03/17-03/22/95	5076100
bis(2-Chloroethoxy)methane	ND	10	USEPA 625	03/17-03/22/95	5076100
bis(2-Chloroethyl)ether	ND	10	USEPA 625	03/17-03/22/95	5076100
bis(2-Chloroisopropyl)ether	ND	10	USEPA 625	03/17-03/22/95	5076100
bis(2-Ethylhexyl)phthalate	ND	10	USEPA 625	03/17-03/22/95	5076100
4-Bromophenyl phenyl ether	ND	10	USEPA 625	03/17-03/22/95	5076100
Butyl benzyl phthalate	ND	10	USEPA 625	03/17-03/22/95	5076100
4-Chloro-3-methylphenol	ND	10	USEPA 625	03/17-03/22/95	5076100
2-Chloronaphthalene	ND	10	USEPA 625	03/17-03/22/95	5076100
2-Chlorophenol	ND	10	USEPA 625	03/17-03/22/95	5076100
4-Chlorophenyl phenyl ether	ND	10	USEPA 625	03/17-03/22/95	5076100
Chrysene	ND	10	USEPA 625	03/17-03/22/95	5076100
Dibenz(a,h)anthracene	ND	10	USEPA 625	03/17-03/22/95	5076100
Di-n-butyl phthalate	ND	10	USEPA 625	03/17-03/22/95	5076100
1,2-Dichlorobenzene	ND	10	USEPA 625	03/17-03/22/95	5076100

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	61	(26 - 131)
2-Fluorobiphenyl	61	(27 - 119)
Terphenyl-d14	49	(10 - 165)
2-Fluorophenol	53	(10 - 116)
Phenol-d5	53	(10 - 175)
2,4,6-Tribromophenol	60	(10 - 155)

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

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00101

WO #: A3CPE107 DATE SAMPLED: 3/14/95
LAB #: B5C150072-001 DATE RECEIVED: 3/15/95
MATRIX: WATER

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

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
1,3-Dichlorobenzene	ND	10	USEPA 625	03/17-03/22/95	5076100
1,4-Dichlorobenzene	ND	10	USEPA 625	03/17-03/22/95	5076100
3,3'-Dichlorobenzidine	ND	50	USEPA 625	03/17-03/22/95	5076100
2,4-Dichlorophenol	ND	10	USEPA 625	03/17-03/22/95	5076100
Diethyl phthalate	ND	10	USEPA 625	03/17-03/22/95	5076100
2,4-Dimethylphenol	ND	10	USEPA 625	03/17-03/22/95	5076100
Dimethyl phthalate	ND	10	USEPA 625	03/17-03/22/95	5076100
Di-n-octyl phthalate	ND	10	USEPA 625	03/17-03/22/95	5076100
4,6-Dinitro-2-methylphenol	ND	50	USEPA 625	03/17-03/22/95	5076100
2,4-Dinitrophenol	ND	50	USEPA 625	03/17-03/22/95	5076100
2,4-Dinitrotoluene	ND	10	USEPA 625	03/17-03/22/95	5076100
2,6-Dinitrotoluene	ND	10	USEPA 625	03/17-03/22/95	5076100
1,2-Diphenylhydrazine	ND	10	USEPA 625	03/17-03/22/95	5076100
Fluoranthene	ND	10	USEPA 625	03/17-03/22/95	5076100
Fluorene	ND	10	USEPA 625	03/17-03/22/95	5076100
Hexachlorobenzene	ND	10	USEPA 625	03/17-03/22/95	5076100
Hexachlorobutadiene	ND	10	USEPA 625	03/17-03/22/95	5076100
Hexachlorocyclopentadiene	ND	10	USEPA 625	03/17-03/22/95	5076100
Hexachloroethane	ND	10	USEPA 625	03/17-03/22/95	5076100
Indeno(1,2,3-cd)pyrene	ND	10	USEPA 625	03/17-03/22/95	5076100
Isophorone	ND	10	USEPA 625	03/17-03/22/95	5076100
Naphthalene	ND	10	USEPA 625	03/17-03/22/95	5076100
Nitrobenzene	ND	10	USEPA 625	03/17-03/22/95	5076100

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	61	(26 - 131)
2-Fluorobiphenyl	61	(27 - 119)
Terphenyl-d14	49	(10 - 165)
2-Fluorophenol	53	(10 - 116)
Phenol-d5	53	(10 - 175)
2,4,6-Tribromophenol	60	(10 - 155)

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

Quanterra Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00101

WO #: A3CPE107 DATE SAMPLED: 3/14/95
LAB #: B5C150072-001 DATE RECEIVED: 3/15/95
MATRIX: WATER

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

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
2-Nitrophenol	ND	10	USEPA 625	03/17-03/22/95	5076100
4-Nitrophenol	ND	50	USEPA 625	03/17-03/22/95	5076100
N-Nitrosodimethylamine	ND	10	USEPA 625	03/17-03/22/95	5076100
N-Nitrosodi-n-propylamine	ND	10	USEPA 625	03/17-03/22/95	5076100
N-Nitrosodiphenylamine	ND	10	USEPA 625	03/17-03/22/95	5076100
Pentachlorophenol	ND	50	USEPA 625	03/17-03/22/95	5076100
Phenanthrene	ND	10	USEPA 625	03/17-03/22/95	5076100
Phenol	ND	10	USEPA 625	03/17-03/22/95	5076100
Pyrene	ND	10	USEPA 625	03/17-03/22/95	5076100
1,2,4-Trichlorobenzene	ND	10	USEPA 625	03/17-03/22/95	5076100
2,4,6-Trichlorophenol	ND	10	USEPA 625	03/17-03/22/95	5076100

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	61	(26 - 131)
2-Fluorobiphenyl	61	(27 - 119)
Terphenyl-d14	49	(10 - 165)
2-Fluorophenol	53	(10 - 116)
Phenol-d5	53	(10 - 175)
2,4,6-Tribromophenol	60	(10 - 155)

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

Quanterra Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00901

WO #: A3CPE107 DATE SAMPLED: 3/14/95
LAB #: B5C150072-001 DATE RECEIVED: 3/15/95
MATRIX: WATER

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

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
2-Nitrophenol	ND	10	USEPA 625	03/17-03/22/95	5076100
4-Nitrophenol	ND	50	USEPA 625	03/17-03/22/95	5076100
N-Nitrosodimethylamine	ND	10	USEPA 625	03/17-03/22/95	5076100
N-Nitrosodi-n-propylamine	ND	10	USEPA 625	03/17-03/22/95	5076100
N-Nitrosodiphenylamine	ND	10	USEPA 625	03/17-03/22/95	5076100
Pentachlorophenol	ND	50	USEPA 625	03/17-03/22/95	5076100
Phenanthrene	ND	10	USEPA 625	03/17-03/22/95	5076100
Phenol	ND	10	USEPA 625	03/17-03/22/95	5076100
Pyrene	ND	10	USEPA 625	03/17-03/22/95	5076100
1,2,4-Trichlorobenzene	ND	10	USEPA 625	03/17-03/22/95	5076100
2,4,6-Trichlorophenol	ND	10	USEPA 625	03/17-03/22/95	5076100

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	61	(26 - 131)
2-Fluorobiphenyl	61	(27 - 119)
Terphenyl-d14	49	(10 - 165)
2-Fluorophenol	53	(10 - 116)
Phenol-d5	53	(10 - 175)
2,4,6-Tribromophenol	60	(10 - 155)

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

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00101

WO #: A3CPE107
LAB #: B5C150072-001
MATRIX: WATER

DATE SAMPLED: 3/14/95
DATE RECEIVED: 3/15/95
DATE EXTRACTED: 3/17/95
DATE ANALYZED: 3/22/95

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS
with their estimated concentrations

PARAMETER	RESULT	UNIT	QC BATCH
Butyl hexadecanoate	62	ug/L	5076100

OTHER COMPOUNDS

PARAMETER	RESULT	UNIT	QC BATCH
None		--	5076100

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00101

WO #: A3CPE
LAB #: B5C150072-001
MATRIX: WATER

DATE SAMPLED: 3/14/95
DATE RECEIVED: 3/15/95

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Cadmium	ND	5.0	ug/L	MCAWW 200.7	3/16/95	5075067
Chromium	ND	50.0	ug/L	MCAWW 200.7	3/16/95	5075067
Arsenic	ND	5.0	ug/L	MCAWW 200.7	3/16/95	5075067
Lead	ND	5.0	ug/L	MCAWW 200.7	3/16/95	5075067

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

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES

03Z00101

WO #: A3CPE
LAB #: B5C150072-001
MATRIX: WATER

DATE SAMPLED: 3/14/95
DATE RECEIVED: 3/15/95

- - - - - - - - - - - - - - - - - - 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	3/24- 3/27/95	5083118

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

Quanterra Environmental Services

ABB ENVIRONMENTAL SERVICES

TRIP BLANK

WO #: A3CPF101
LAB #: B5C150072-002
MATRIX: WATER

DATE SAMPLED: 3/14/95
DATE RECEIVED: 3/15/95

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acrolein	ND	10	USEPA 624	03/22/95	5082172
Acrylonitrile	ND	10	USEPA 624	03/22/95	5082172
Benzene	ND	1.0	USEPA 624	03/22/95	5082172
Bromodichloromethane	ND	1.0	USEPA 624	03/22/95	5082172
Bromoform	ND	1.0	USEPA 624	03/22/95	5082172
Bromomethane	ND	1.0	USEPA 624	03/22/95	5082172
Carbon tetrachloride	ND	1.0	USEPA 624	03/22/95	5082172
Chlorobenzene	ND	1.0	USEPA 624	03/22/95	5082172
Dibromochloromethane	ND	1.0	USEPA 624	03/22/95	5082172
Chloroethane	ND	1.0	USEPA 624	03/22/95	5082172
2-Chloroethyl vinyl ether	ND	1.0	USEPA 624	03/22/95	5082172
Chloroform	ND	1.0	USEPA 624	03/22/95	5082172
Chloromethane	ND	1.0	USEPA 624	03/22/95	5082172
1,2-Dichlorobenzene	ND	1.0	USEPA 624	03/22/95	5082172
1,3-Dichlorobenzene	ND	1.0	USEPA 624	03/22/95	5082172
1,4-Dichlorobenzene	ND	1.0	USEPA 624	03/22/95	5082172
1,1-Dichloroethane	ND	1.0	USEPA 624	03/22/95	5082172
1,2-Dichloroethane	ND	1.0	USEPA 624	03/22/95	5082172
1,1-Dichloroethene	ND	1.0	USEPA 624	03/22/95	5082172
cis-1,2-Dichloroethene	ND	1.0	USEPA 624	03/22/95	5082172
trans-1,2-Dichloroethene	ND	1.0	USEPA 624	03/22/95	5082172
1,2-Dichloropropane	ND	1.0	USEPA 624	03/22/95	5082172
cis-1,3-Dichloropropene	ND	1.0	USEPA 624	03/22/95	5082172

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	100	(78 - 130)
Toluene-d8	98	(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 #: A3CPF101 DATE SAMPLED: 3/14/95
LAB #: B5C150072-002 DATE RECEIVED: 3/15/95
MATRIX: WATER

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
trans-1,3-Dichloropropene	ND	1.0	USEPA 624	03/22/95	5082172
Ethylbenzene	ND	1.0	USEPA 624	03/22/95	5082172
Trichlorofluoromethane	ND	1.0	USEPA 624	03/22/95	5082172
Methylene chloride	ND	1.0	USEPA 624	03/22/95	5082172
1,1,2,2-Tetrachloroethane	ND	1.0	USEPA 624	03/22/95	5082172
Tetrachloroethene	ND	1.0	USEPA 624	03/22/95	5082172
Toluene	ND	1.0	USEPA 624	03/22/95	5082172
1,1,1-Trichloroethane	ND	1.0	USEPA 624	03/22/95	5082172
1,1,2-Trichloroethane	ND	1.0	USEPA 624	03/22/95	5082172
Trichloroethene	ND	1.0	USEPA 624	03/22/95	5082172
Vinyl chloride	ND	1.0	USEPA 624	03/22/95	5082172
Xylenes, Total	ND	1.0	USEPA 624	03/22/95	5082172

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	100	(78 - 130)
Toluene-d8	98	(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 Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B5C230000-172

- GC/MS Volatiles -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acrolein	ND	10	3/22/95	5082172
Acrylonitrile	ND	10	3/22/95	5082172
Benzene	ND	1.0	3/22/95	5082172
Bromodichloromethane	ND	1.0	3/22/95	5082172
Bromoform	ND	1.0	3/22/95	5082172
Bromomethane	ND	1.0	3/22/95	5082172
Carbon tetrachloride	ND	1.0	3/22/95	5082172
Chlorobenzene	ND	1.0	3/22/95	5082172
Dibromochloromethane	ND	1.0	3/22/95	5082172
Chloroethane	ND	1.0	3/22/95	5082172
2-Chloroethyl vinyl ether	ND	1.0	3/22/95	5082172
Chloroform	ND	1.0	3/22/95	5082172
Chloromethane	ND	1.0	3/22/95	5082172
1,2-Dichlorobenzene	ND	1.0	3/22/95	5082172
1,3-Dichlorobenzene	ND	1.0	3/22/95	5082172
1,4-Dichlorobenzene	ND	1.0	3/22/95	5082172
1,1-Dichloroethane	ND	1.0	3/22/95	5082172
1,2-Dichloroethane	ND	1.0	3/22/95	5082172
1,1-Dichloroethene	ND	1.0	3/22/95	5082172
cis-1,2-Dichloroethene	ND	1.0	3/22/95	5082172
trans-1,2-Dichloroethene	ND	1.0	3/22/95	5082172
1,2-Dichloropropane	ND	1.0	3/22/95	5082172
cis-1,3-Dichloropropene	ND	1.0	3/22/95	5082172
trans-1,3-Dichloropropene	ND	1.0	3/22/95	5082172
Ethylbenzene	ND	1.0	3/22/95	5082172

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	100	(78 - 130)
Toluene-d8	98	(90 - 109)
Bromofluorobenzene	99	(81 - 117)

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B5C230000-172

- GC/MS Volatiles -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Trichlorofluoromethane	ND	1.0	3/22/95	5082172
Methylene chloride	ND	1.0	3/22/95	5082172
1,1,2,2-Tetrachloroethane	ND	1.0	3/22/95	5082172
Tetrachloroethene	ND	1.0	3/22/95	5082172
Toluene	ND	1.0	3/22/95	5082172
1,1,1-Trichloroethane	ND	1.0	3/22/95	5082172
1,1,2-Trichloroethane	ND	1.0	3/22/95	5082172
Trichloroethene	ND	1.0	3/22/95	5082172
Vinyl chloride	ND	1.0	3/22/95	5082172
Xylenes, Total	ND	1.0	3/22/95	5082172

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	100	(78 - 130)
Toluene-d8	98	(90 - 109)
Bromofluorobenzene	99	(81 - 117)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B5C170000-100

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

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Benzidine	ND	50	3/17- 3/21/95	5076100
bis(2-Ethylhexyl)phthalate	ND	10	3/17- 3/21/95	5076100
4-Chloro-3-methylphenol	ND	10	3/17- 3/21/95	5076100
1,2-Diphenylhydrazine	ND	10	3/17- 3/21/95	5076100
Fluorene	ND	10	3/17- 3/21/95	5076100
Naphthalene	ND	10	3/17- 3/21/95	5076100
N-Nitrosodimethylamine	ND	10	3/17- 3/21/95	5076100
Phenanthrene	ND	10	3/17- 3/21/95	5076100
Acenaphthene	ND	10	3/17- 3/21/95	5076100
Acenaphthylene	ND	10	3/17- 3/21/95	5076100
Anthracene	ND	10	3/17- 3/21/95	5076100
Benzo(a)anthracene	ND	10	3/17- 3/21/95	5076100
Benzo(b)fluoranthene	ND	10	3/17- 3/21/95	5076100
Benzo(k)fluoranthene	ND	10	3/17- 3/21/95	5076100
Benzo(g,h,i)perylene	ND	10	3/17- 3/21/95	5076100
Benzo(a)pyrene	ND	10	3/17- 3/21/95	5076100
bis(2-Chloroethoxy)methane	ND	10	3/17- 3/21/95	5076100
bis(2-Chloroethyl)ether	ND	10	3/17- 3/21/95	5076100
bis(2-Chloroisopropyl)ether	ND	10	3/17- 3/21/95	5076100
4-Bromophenyl phenyl ether	ND	10	3/17- 3/21/95	5076100
Butyl benzyl phthalate	ND	10	3/17- 3/21/95	5076100
2-Chloronaphthalene	ND	10	3/17- 3/21/95	5076100
2-Chlorophenol	ND	10	3/17- 3/21/95	5076100
4-Chlorophenyl phenyl ether	ND	10	3/17- 3/21/95	5076100
Chrysene	ND	10	3/17- 3/21/95	5076100

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	73	(26 - 131)
2-Fluorobiphenyl	71	(27 - 119)
Terphenyl-d14	104	(10 - 165)
2-Fluorophenol	68	(10 - 116)
Phenol-d5	72	(10 - 175)
2,4,6-Tribromophenol	75	(10 - 155)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B5C170000-100

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

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Dibenz(a,h)anthracene	ND	10	3/17- 3/21/95	5076100
Di-n-butyl phthalate	ND	10	3/17- 3/21/95	5076100
1,2-Dichlorobenzene	ND	10	3/17- 3/21/95	5076100
1,3-Dichlorobenzene	ND	10	3/17- 3/21/95	5076100
1,4-Dichlorobenzene	ND	10	3/17- 3/21/95	5076100
3,3'-Dichlorobenzidine	ND	50	3/17- 3/21/95	5076100
2,4-Dichlorophenol	ND	10	3/17- 3/21/95	5076100
Diethyl phthalate	ND	10	3/17- 3/21/95	5076100
2,4-Dimethylphenol	ND	10	3/17- 3/21/95	5076100
Dimethyl phthalate	ND	10	3/17- 3/21/95	5076100
Di-n-octyl phthalate	ND	10	3/17- 3/21/95	5076100
4,6-Dinitro-2-methylphenol	ND	50	3/17- 3/21/95	5076100
2,4-Dinitrophenol	ND	50	3/17- 3/21/95	5076100
2,4-Dinitrotoluene	ND	10	3/17- 3/21/95	5076100
2,6-Dinitrotoluene	ND	10	3/17- 3/21/95	5076100
Fluoranthene	ND	10	3/17- 3/21/95	5076100
Hexachlorobenzene	ND	10	3/17- 3/21/95	5076100
Hexachlorobutadiene	ND	10	3/17- 3/21/95	5076100
Hexachlorocyclopentadiene	ND	10	3/17- 3/21/95	5076100
Hexachloroethane	ND	10	3/17- 3/21/95	5076100
Indeno(1,2,3-cd)pyrene	ND	10	3/17- 3/21/95	5076100
Isophorone	ND	10	3/17- 3/21/95	5076100
Nitrobenzene	ND	10	3/17- 3/21/95	5076100
2-Nitrophenol	ND	10	3/17- 3/21/95	5076100

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	73	(26 - 131)
2-Fluorobiphenyl	71	(27 - 119)
Terphenyl-d14	104	(10 - 165)
2-Fluorophenol	68	(10 - 116)
Phenol-d5	72	(10 - 175)
2,4,6-Tribromophenol	75	(10 - 155)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B5C170000-100

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

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
4-Nitrophenol	ND	50	3/17- 3/21/95	5076100
N-Nitrosodi-n-propylamine	ND	10	3/17- 3/21/95	5076100
N-Nitrosodiphenylamine	ND	10	3/17- 3/21/95	5076100
Pentachlorophenol	ND	50	3/17- 3/21/95	5076100
Phenol	ND	10	3/17- 3/21/95	5076100
Pyrene	ND	10	3/17- 3/21/95	5076100
1,2,4-Trichlorobenzene	ND	10	3/17- 3/21/95	5076100
2,4,6-Trichlorophenol	ND	10	3/17- 3/21/95	5076100

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	73	(26 - 131)
2-Fluorobiphenyl	71	(27 - 119)
Terphenyl-d14	104	(10 - 165)
2-Fluorophenol	68	(10 - 116)
Phenol-d5	72	(10 - 175)
2,4,6-Tribromophenol	75	(10 - 155)

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B5C150072

METALS

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE
		BATCH:5075067			
Arsenic	ND	5.0	ug/L	MCAWW 200.7	3/16/95
Cadmium	ND	5.0	ug/L	MCAWW 200.7	3/16/95
Chromium	ND	50.0	ug/L	MCAWW 200.7	3/16/95
Lead	ND	5.0	ug/L	MCAWW 200.7	3/16/95

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: B5C240000-118

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

PARAMETER	RESULT	REPORTING LIMIT	UNIT	PREPARATION - ANALYSIS DATE	QC BATCH
Petroleum Hydrocarbons	ND	1.0	mg/L	3/24- 3/27/95	5083118

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 5082172
LAB #: B5C230000-172 C

PREPARATION DATE: 3/22/95
DATE ANALYZED: 3/22/95

- GC/MS Volatiles -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
1,1-Dichloroethene	83	(66-120)
Benzene	94	(76-119)
Trichloroethene	94	(75-119)
Toluene	93	(76-119)
Chlorobenzene	89	(80-121)

Quanterra
Environmental Services

LCS - DCS REPORT

QC BATCH: 5076100
LAB #: B5C170000-100 C

WO #:
PREPARATION DATE: 3/17/95
DATE ANALYZED: 3/21/95

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

COMPOUND	LCS PERCENT RECOVERY	DCS PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMITS
Phenol	80	74	(10-113)	7.2	49
2-Chlorophenol	81	77	(17-108)	5.3	45
1,4-Dichlorobenzene	60	59	(24-133)	2.4	45
N-Nitrosodi-n-propylamine	79	76	(12-139)	3.4	43
1,2,4-Trichlorobenzene	69	67	(27-119)	2.0	52
4-Chloro-3-methylphenol	86	82	(17-120)	4.1	47
Acenaphthene	83	84	(24-127)	1.0	42
4-Nitrophenol	91	89	(10-138)	2.4	54
2,4-Dinitrotoluene	89	96	(15-138)	6.8	45
Pentachlorophenol	94	95	(10-145)	0.83	47
Pyrene	95	96	(20-137)	1.8	55

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

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: B5C150072

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS	PREPARATION - ANALYSIS DATE
	BATCH:5075067		
Arsenic	105	(80-120)	3/16/95
Cadmium	111	(83-117)	3/16/95
Chromium	108	(89-117)	3/16/95
Lead	109	(80-120)	3/16/95

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: B5C150072

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

COMPOUND	SPIKE PERCENT RECOVERY	LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Petroleum Hydrocarbons Total Recoverable	89	(73-122)	3/24- 3/27/95	5083118

Quanterra Environmental Services, Tampa
Sample Shipper Evaluation and Receipt Form

Client: ABB Project Name/Number: Site 3 NADEP Pensacola

Samples Received by: Carol McNulty Date Received: 3/15/95
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 3C Cooler # ____ Temp. ____ C

Comments: COC does not state which metals
pu quote AS Cd CR Pb

308/bjj/52/forms/shipper.xls