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CONTAMINATION ASSESSMENT REPORT ADDENDUM SITE 11 UNDERGROUND
STORAGE TANK 138 (UST138) NAS PENSACOLA FL
10/1/1995
ABB ENVIRONMENTAL SERVICES, INC

CONTAMINATION ASSESSMENT REPORT ADDENDUM

**SITE 11, UST 138
NAVAL AVIATION DEPOT**

**NAVAL AIR STATION
PENSACOLA, FLORIDA**

Unit Identification Code: N00204

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

Prepared by:

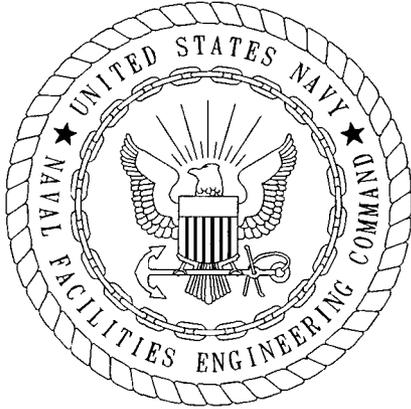
**ABB Environmental Services, Inc.
2590 Executive Center Circle, East
Tallahassee, Florida 32301**

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

October 1995



CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

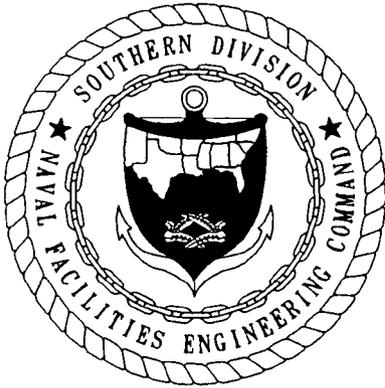
The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/008 are complete and accurate and comply with all requirements of this contract.

DATE: October 3, 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 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 underground storage tank (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.

EXECUTIVE SUMMARY

The following report is an addendum to the Aviation Gasoline (AVGAS) Pipeline Area Contamination Assessment Report (CAR) submitted by ABB Environmental Services, Inc. (ABB-ES) in August 1995. Information such as regional and local physiography, regional hydrology, investigative methodologies, and procedures, and supplemental reports and memoranda are included in the August 1995 AVGAS Pipeline Area CAR.

Site 11 is the former location of a 500-gallon underground storage tank (UST), located on the northwest edge of Chevalier Field, Naval Aviation Depot (NADEP), Pensacola. The tank, designated UST 138, was located next to the northwest corner of Building 606. The UST was constructed of unprotected steel and contained lubricating oil. The UST was installed beside a steel containment area referred to by site personnel as an "oil pit." The purpose of the pit is uncertain, although the suspected usage was to dispense lube oil and air during aircraft maintenance.

During the UST 138 removal in September 1994, no visual evidence of soil or groundwater contamination was reported. One composite soil sample was collected and analyzed from the soil around UST 138. A total recoverable petroleum (TRPH) concentration of 540 parts per million (ppm) was detected in this sample. Subsequent to the UST removal, all excavated soil was returned to the excavation. The UST site was transferred to ABB Environmental Services, Inc. (ABB-ES), in late September 1994 for closure and investigation.

FINDINGS.

- Site soil consists of fine-grained, well-sorted sand. The color of the soil ranges from very dark gray to reddish brown.
- 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. Laboratory analytical sampling results for confirmatory soil samples did not exceed State clean soil maximum concentrations.
- One groundwater sample was collected from the source area at Site 11. Lead was the only contaminant detected in the groundwater sample at concentrations below the Chapter 62-770.730(5)(a) target level of 50 parts per billion (ppb) for lead.

CONCLUSIONS. Based on the findings of the contamination assessment (CA) and site conditions, the following can be concluded.

- The soil at Site 11 meets FDEP requirements for clean soil.
- The groundwater at Site 11 has not been impacted by the soil contamination detected during this investigation.

RECOMMENDATIONS. Based on the findings, conclusions, and interpretations of the CA, ABB-ES recommends a *No Further Action Proposal* (NFAP) for Site 11.

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
AVGAS	aviation gasoline
BEI	Bechtel Environmental, Inc.
bdl	below detection limits
bls	below land surface
CA	contamination assessment
CAR	Contamination Assessment Report
CLEAN	Comprehensive Long-Term Environmental Action, Navy
CompQAP	Comprehensive Quality Assurance Plan
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
GTES	GT Environmental Services
NADEP	Naval Aviation Depot
NAS	Naval Air Station
NFAP	No Further Action Plan
NTTC	Naval Technical Training Center
PAH	polynuclear aromatic hydrocarbons
ppb	parts per billion
ppm	parts per million
SOUTHNAV- FACENGCOCM	Southern Division, Naval Facilities Engineering Command
TRPH	total recoverable petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOA	volatile organic aromatics
VOH	volatile organic halocarbons

1.0 SITE BACKGROUND AND DESCRIPTION

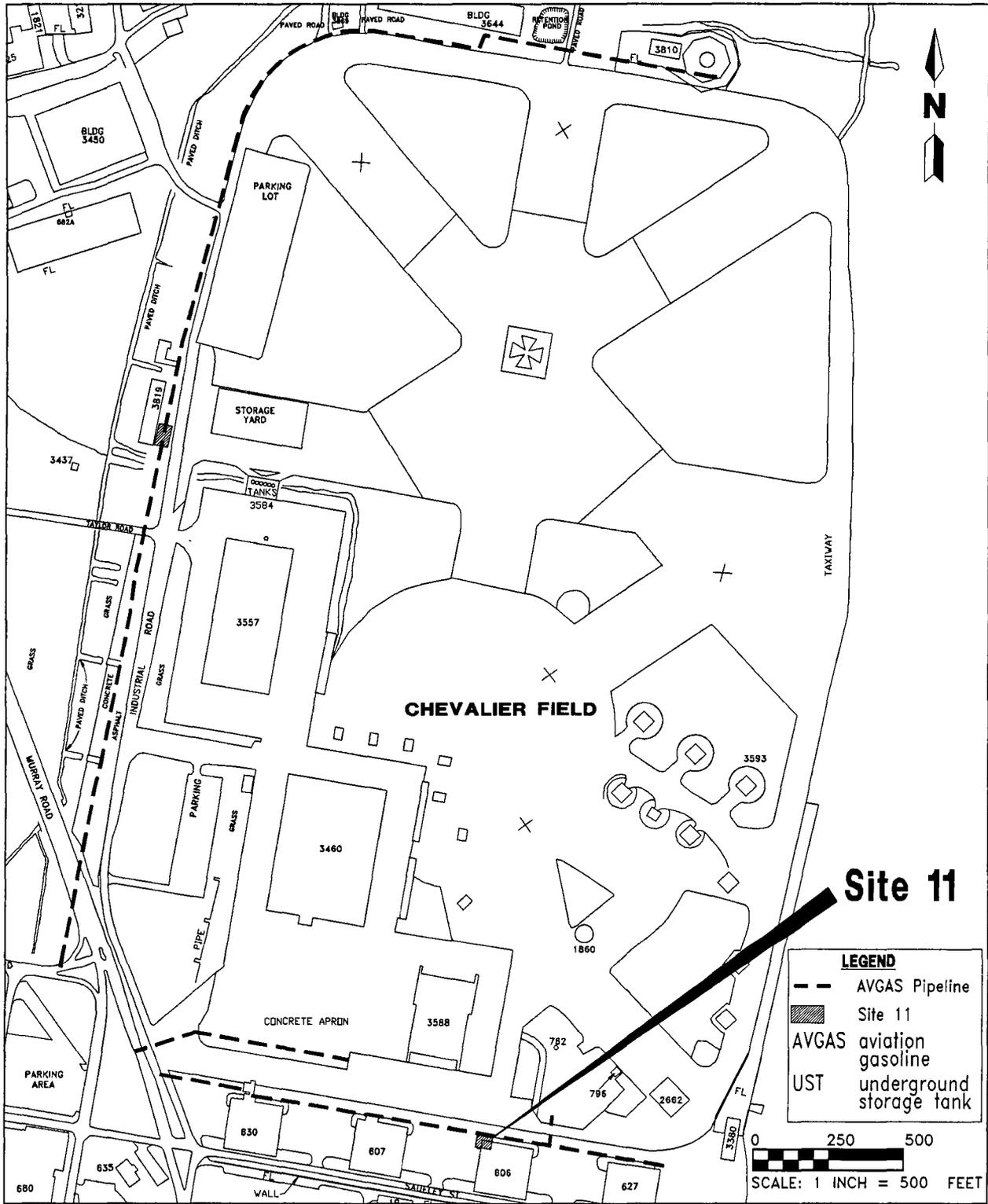
Site 11 is located on the south-central boundary of Chevalier Field, Naval Aviation Depot (NADEP), Pensacola (Figure 1-1). It is the former location of a 500-gallon underground storage tank (UST) associated with the aviation gasoline (AVGAS) pipeline (Figure 1-2). The tank, designated UST 138, was located next to the northwest corner of Building 606 and formerly used for lubrication oil storage. The tank was constructed of unprotected steel and installed beside a steel containment area referred to by site personnel as an "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 pit is uncertain, although the suspected usage was to dispense lube oil and air during aircraft maintenance.

UST 138 was removed in September 1994 by Phoenix Construction Company and their subcontractor, GT Environmental Services, Inc. (GTES). During tank removal operations, GTES reported no visual evidence of soil or groundwater contamination. One composite soil sample was collected from the soil around UST 138 and analyzed for total recoverable petroleum hydrocarbons (TRPH) and lead. A TRPH concentration of 540 parts per million (ppm) was detected in this sample. Subsequent to UST removal, all excavated soil was returned to the excavation. A copy of the GTES letter summary of findings is included in Appendix A, GTES Correspondence, of this report.

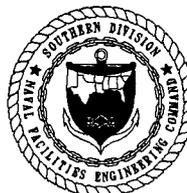
Site 11 UST 138 was transferred to ABB Environmental Services, Inc., (ABB-ES) for closure in late September 1994. The closure report for UST 138 is presented in Appendix A, Site Background Information and Documentation, of the AVGAS Pipeline Area Contamination Assessment Report (CAR), submitted by ABB-ES in August 1995. Because TRPH contamination was detected, a Discharge Reporting Form was also filed with the closure report. The Discharge Reporting Form is also included in Appendix A of the August 1995 AVGAS Pipeline CAR.

The demolition of Chevalier Field commenced in January 1995. The airfield and many of its associated facilities are being demolished as part of the base realignment and closure program. A Naval Technical Training Center (NTTC) is being constructed on the former airfield. Buildings 606, 607, 627, and 630 are currently undergoing asbestos remediation and remodeling for use at NTTC. Removal of the concrete and asphalt parking areas around these buildings began in March 1995.

The following report summarizes the data gathered during the Site 11 UST 138 closure and subsequent contamination assessment (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.



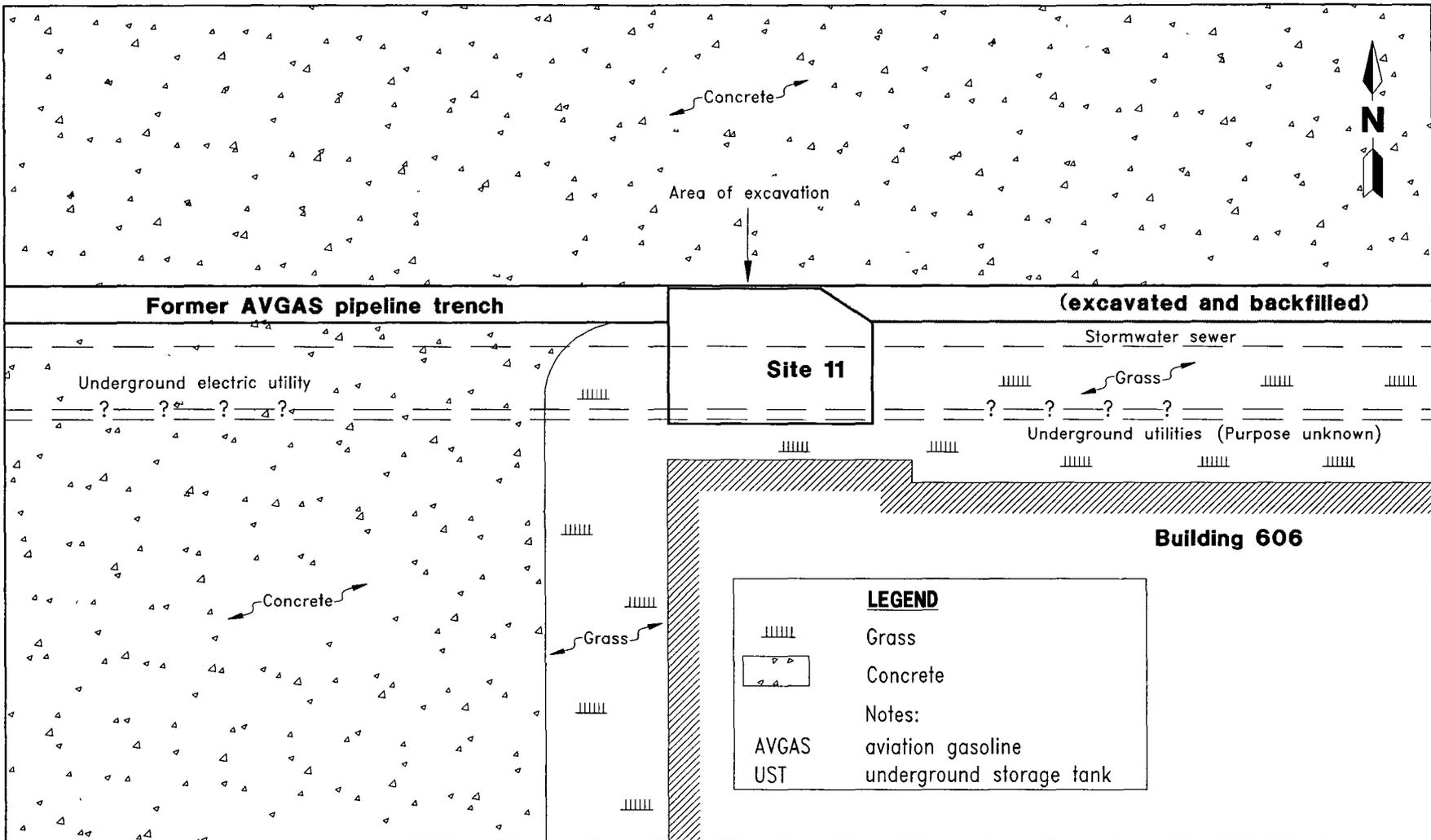
**FIGURE 1-1
SITE LOCATION MAP**



**CONTAMINATION ASSESSMENT
REPORT ADDENDUM
SITE 11, UST 138**

**NADEP PENSACOLA
PENSACOLA, FLORIDA**

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LEGEND

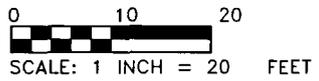
||||| Grass

△△△ Concrete

Notes:

AVGAS aviation gasoline

UST underground storage tank



**FIGURE 1-2
SITE PLAN**



**CONTAMINATION ASSESSMENT
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**NAVAL AVIATION
PENSACOLA, FLORIDA**

2.0 CONTAMINATION ASSESSMENT RESULTS

2.1 SOIL ASSESSMENT RESULTS. All soil samples were collected in accordance with ABB-ES's approved Comprehensive Quality Assurance Plan (CompQAP) using a hand-operated auger. Samples were placed in the appropriate containers, labeled, packed in ice, and shipped by overnight carrier to Quanterra Environmental Services in Tampa, Florida, for analysis. Soil boring locations are presented in Figure 2-1. Soil contamination distribution is presented in Figure 2-2. Soil sampling results are presented in Table 2-1. Lithologic logs are presented in Appendix B of this report. Data sheets for all laboratory analyses are presented in Appendix C of this report.

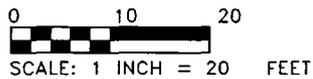
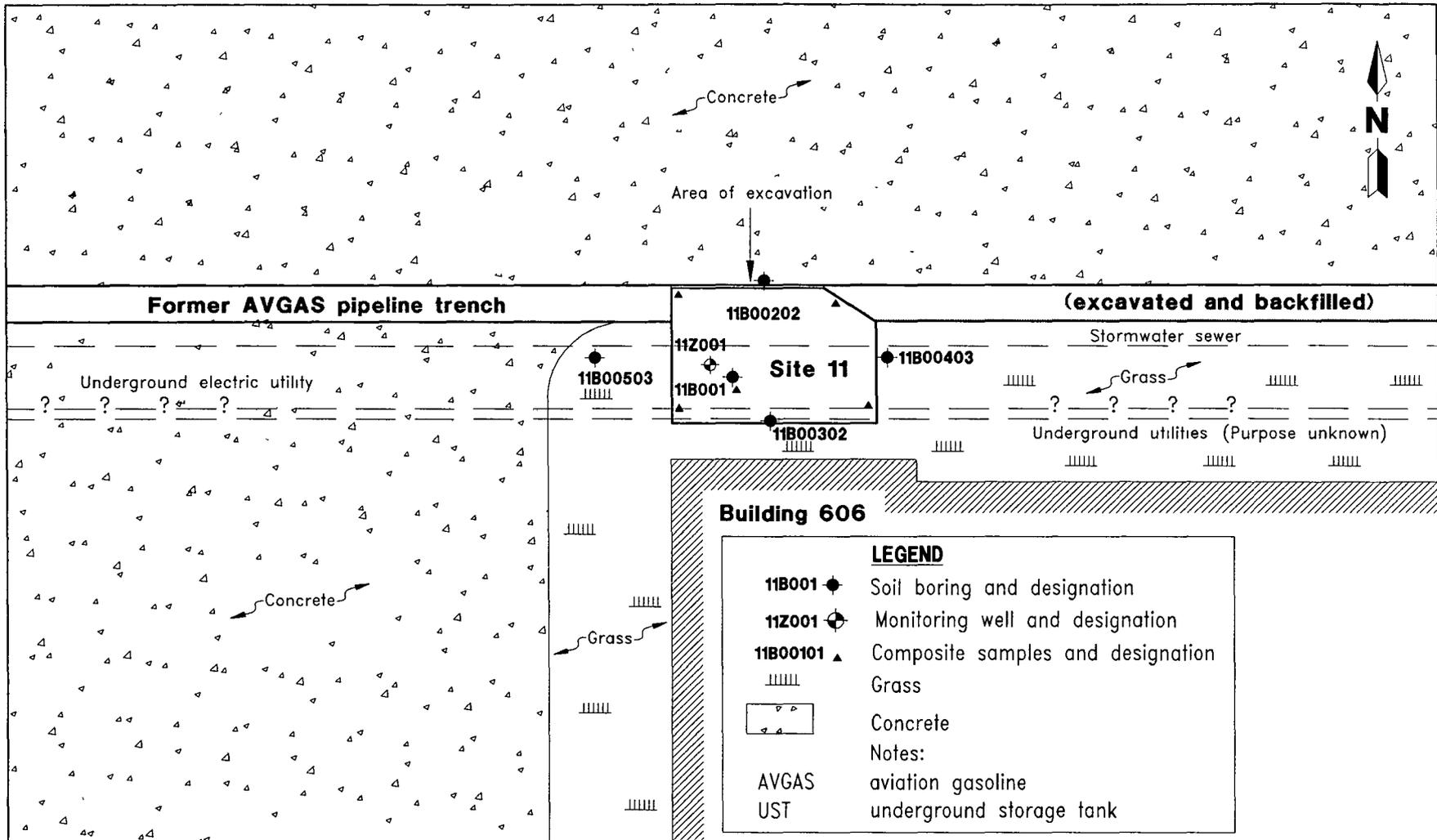
2.1.1 Initial Soil Assessment On October 26, 1994, a composite soil sample, 11B00101, was collected from soil which had been returned in September 1994 to the Site 11 excavation area during UST 138 removal operations. This sample was composited from soil collected at each corner and the center of the UST excavation area from 2.5 to 3 feet below land surface (bls). The sample was analyzed for the used oil group parameters defined in Chapter 62-770.600, Florida Administrative Code (FAC) and compared to the clean soil criteria described in Chapter 62-775.400, FAC.

Volatile organic aromatic (VOA) and polynuclear aromatic hydrocarbon (PAH) concentrations were below method detection limits for soil sample 11B00101. A TRPH concentration of 116 ppm was detected in soil sample 11B00101. 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, FAC. Cadmium was not detected in soil sample 11B00101. Chromium, arsenic, and lead concentrations were below the respective State maximum concentrations.

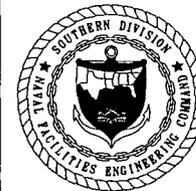
On March 8, 1995, excessively contaminated soil from the former location of UST 138 was removed by Bechtel Environmental, Inc. (BEI). The excavation area is shown on Figure 1-2. Approximately 79 cubic yards of soil were removed from an area 25 feet by 17 feet. Excavation continued until the water table was reached at 5 feet bls. Soil removed from the site consisted of fine-grained, well-sorted sand, ranging in color from very dark gray to reddish brown. 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 11 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 manifests were included in the AVGAS Pipeline Area CAR submitted to the Florida Department of Environmental Protection (FDEP) by ABB-ES on August 31, 1995.

2.1.2 Confirmatory Soil Assessment In March 1995, four confirmatory soil samples, 11B00202 through 11B00503, were collected from the north, south, east, and west sides of the excavation area, respectively (Figure 2-1). These soil samples were collected from 2.5 to 3 feet bls. All four samples were analyzed for TRPH, arsenic, cadmium, chromium, and lead, in accordance with Chapter 62-770.600, FAC.

No parameters detected in any of the four samples exceeded the applicable State clean soil maximum concentrations.

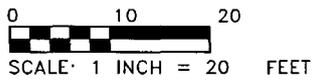
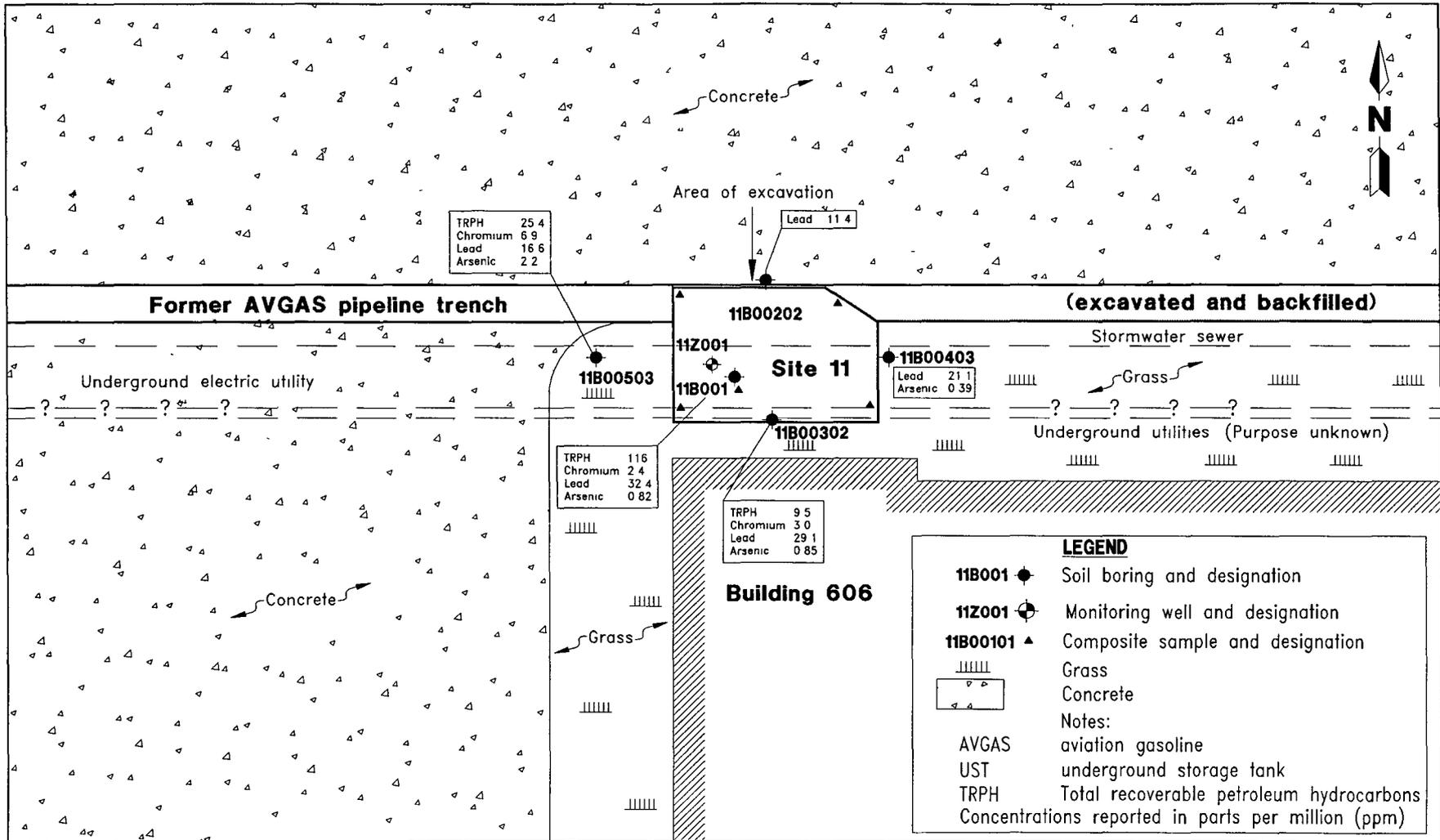


**FIGURE 2-1
SOIL BORING AND MONITORING WELL
LOCATION MAP**



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**FIGURE 2-2
SOIL CONTAMINATION
DISTRIBUTION MAP**



**CONTAMINATION ASSESSMENT
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**NAVAL AVIATION DEPOT
PENSACOLA, FLORIDA**

**Table 2-1
Summary of Soil Sample Analytical Results
October 1994 through March 1995**

Contamination Assessment Report Addendum
Site 11 - UST 138, Naval Aviation Depot
Pensacola, Florida

Contaminant	Soil Sample Designation					Clean Soil ¹ Maximum Concentration
	11B00101	11B00202	11B00302	11B00403 ²	11B00503	
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	1,000
Total Recoverable Petroleum Hydrocarbons (TRPH). Reported in parts per million (ppm).						
TRPH	116	<5.2	9.5	<5.2	25.4	50 ³
Total Metals. Reported in milligrams per kilogram (mg/kg).						
Cadmium	<0.50	<0.52	<0.53	<0.52	<0.50	37
Chromium	2.4 J	<2.6	3.0	<2.6	6.9	50
Lead	32.4	11.4	29.1	21.1	16.6	108
Arsenic	0.82	<0.26	0.85	0.39	2.2	10
¹ Chapter 62-775.400, Florida Administrative Code. ² The concentrations reported in this column are the highest concentration detected in either 04B00403 or its duplicate, 04B00403D ³ Provided total polynuclear aromatic hydrocarbons (PAH) does not exceed 100 parts per billion (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 U.S. Environmental Protection Agency (USEPA) Method 8270A. bdl = below detection limits NS = not sampled. J = estimated value						

2.2 GROUNDWATER ASSESSMENT RESULTS. One temporary monitoring well, 11Z001, was installed to a depth of 10 feet bls in the Site 11 source area on March 18, 1995. A groundwater sample, 11Z00101, was collected from the temporary monitoring well, 11Z001, on April 12, 1995, in accordance with ABB-ES's approved CompQAP using an extruded Teflon® bailer. The sample was placed in the appropriate containers, labeled, packed in ice, and shipped by overnight carrier to Quanterra Environmental Services in Tampa, Florida, for analysis. Because the UST contained lube oil, the groundwater sample was analyzed for used oil analytical group parameters as specified in Chapter 62-770.600(8)(c), FAC. This group includes volatile organics, base-neutral-acid extractables, TRPH, and total metals. The temporary monitoring well location and groundwater sample analytical results are presented in Figure 2-3. Laboratory data sheets are presented in Appendix C of this report.

Lead was the only contaminant detected in groundwater sample 11Z00101. The lead concentration detected in groundwater sample 11Z00101 was 32.1 ppb. The Chapter 62-770.730(5)(a) target level for lead is 50 ppb.

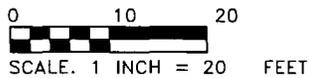
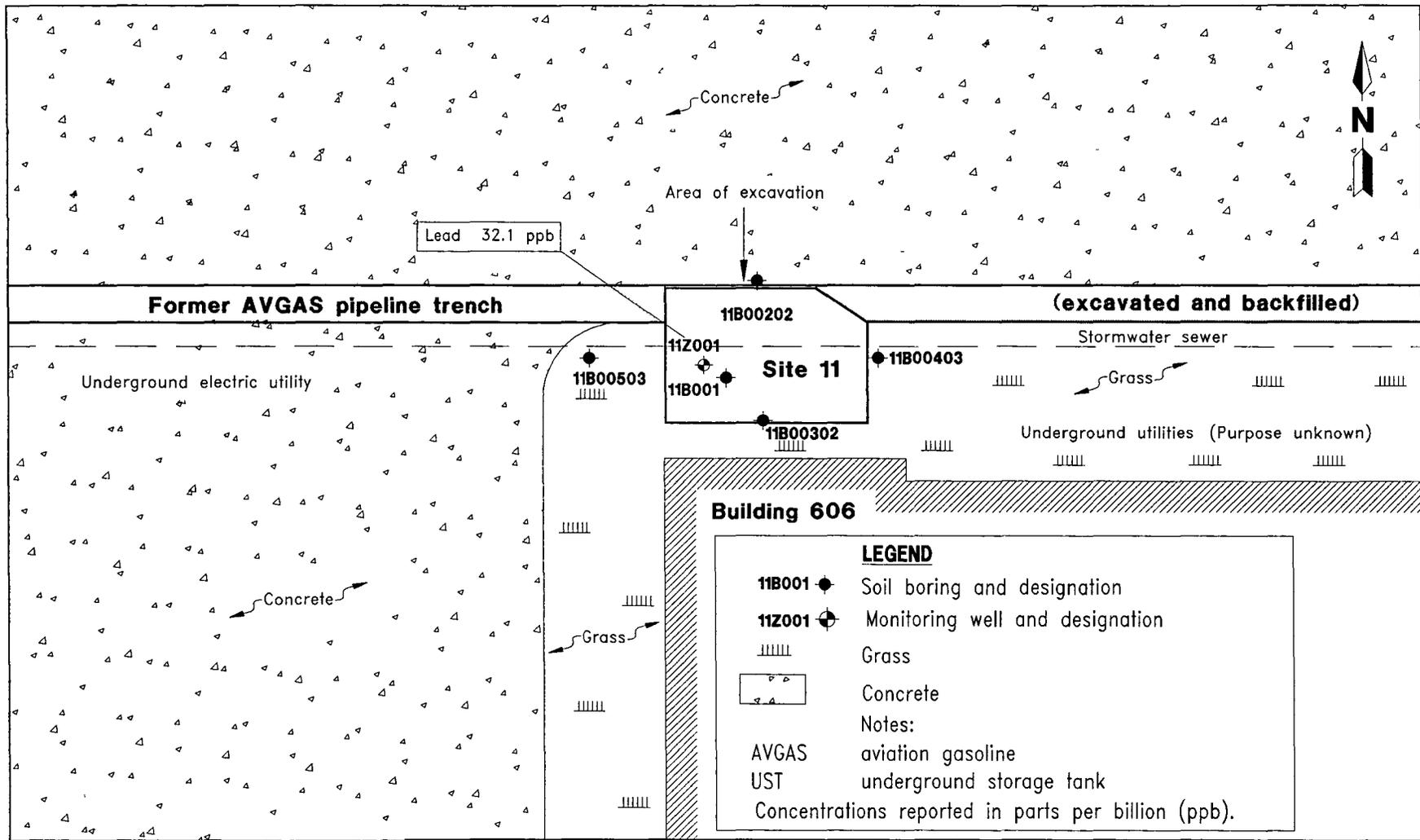


FIGURE 2-3
GROUNDWATER SAMPLE 11Z00101
ANALYTICAL RESULTS,
APRIL 12, 1995



CONTAMINATION ASSESSMENT
REPORT ADDENDUM
SITE 11, UST 138

NAVAL AVIATION
PENSACOLA, FLORIDA

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 dark gray to reddish brown.
- 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 in the excavation or on the excavation walls.
- Laboratory analytical sampling results for confirmatory soil samples did not exceed State clean soil maximum concentrations.
- One groundwater sample was collected from the source area at Site 11. Lead was the only contaminant detected in the groundwater sample. The lead concentration in the groundwater sample was 32.1 ppb and does not exceed the Chapter 62-770.730(5)(a) target level of 50 ppb for lead.

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

- The soil at Site 11 meets FDEP requirements for clean soil.
- The groundwater at Site 11 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 11.

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 11-UST 138 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

ABB Environmental Services, Inc., 1995, AVGAS Pipeline Area Contamination Assessment Report, August.

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 Environmental Regulation, August 16, 1993, Memorandum from Doug Jones to Bureau of Waste Management Cleanup Staff, et al., Monitoring well construction specifications and related issues: Division of Waste Management, 9 p.

Florida Department of Environmental Regulation, October 1990, No Further Action and Monitoring Only Guidelines for Petroleum Contaminated Sites: Division of Waste Management, 6 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: 11Z001	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7527-54	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/18/95	COMPLTD: 3/18/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 0-10'	PROTECTION LEVEL: D
TOC ELEV.: NM FT.	MONITOR INST.: OVA	TOT DPTH: 10FT.	DPTH TO ∇ 4.75 FT.
LOGGED BY: P. J. Wagner	WELL DEVELOPMENT DATE: 3/18/95		SITE: Site II, UST 138

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0				FILL clayey sand, red.		FILL		
5				SAND, very fine- to fine-grained, well sorted, very pale orange, saturated		SP		
10								
15								

TITLE: NADEP PENSACOLA		LOG of WELL: NA	BORING NO. 11B002
CLIENT: SOUTHDIIVNAVFACENCOM		PROJECT NO: 07527.54	
CONTRACTOR: Southern Waste Services		DATE STARTED: 03/08/95	COMPLTD: 03/08/95
METHOD: Hand Auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FT.	MONITOR INST.: OVA	TOT DPTH: 3.0FT.	DPTH TO ∇ FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE: NA		SITE: Site II, UST 138

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1							SP		
2									
3	11B00202				SAND, fine-grained, well sorted, very pale gray mixed with very dark gray.				
4									
5									

TITLE: NADEP PENSACOLA		LOG of WELL: NA	BORING NO. 11B003
CLIENT: SOUTHDIYNAVACENGCOM			PROJECT NO: 07527.54
CONTRACTOR: Southern Waste Services		DATE STARTED: 03/08/95	COMPLTD: 03/08/95
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 ∇ FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE: NA		SITE: Site II, UST 138

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1						SP		
2								
3	11B00302			SAND, very fine- to fine-grained, moderate sort, reddish brown, dry becoming damp				
4								
5								

TITLE: NADEP PENSACOLA		LOG of WELL: NA	BORING NO. 11B004
CLIENT: SOUTH OIYNAV FACENCOM			PROJECT NO: 07527.54
CONTRACTOR: Southern Waste Services		DATE STARTED: 03/13/95	COMPLTD: 03/13/95
METHOD: Hand Auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FT.	MONITOR INST.: OVA	TOT DPTH: 2.5 FT.	DPTH TO ∇ FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE: NA		SITE: Site II, UST 138

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1								
2	11B00403			SAND fine-grained with some small gravel sized asphalt, moderately well sorted, grayish brown, dry		SP		
3								
4								
5								

TITLE: NADEP PENSACOLA		LOG of WELL: NA	BORING NO. 11B005
CLIENT: SOUTHDIYNAVAFACENGCOM		PROJECT NO: 07527.54	
CONTRACTOR: Southern Waste Services		DATE STARTED: 03/13/95	COMPLTD: 03/13/95
METHOD: Hand Auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FT.	MONITOR INST.: OVA	TOT DPTH: 2.5FT.	DPTH TO ∇ FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE: NA		SITE: Site 11, UST 138

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					FILL		
2	11B00503		FILL very fine-grained to small gravel mixed with large pieces of asphalt, very poorly sorted, moderate reddish brown, dry.				
3							
4							
5							

APPENDIX C
LABORATORY ANALYTICAL DATA

Lab Sample Number: B4J2700400
 Site NADEP-11
 Locator 11800101
 Collect Date: 26-OCT-94

VALUE QUAL UNITS DL

GC/MS Volatiles

Acrolein	54 U	ug/kg	54
Acrylonitrile	54 U	ug/kg	54
Benzene	5.4 U	ug/kg	5.4
Bromodichloromethane	5.4 U	ug/kg	5.4
Bromoform	5.4 U	ug/kg	5.4
Bromomethane	5.4 U	ug/kg	5.4
Carbon tetrachloride	5.4 U	ug/kg	5.4
Chlorobenzene	5.4 U	ug/kg	5.4
Dibromochloromethane	5.4 U	ug/kg	5.4
Chloroethane	5.4 U	ug/kg	5.4
2-Chloroethyl vinyl ether	5.4 U	ug/kg	5.4
Chloroform	5.4 U	ug/kg	5.4
Chloromethane	5.4 U	ug/kg	5.4
1,2-Dichlorobenzene	1800 U	ug/kg	1800
1,3-Dichlorobenzene	5.4 U	ug/kg	5.4
1,4-Dichlorobenzene	1800 U	ug/kg	1800
1,1-Dichloroethane	5.4 U	ug/kg	5.4
1,2-Dichloroethane	5.4 U	ug/kg	5.4
1,1-Dichloroethene	5.4 U	ug/kg	5.4
cis-1,2-Dichloroethene	5.4 U	ug/kg	5.4
trans-1,2-Dichloroethene	5.4 U	ug/kg	5.4
1,2-Dichloropropane	5.4 U	ug/kg	5.4
cis-1,3-Dichloropropene	5.4 U	ug/kg	5.4
trans-1,3-Dichloropropene	5.4 U	ug/kg	5.4
Ethylbenzene	5.4 U	ug/kg	5.4
Trichlorofluoromethane	5.4 U	ug/kg	5.4
Methylene chloride	5.4 U	ug/kg	5.4
1,1,2,2-Tetrachloroethane	5.4 U	ug/kg	5.4
Tetrachloroethene	5.4 U	ug/kg	5.4
Toluene	5.4 U	ug/kg	5.4
1,1,1-Trichloroethane	5.4 U	ug/kg	5.4
1,1,2-Trichloroethane	5.4 U	ug/kg	5.4
Trichloroethene	5.4 U	ug/kg	5.4
Vinyl chloride	5.4 U	ug/kg	5.4
Xylenes, Total	5.4 U	ug/kg	5.4

GC/MS Semi-Volatiles

Acenaphthene	1800 U	ug/kg	1800
Acenaphthylene	1800 U	ug/kg	1800
Anthracene	1800 U	ug/kg	1800
Benzidine	9300 U	ug/kg	9300
Benzo(a)anthracene	1800 U	ug/kg	1800
Benzo(b)fluoranthene	1800 U	ug/kg	1800
Benzo(k)fluoranthene	1800 U	ug/kg	1800
Benzo (g,h,i) perylene	1800 U	ug/kg	1800
Benzo(a)pyrene	1800 U	ug/kg	1800
Bis(2-chloroethoxy)methane	1800 U	ug/kg	1800
Bis(2-chloroethyl)ether	1800 U	ug/kg	1800
Bis(2-chloroisopropyl)ether	1800 U	ug/kg	1800
Bis(2-ethylhexyl)phthalate	1800 U	ug/kg	1800
4-Bromophenyl phenyl ether	1800 U	ug/kg	1800

Lab Sample Number: B4J2700400
 Site NADEP-11
 Locator 11B00101
 Collect Date: 26-OCT-94

VALUE QUAL UNITS DL

	VALUE	QUAL	UNITS	DL
Butyl benzyl phthalate	1800	U	ug/kg	1800
4-Chloro-3-methylphenol	1800	U	ug/kg	1800
2-Chloronaphthalene	1800	U	ug/kg	1800
2-Chlorophenol	1800	U	ug/kg	1800
4-Chlorophenyl phenyl ether	1800	U	ug/kg	1800
Chrysene	1800	U	ug/kg	1800
Dibenz (a,h) anthracene	1800	U	ug/kg	1800
Di-n-butyl phthalate	1800	U	ug/kg	1800
1,2-Dichlorobenzene	1800	U	ug/kg	1800
1,3-Dichlorobenzene	5.4	U	ug/kg	5.4
1,4-Dichlorobenzene	1800	U	ug/kg	1800
3,3'-Dichlorobenzidine	9300	U	ug/kg	9300
2,4-Dichlorophenol	1800	U	ug/kg	1800
Diethyl phthalate	1800	U	ug/kg	1800
2,4-Dimethylphenol	1800	U	ug/kg	1800
Dimethyl phthalate	1800	U	ug/kg	1800
Di-n-octyl phthalate	1800	U	ug/kg	1800
4,6-Dinitro-2-methylphenol	9300	U	ug/kg	9300
2,4-Dinitrophenol	9300	U	ug/kg	9300
2,4-Dinitrotoluene	1800	U	ug/kg	1800
2,6-Dinitrotoluene	1800	U	ug/kg	1800
Fluoranthene	1800	U	ug/kg	1800
Fluorene	1800	U	ug/kg	1800
Hexachlorobenzene	1800	U	ug/kg	1800
Hexachlorocyclopentadiene	1800	U	ug/kg	1800
Hexachloroethane	1800	U	ug/kg	1800
Indeno(1,2,3-cd)pyrene	1800	U	ug/kg	1800
Isophorone	1800	U	ug/kg	1800
Naphthalene	1800	U	ug/kg	1800
Nitrobenzene	1800	U	ug/kg	1800
2-Nitrophenol	1800	U	ug/kg	1800
4-Nitrophenol	9300	U	ug/kg	9300
N-Nitrosodimethylamine	1800	U	ug/kg	1800
N-Nitrosodi-n-propylamine	1800	U	ug/kg	1800
N-Nitrosodiphenylamine	1800	U	ug/kg	1800
Pentachlorophenol	9300	U	ug/kg	9300
Phenanthrene	1800	U	ug/kg	1800
Phenol	1800	U	ug/kg	1800
Pyrene	1800	U	ug/kg	1800
1,2,4-Trichlorobenzene	1800	U	ug/kg	1800
2,4,6-Trichlorophenol	1800	U	ug/kg	1800
Hexachlorobutadiene	1800	U	ug/kg	1800

GC Semi-Volatiles

PCB-1016	1.1	U	mg/kg	1.1
PCB-1221	1.1	U	mg/kg	1.1
PCB-1232	1.1	U	mg/kg	1.1
PCB-1242	1.1	U	mg/kg	1.1
PCB-1248	1.1	U	mg/kg	1.1
PCB-1254	1.1	U	mg/kg	1.1
PCB-1260	1.1	U	mg/kg	1.1

Lab Sample Number: B4J2700400
 Site NADEP-11
 Locator 11B00101
 Collect Date: 26-OCT-94

VALUE QUAL UNITS DL

	VALUE	QUAL UNITS	DL
TOTAL METALS			
Cadmium	.5 U	mg/kg	.5
Chromium	2.4 J	mg/kg	2.5
Arsenic	.82	mg/kg	.5
Lead	32.4	mg/kg	1
TRPH			
Total petroleum hydrocarbons	116	mg/kg	5.4
TOTAL SOLIDS			
Total Solids	91.8	PERCE	1

U = Not Detected J = Estimated Value

08/23/95 NADEP AVGAS PIPELINE SITE 11 14:34:12

Lab Sample Number:	B5C1000580		B5C1000580		B5C1400170		B5C1400170		
Site	NADEP-11		NADEP-11		NADEP-11		NADEP-11		
Locator	11B00202		11B00302		11B00403		11B00403-D		
Collect Date:	08-MAR-95		08-MAR-95		13-MAR-95		13-MAR-95		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

TOTAL METALS												
Cadmium	.52 U	mg/kg	.52	.53 U	mg/kg	.53	.51 U	mg/kg	.51	.52 U	mg/kg	.52
Chromium	2.6 U	mg/kg	2.6	3	mg/kg	2.6	2.6 U	mg/kg	2.6	2.6 U	mg/kg	2.6
Arsenic	.26 U	mg/kg	.26	.85	mg/kg	.26	.35	mg/kg	.26	.39	mg/kg	.26
Lead	11.4	mg/kg	2.6	29.1	mg/kg	2.6	21.1	mg/kg	2.6	19.6	mg/kg	2.6
TRPH												
Total petroleum hydrocarbons	5.2 U	mg/kg	5.2	9.5	mg/kg	5.3	5.1 U	mg/kg	5.1	5.2 U	mg/kg	5.2
TOTAL SOLIDS												
Total Solids	95.7	PERCE	1	94.8	PERCE	1	97.8	PERCE	1	96.5	PERCE	1

U = Not Detected J = Estimated Value

Lab Sample Number: B5C1400170
Site NADEP-11
Locator 11B00503
Collect Date: 13-MAR-95

VALUE QUAL UNITS DL

TOTAL METALS

Cadmium	.5 U	mg/kg	.5
Chromium	6.9	mg/kg	2.5
Arsenic	2.2	mg/kg	.25
Lead	16.6	mg/kg	2.5

TRPH

Total petroleum hydrocarbons	25.4	mg/kg	5
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TOTAL SOLIDS

Total Solids	99.9	PERCE	1
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U = Not Detected J = Estimated Value

Lab Sample Number: B5D1300710
 Site NADEP-11Z
 Locator 11Z00101
 Collect Date: 12-APR-95

VALUE QUAL UNITS DL

GC/MS Volatiles

Acrolein	10 U	ug/l	10
Acrylonitrile	10 U	ug/l	10
Benzene	1 U	ug/l	1
Bromodichloromethane	1 U	ug/l	1
Bromoform	1 U	ug/l	1
Bromomethane	1 U	ug/l	1
Carbon tetrachloride	1 U	ug/l	1
Chlorobenzene	1 U	ug/l	1
Dibromochloromethane	1 U	ug/l	1
Chloroethane	1 U	ug/l	1
2-Chloroethyl vinyl ether	1 U	ug/l	1
Chloroform	1 U	ug/l	1
Chloromethane	1 U	ug/l	1
1,2-Dichlorobenzene	1 U	ug/l	1
1,3-Dichlorobenzene	1 U	ug/l	1
1,4-Dichlorobenzene	10 U	ug/l	10
1,1-Dichloroethane	1 U	ug/l	1
1,2-Dichloroethane	1 U	ug/l	1
1,1-Dichloroethene	1 U	ug/l	1
cis-1,2-Dichloroethene	1 U	ug/l	1
trans-1,2-Dichloroethene	1 U	ug/l	1
1,2-Dichloropropane	1 U	ug/l	1
cis-1,3-Dichloropropene	1 U	ug/l	1
trans-1,3-Dichloropropene	1 U	ug/l	1
Ethylbenzene	1 U	ug/l	1
Trichlorofluoromethane	1 U	ug/l	1
Methylene chloride	1 U	ug/l	1
1,1,2,2-Tetrachloroethane	1 U	ug/l	1
Tetrachloroethene	1 U	ug/l	1
Toluene	1 U	ug/l	1
1,1,1-Trichloroethane	1 U	ug/l	1
1,1,2-Trichloroethane	1 U	ug/l	1
Trichloroethene	1 U	ug/l	1
Vinyl chloride	1 U	ug/l	1
Xylenes, Total	1 U	ug/l	1

GC/MS Semi-Volatiles

Acenaphthene	10 U	ug/l	10
Acenaphthylene	10 U	ug/l	10
Anthracene	10 U	ug/l	10
Benzidine	50 U	ug/l	50
Benzo(a)anthracene	10 U	ug/l	10
Benzo(b)fluoranthene	10 U	ug/l	10
Benzo(k)fluoranthene	10 U	ug/l	10
Benzo (g,h,i) perylene	10 U	ug/l	10
Benzo(a)pyrene	10 U	ug/l	10
Bis(2-chloroethoxy)methane	10 U	ug/l	10
Bis(2-chloroethyl)ether	10 U	ug/l	10
Bis(2-chloroisopropyl)ether	10 U	ug/l	10
Bis(2-ethylhexyl)phthalate	10 U	ug/l	10
4-Bromophenyl phenyl ether	10 U	ug/l	10

Lab Sample Number: B5D1300710
 Site NADEP-11Z
 Locator 11Z00101
 Collect Date: 12-APR-95

	VALUE	QUAL UNITS	DL
Butyl benzyl phthalate	10 U	ug/l	10
4-Chloro-3-methylphenol	10 U	ug/l	10
2-Chloronaphthalene	10 U	ug/l	10
2-Chlorophenol	10 U	ug/l	10
4-Chlorophenyl phenyl ether	10 U	ug/l	10
Chrysene	10 U	ug/l	10
Dibenz (a,h) anthracene	10 U	ug/l	10
Di-n-butyl phthalate	10 U	ug/l	10
1,2-Dichlorobenzene	1 U	ug/l	1
1,3-Dichlorobenzene	1 U	ug/l	1
1,4-Dichlorobenzene	10 U	ug/l	10
3,3'-Dichlorobenzidine	50 U	ug/l	50
2,4-Dichlorophenol	10 U	ug/l	10
Diethyl phthalate	10 U	ug/l	10
2,4-Dimethylphenol	10 U	ug/l	10
Dimethyl phthalate	10 U	ug/l	10
Di-n-octyl phthalate	10 U	ug/l	10
4,6-Dinitro-2-methylphenol	50 U	ug/l	50
2,4-Dinitrophenol	50 U	ug/l	50
2,4-Dinitrotoluene	10 U	ug/l	10
2,6-Dinitrotoluene	10 U	ug/l	10
Fluoranthene	10 U	ug/l	10
Fluorene	10 U	ug/l	10
Hexachlorobenzene	10 U	ug/l	10
Hexachlorocyclopentadiene	10 U	ug/l	10
Hexachloroethane	10 U	ug/l	10
Indeno(1,2,3-cd)pyrene	10 U	ug/l	10
Isophorone	10 U	ug/l	10
Naphthalene	10 U	ug/l	10
Nitrobenzene	10 U	ug/l	10
2-Nitrophenol	10 U	ug/l	10
4-Nitrophenol	50 U	ug/l	50
N-Nitrosodimethylamine	10 U	ug/l	10
N-Nitrosodi-n-propylamine	10 U	ug/l	10
N-Nitrosodiphenylamine	10 U	ug/l	10
Pentachlorophenol	50 U	ug/l	50
Phenanthrene	10 U	ug/l	10
Phenol	10 U	ug/l	10
Pyrene	10 U	ug/l	10
1,2,4-Trichlorobenzene	10 U	ug/l	10
2,4,6-Trichlorophenol	10 U	ug/l	10
Hexachlorobutadiene	10 U	ug/l	10
TOTAL METALS			
Cadmium	5	ug/l	5
Chromium	50	ug/l	50
Arsenic	5	ug/l	5
Lead	32.1	ug/l	5
TRPH			
Total petroleum hydrocarbons	1	mg/l	1
U = Not Detected J = Estimated Value			

Lab Sample Number: B5D1300710
Site NADEP-11TIC
Locator 11200101
Collect Date: 12-APR-95

VALUE QUAL UNITS DL

TENTATIVELY IDENTIFIED CMPNDS.

1-Pentene, 2-Methyl-	24	ug/l
1,3,5-Cycloheptatriene	4	ug/l
Caprolactam	100	ug/l
Benzenesulfonamide, 4-Methyl-	11	ug/l
Butanal, Ethylhydrazone	9	ug/l

ABB ENVIRONMENTAL SERVICES

11Z00101

WO #: A40NH107
LAB #: B5D130071-001
MATRIX: WATER

DATE SAMPLED: 4/12/95
DATE RECEIVED: 4/13/95
DATE EXTRACTED: 4/14/95
DATE ANALYZED: 4/21/95

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

<u>PARAMETER</u>	<u>RESULT</u>	<u>UNIT</u>	<u>QC BATCH</u>
1-Pentene, 2-methyl-	24	ug/L	5104136
1,3,5-Cycloheptatriene	4	ug/L	5104136
Caprolactam	100	ug/L	5104136
Benzenesulfonamide, 4-methyl-	11	ug/L	5104136
Butanal, ethylhydrazone	9	ug/L	5104136

OTHER COMPOUNDS

<u>PARAMETER</u>	<u>RESULT</u>	<u>UNIT</u>	<u>QC BATCH</u>
NONE	--	--	5104136