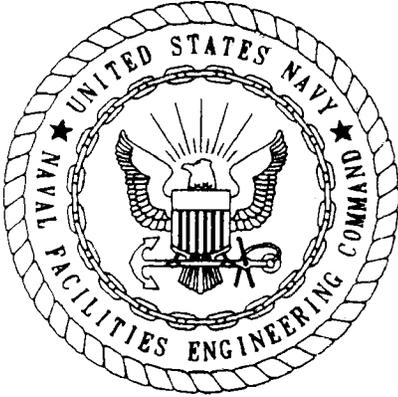


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CONTAMINATION ASSESSMENT REPORT ADDENDUM SITE 6 UNDERGROUND  
STORAGE TANK 119 (UST 119) NAVAL AVIATION DEPOT NAS PENSACOLA FL  
11/1/1995  
ABB ENVIRONMENTAL SERVICES INC.



**CONTAMINATION ASSESSMENT REPORT ADDENDUM**

**SITE 6, UST 119  
NAVAL AVIATION DEPOT**

**NAVAL AIR STATION  
PENSACOLA, FLORIDA**

**UNIT IDENTIFICATION CODE: N00204  
CONTRACT NO.: N62467-89-D-0317/008**

**NOVEMBER 1995**



**SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
NORTH CHARLESTON, SOUTH CAROLINA  
29419-9010**

**CONTAMINATION ASSESSMENT REPORT ADDENDUM**

**SITE 6, UST 119  
NAVAL AVIATION DEPOT**

**NAVAL AIR STATION  
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**Unit Identification Code: N00204**

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**Prepared by:**

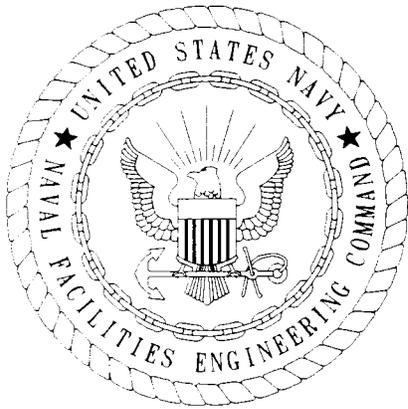
**ABB Environmental Services, Inc.  
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**Prepared for:**

**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**

**November 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: November 10, 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 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 and the Florida Department of Environmental Protection (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.

## EXECUTIVE SUMMARY

This 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 supplemental reports and memoranda are included in the August 1995 AVGAS Pipeline Area CAR.

Site 6 is the former location of a 500-gallon underground storage tank (UST), located on the southwest boundary of Chevalier Field, Naval Aviation Depot (NADEP) Pensacola. The tank, designated UST 119, was located next to Industrial Road, approximately 700 feet south of the Taylor Road. UST 119 was constructed of unprotected steel and contained lubricating oil. It was installed next to 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 UST 119 removal activities in September 1994, visual observation of soil and groundwater contamination was reported. No confirmatory samples were collected during the removal activities. All excavated soil was returned to the excavation. Site 6, UST 119, was transferred to ABB-ES in late September 1994 for investigation and closure.

### Findings.

- Site soil consists of very fine- to fine-grained, moderately sorted sand ranging in color from very pale orange to dark gray.
- 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 on the excavation walls. The excavation was backfilled with clean soil. Contaminated soil was removed from the site and thermally treated.
- Seven confirmatory soil samples were collected from outside the excavation. No contaminant concentrations detected in the confirmatory soil samples exceeded State maximum contaminant levels.
- Eight shallow monitoring wells and one deep monitoring well were installed to assess the impact of soil contamination on the groundwater at Site 6.
- No groundwater contaminant concentration detected in the Site 6 groundwater samples exceeded any State target level except chromium and lead. Excessive concentrations of both metals were detected in the groundwater samples collected from two site monitoring wells. These two monitoring wells were resampled for metals. Metal concentrations in both additional groundwater samples were below method detection limits.

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

- All excessively contaminated soil was removed from Site 6.
- The groundwater at Site 6 has not been impacted by the soil contamination detected during this investigation. High metal concentrations detected during the first sampling event can be attributed to suspended sediments.

Recommendations. Based on the findings, conclusions, and interpretations of the CA, ABB-ES recommends a No Further Action Proposal (NFAP) for Site 6.

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Pensacola, Florida

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- Appendix B: Lithologic Logs
- Appendix C: Laboratory Analytical Data

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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
CompQAP	Comprehensive Quality Assurance Plan
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
GTES	GT Environmental Services
MCL	maximum contaminant level
NADEP	Naval Aviation Depot
OVA	organic vapor analyzer
PAH	polynuclear aromatic hydrocarbons
ppb	parts per billion
ppm	parts per million
SOUTHNAV- FACENCOM	Southern Division, Naval Facilities Engineering Command
TIC	tentatively identified compound
TRPH	total recoverable petroleum hydrocarbons
UST	underground storage tank
VOA	volatile organic aromatics
VOH	volatile organic halocarbons

## 1.0 SITE BACKGROUND AND DESCRIPTION

Site 6 is located on the southwest 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 119, was located next to Industrial Road, approximately 700 feet south of Taylor Road, and used for lubrication oil storage. UST 119 was constructed of unprotected steel and installed next to 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 and was covered with a steel lid. The purpose of the pit is uncertain, although the suspected usage was to dispense lube oil and air during aircraft maintenance.

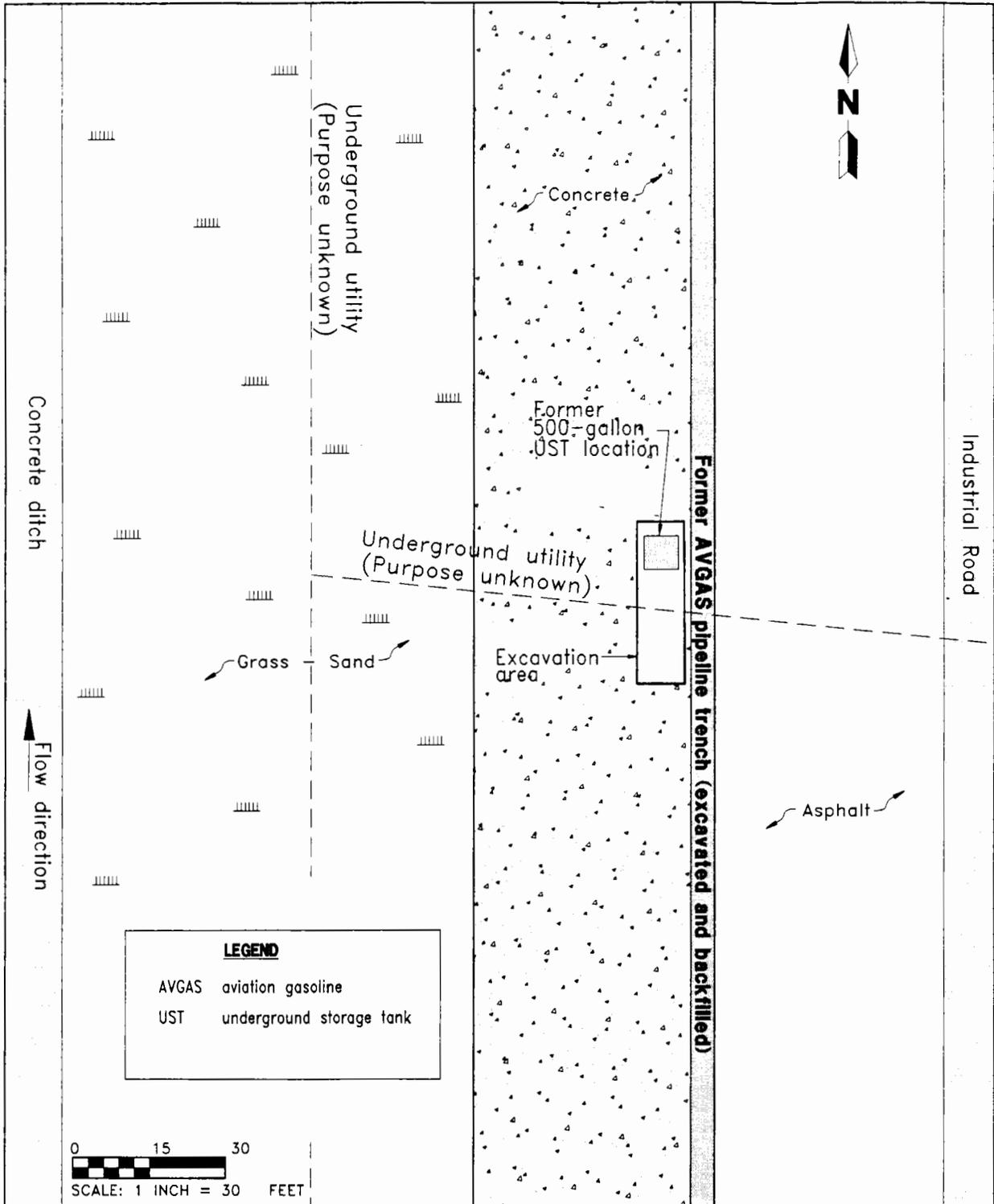
UST 119 was removed in September 1994 by Phoenix Construction Company and their subcontractor, GT Environmental Services, Inc. (GTES). During UST 119 removal operations, a visual observation of soil and groundwater contamination was reported by GTES personnel. No confirmatory samples were collected by GTES. Subsequent to the UST removal, all excavated soil was returned to the excavation.

Site 6, UST 119, was transferred to ABB Environmental Services, Inc. (ABB-ES), in late September 1994 for closure. Copies of the closure report and discharge reporting form for UST 119 are presented in Appendix A of the AVGAS Pipeline Area Contamination Assessment Report (CAR) submitted by ABB-ES in August 1995.

The demolition of Chevalier Field commenced in January 1995. The airfield and many associated facilities are being demolished as part of the Base Realignment and Closure (BRAC) program. A Naval Technical Training Center is being constructed on the former airfield. As a result of BRAC construction, Site 6 underwent drastic changes during the course of this investigation, including the removal of all asphalt and concrete and the addition of enough fill material to raise the Site 6 elevation 3 to 4 feet. The maps included in this report present the Site 6 area as it was before demolition and construction.

The following report summarizes data gathered during the Site 6, UST 119, 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 1-2**  
**SITE PLAN, MARCH 1995**



**CONTAMINATION ASSESSMENT**  
**REPORT ADDENDUM**  
**SITE 6, UST 119**

**NADEP PENSACOLA**  
**PENSACOLA, FLORIDA**

H:/PENSACOLA/SITE6/NP-NAB/10-12-95

## 2.0 CONTAMINATION ASSESSMENT RESULTS

**2.1 SOIL ASSESSMENT RESULTS.** All laboratory analytical 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.

**2.1.1 Initial Soil Assessment** On October 11, 1994, ABB-ES personnel advanced six soil borings (06B001 through 06B006) around the perimeter of the UST excavation area with a stainless steel hand-operated auger. Two data points, Site 23-SB28 and Site 23-SB29, from another project were also used for this investigation. Table 2-1 summarizes the data collected from these borings. Figure 2-1 presents the soil boring locations and organic vapor analyzer (OVA) screening results. Soil boring lithologic logs are presented in Appendix B of this report.

The purpose of these borings was to gather lithologic information and visually inspect the soil around the excavation for contamination. OVA headspace measurements were also collected from these borings. Visual inspection did not reveal any staining in or around the former excavation area. Volatile organic compound concentrations were less than the OVA detection limit of 1 part per million (ppm).

**Table 2-1  
Summary of Soil Boring Organic Vapor Analyzer Data**

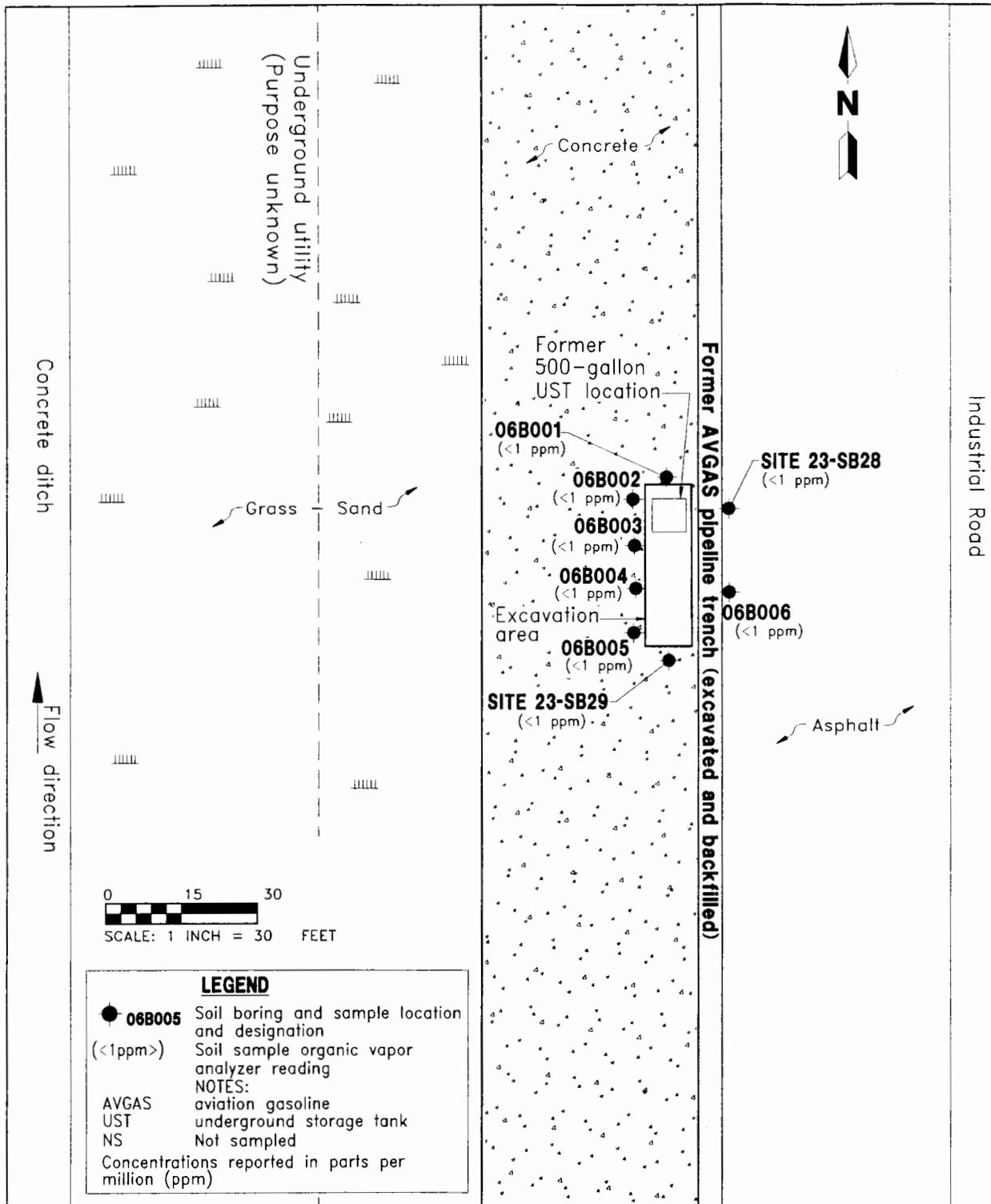
Contamination Assessment Report Addendum  
Site 6, UST 119, Naval Aviation Depot  
Pensacola, Florida

Soil Boring Designation	Sample Depth (feet bls)	Unfiltered OVA Reading <sup>1</sup> (ppm)	Visual Observations
06B001	0.4 to 0.7	<1	No staining, no petroleum odor
06B002	0.4 to 0.7	<1	No staining, no petroleum odor
06B003	0.4 to 0.7	<1	No staining, no petroleum odor
06B004	0.7 to 1.2	<1	No staining, no petroleum odor
06B005	0.5 to 0.7	<1	No staining, no petroleum odor
06B006	0.5 to 1.0	<1	No staining, no petroleum odor
Site23-SB28	0.5 to 1.0	<1	No staining, no petroleum odor
Site23-SB29	1.0 to 1.5	<1	No staining, no petroleum odor

<sup>1</sup> Filtered readings were not taken due to the very low volatile concentrations encountered at Site 6.

Notes: UST = underground storage tank.  
OVA = organic vapor analyzer.  
bls = below land surface.  
ppm = parts per million.  
< = less than.

On November 3, 1994, one composite soil sample, 06B00701, was collected from the soil returned to the Site 6 excavation area. This sample was composited from soil collected at each corner and the center of the UST excavation area from 0.5 to 1 foot below land surface (bls). The sample was analyzed for the used oil analytical group described in Chapter 62-770.600(8)(c), Florida Administrative Code (FAC). Figure 2-2 presents the composite soil sampling locations and the analytical results of 06B00701. Laboratory data sheets for all analytical soil samples are included in Appendix C of this report.

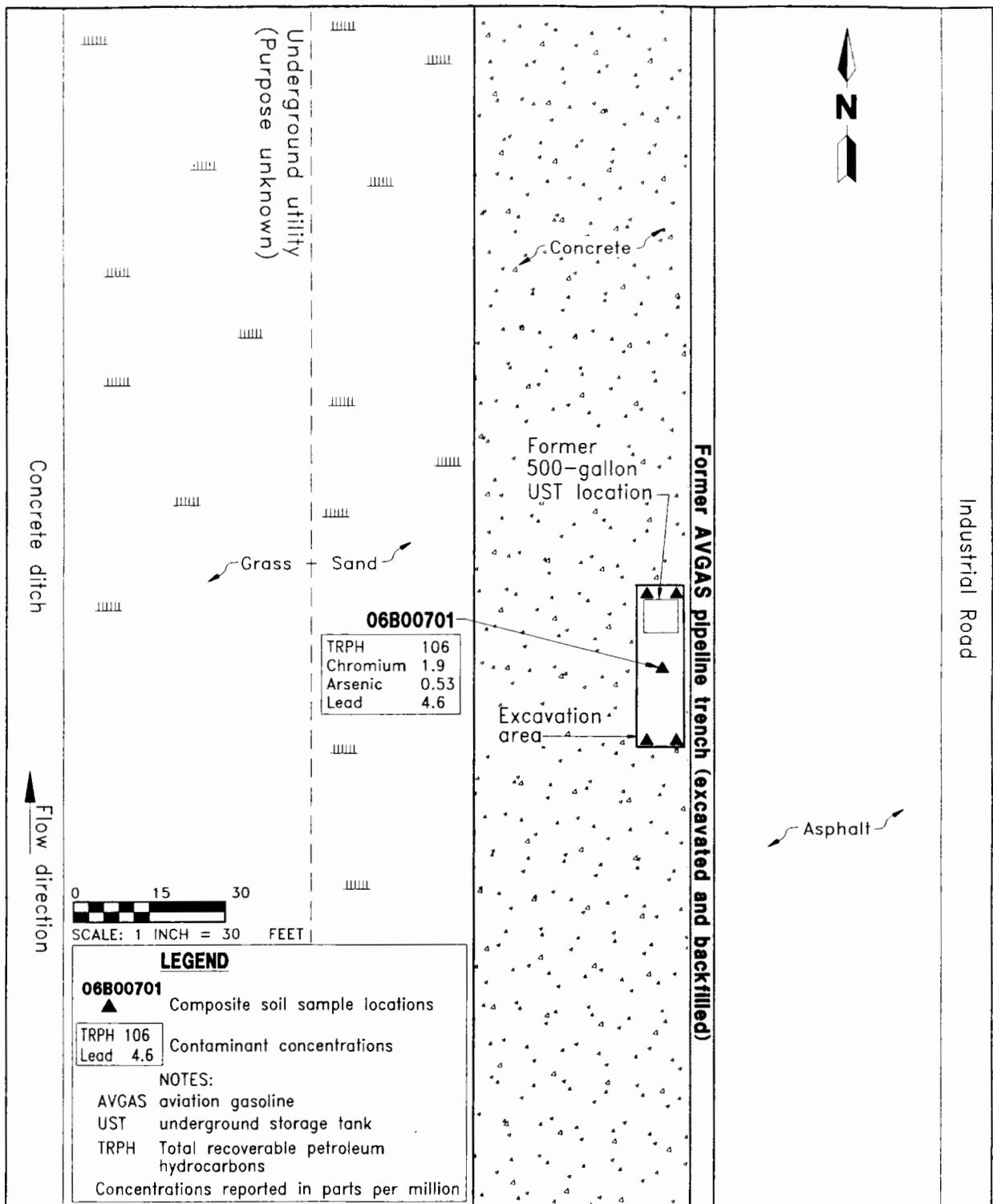


**FIGURE 2-1  
 SOIL BORING LOCATIONS AND  
 ORGANIC VAPOR ANALYZER RESULTS,  
 OCTOBER 1994**



**CONTAMINATION ASSESSMENT  
 REPORT ADDENDUM  
 SITE 6, UST 119**

**NAVAL AVIATION DEPOT  
 PENSACOLA, FLORIDA**



**FIGURE 2-2**  
**ANALYTICAL RESULTS OF COMPOSITE**  
**SAMPLE 06B00701,**  
**NOVEMBER 3, 1994**



**CONTAMINATION ASSESSMENT**  
**REPORT ADDENDUM**  
**SITE 6, UST 119**

**NAVAL AVIATION DEPOT**  
**PENSACOLA, FLORIDA**

Total volatile organic aromatics (VOA) and total polynuclear aromatic hydrocarbon (PAH) concentrations were below method detection limits for sample 06B00701. A total recoverable petroleum hydrocarbon (TRPH) concentration of 106 ppm was detected. Because total VOA and total PAH were not detected, a TRPH clean soil maximum concentration of 50 ppm was applied to Site 6 according to Chapter 62-775.400, FAC. Cadmium, chromium, arsenic, and lead concentrations were below the respective State maximum concentrations.

On February 1, 1995, excessively contaminated soil from the former location of UST 119 was removed by Bechtel Environmental, Inc. (BEI). The excavation area is shown on Figure 2-2. Approximately 24 cubic yards of soil were removed from an area approximately 32.5 feet by 10 feet. Excavation continued until the water table was reached at 2 feet bls. The soil removed from the site primarily consisted of very fine- to fine-grained, moderately sorted sand, ranging in color from very pale orange to dark gray. ABB-ES personnel supervising the excavation reported that no stained soil was present on the excavation walls. The excavation was backfilled with clean soil. The contaminated soil from Site 6 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. The soil transportation manifests and receipts are included in the appendices of the AVGAS Pipeline Area CAR submitted to the Florida Department of Environmental Protection (FDEP) in August 1995.

**2.1.2 Confirmatory Soil Assessment** In February and June, 1995, seven confirmatory soil samples, 06B00802 through 06B01102, 06B01203, 06B01303, and 06B01404, were collected around the excavation area. These soil samples were collected at 0.5 foot bls. All seven samples were analyzed for TRPH, arsenic, cadmium, chromium, and lead, in accordance with Chapter 62-770.600(8)(c), FAC. Table 2-2 summarizes the confirmatory sampling results. Figure 2-3 presents confirmatory sample locations and areal distribution of laboratory analytical results.

TRPH concentrations of 26.3 ppm and 21.0 ppm were detected in confirmatory soil samples 06B00902 and 06B01002, respectively. TRPH concentrations were below method detection limits in all other samples. Chromium concentrations of 3.4 ppm and 3.2 ppm were detected in soil samples 06B01204 and 06B01404, respectively. Chromium concentrations were below method detection limits in all other samples. Lead concentrations ranging from 1.5 ppm to 20.2 ppm were detected in some of the confirmatory samples. The concentrations of all contaminants detected in the confirmatory samples were below the State maximum concentrations listed in Chapter 17-775.400, FAC. Cadmium and arsenic were not detected in any confirmatory sample.

## **2.2 GROUNDWATER ASSESSMENT.**

**2.2.1 Monitoring Well Installation** In February 1995, ABB-ES personnel supervised the installation of eight shallow monitoring wells and one deep vertical extent monitoring well in and around the source area of Site 6. The shallow monitoring wells were designated 06G001, and 06G003 through 06G009. All

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

Contamination Assessment Report Addendum  
Site 6, UST 119, Naval Aviation Depot  
Pensacola, Florida

Contaminant	Soil Sample Designation								Clean Soil <sup>1</sup> Maximum Concentration
	06B00701	06B00802	06B00902	06B01002	06B01102	06B01203	06B01303	06B01404	
<b>Volatile Organic Aromatics (VOA). Reported in parts per billion (ppb).</b>									
Total VOA	bdl	NS	100						
<b>Polynuclear Aromatic Hydrocarbons (PAH). Reported in ppb.</b>									
Total PAH	bdl	NS	1000						
<b>Total Recoverable Petroleum Hydrocarbons (TRPH). Reported in parts per million (ppm).</b>									
TRPH	106	<6.1	26.3	21.0	<6.2	<5.7	<5.8	<5.6	<sup>2</sup> 50
<b>Total Metals. Reported in milligrams per kilogram (mg/kg).</b>									
Cadmium	<0.54	<0.61	<0.62	<0.61	<0.62	<0.57	<0.58	<0.56	37
Chromium	1.9 J	<3.1	<3.1	<3.1	<3.1	3.4	<2.9	3.2	50
Arsenic	0.53	<0.31	<0.31	<0.31	<0.31	<9.1	<9.2	<8.9	10
Lead	4.6	1.5	20.2	0.90	1.9	<2.8	4.1	<2.8	108

<sup>1</sup> Chapter 62-775.400, Florida Administrative Code.

<sup>2</sup> Provided total PAH do not exceed 100 ppb and total volatile organic halocarbons (VOH) do not exceed 50 parts per billion (ppb). In all other cases the TRPH maximum concentration is 10 ppm (Chapter 62-775.400, FAC).

Notes: UST = underground storage tank.

Total VOA = the sum concentration of benzene, toluene, ethylbenzene, and xylenes.

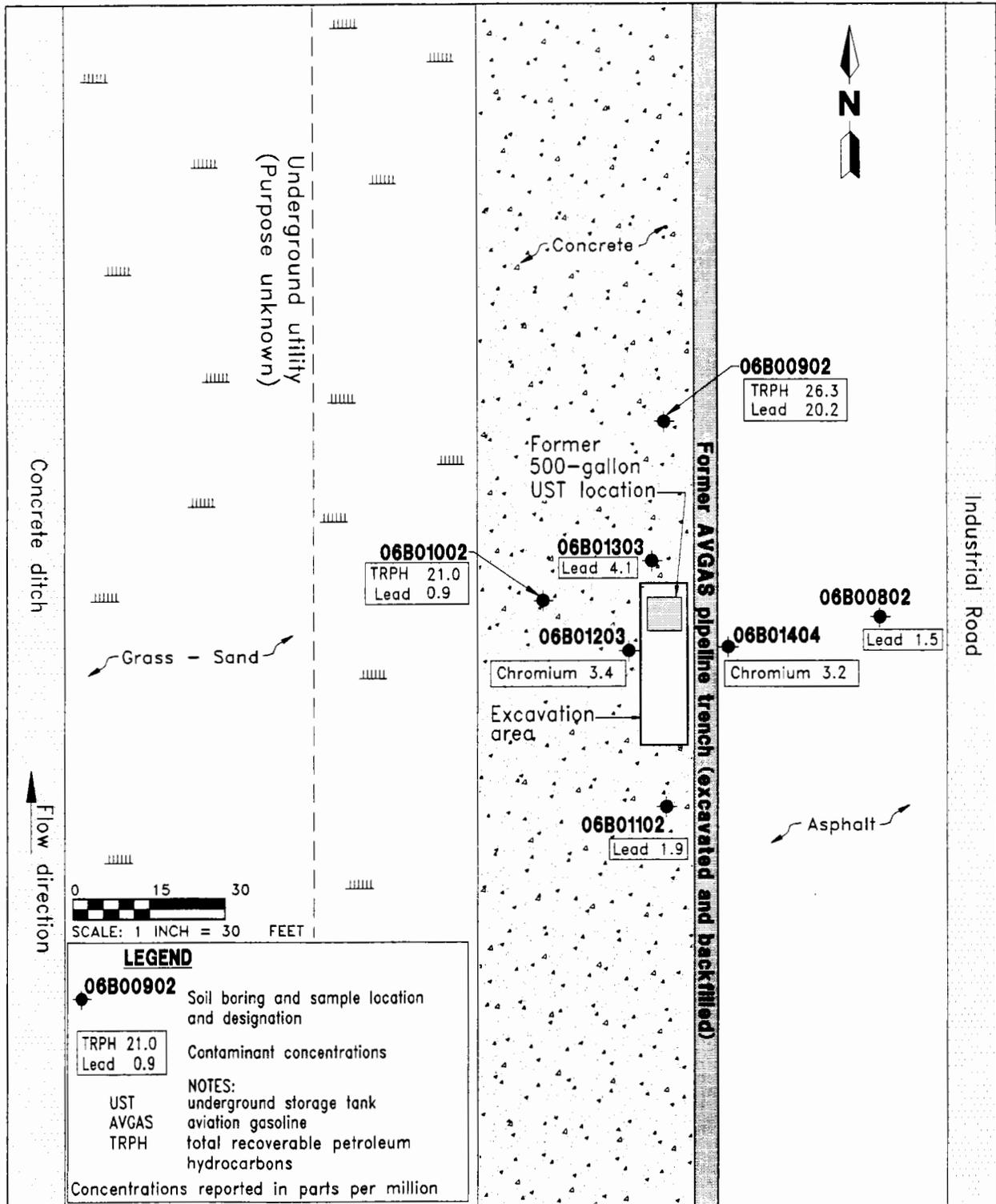
bdl = below detection limits.

NS = not sampled.

Total PAH = the sum concentration of PAH compounds detected by U.S. Environmental Protection Agency (USEPA) Method 8270A.

< = less than.

J = estimated value.



**FIGURE 2-3  
CONFIRMATORY SOIL SAMPLE LOCATIONS  
AND ANALYTICAL RESULTS,  
FEBRUARY AND JUNE, 1995**



**CONTAMINATION ASSESSMENT  
REPORT ADDENDUM  
SITE 6, UST 119**

**NAVAL AVIATION DEPOT  
PENSACOLA, FLORIDA**

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shallow monitoring wells were installed to a depth of 12 feet bls. The deep monitoring well was designated 06G002 and installed to a depth of 35 feet bls. Deep monitoring well 06G002 is screened from 30 to 35 feet bls and has 26.5 feet of 6-inch-diameter protective surface casing.

Details of temporary and permanent monitoring well construction are included in the August 1995 AVGAS Pipeline Area CAR. Monitoring well logs for all permanent monitoring wells installed at Site 6 are included in Appendix B of this report. Figure 2-4 presents the Site 6 monitoring well locations.

**2.2.2 Site Specific Hydrology** The depth to the water table was measured in all of the monitoring wells at Site 6. The groundwater elevation was calculated using field-surveyed top-of-casing elevation data for each monitoring well and referencing the elevation data to a common arbitrary datum. Groundwater levels were measured on February 16 and March 15, 1995. Groundwater flow direction is predominantly to the west. Figures 2-5 and 2-6 present the water table elevation contour maps for Site 6. Table 2-3 presents the top-of-casing elevations, total depths, and groundwater elevations for Site 6.

No slug tests were conducted at Site 6 due to the low levels of petroleum contamination detected.

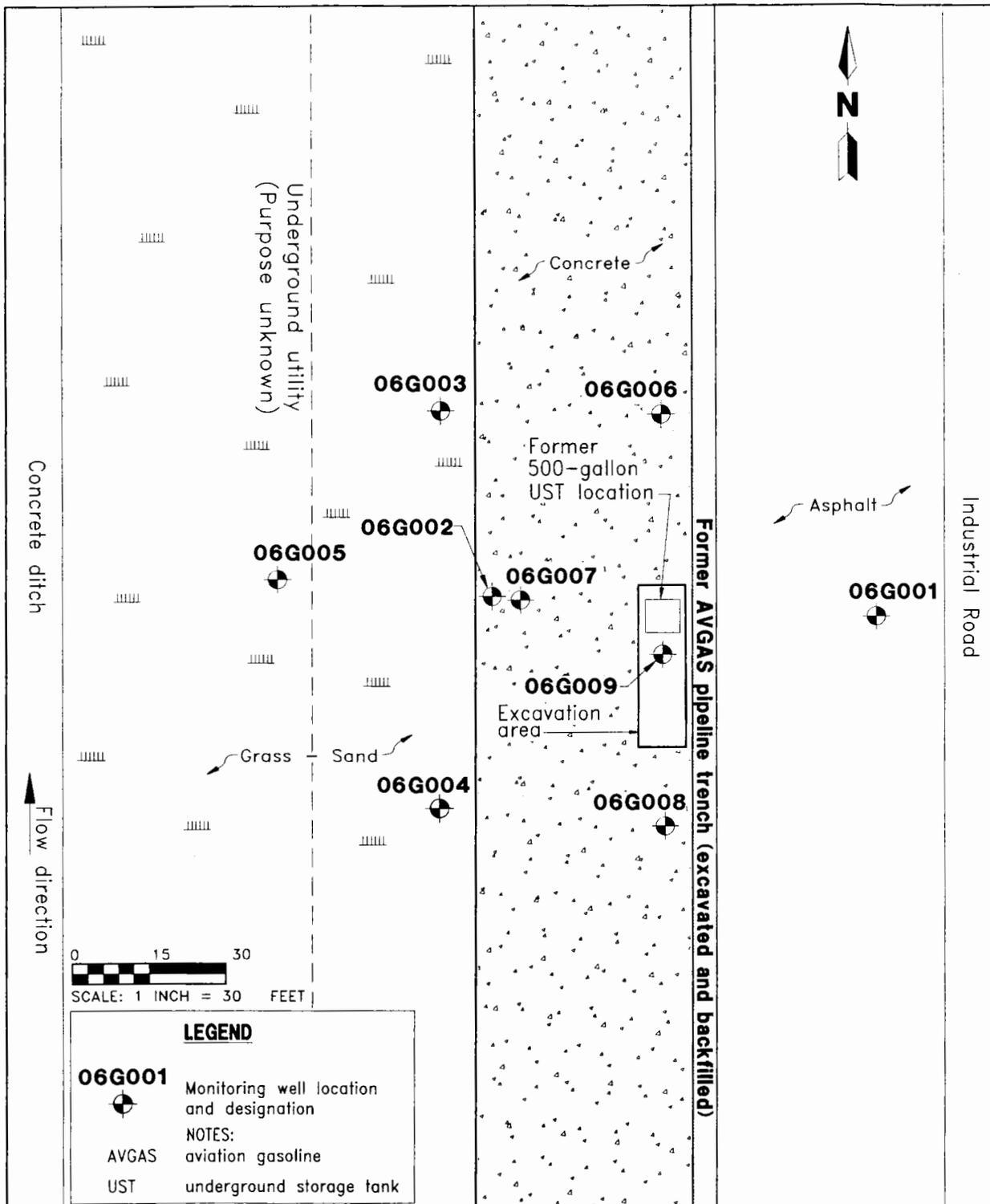
**2.2.3 Groundwater Assessment Results** In March 1995, all site monitoring wells were sampled for the used oil analytical group compounds as defined in Chapter 62-770.600(8)(c), FAC. Parameters analyzed included volatile organics, base-neutral-acid extractables, TRPH, arsenic, cadmium, chromium, and lead. Tentatively identified compounds (TICs), possible contaminants with a 50 percent accuracy level, were also reported. There are no State target levels or guidance concentrations for TICs.

All groundwater samples were collected in accordance with ABB-ES's approved CompQAP using an extruded Teflon™ bailer. 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. Laboratory data sheets are presented in Appendix C of this report. Table 2-4 summarizes the laboratory results for each monitoring well sampled, Figure 2-7 presents the distribution of the groundwater analytical results, and Table 2-5 presents the TIC concentrations detected in each sample.

No volatile or semivolatile compounds were detected in any groundwater sample from Site 6. TRPH and cadmium concentrations were also below method detection limits in all Site 6 groundwater samples.

Arsenic concentrations of 32.8 parts per billion (ppb), 21.7 ppb, and 18.4 ppb were detected in groundwater samples 06G00101, 06G00401, and 06G00801, respectively. The State maximum contaminant level (MCL) and no further action target level for arsenic is 50 ppb (Chapter 62550.310, FAC).

Chromium concentrations of 154 ppb, 101 ppb, and 66.7 ppb were detected in groundwater samples 06G00101, 06G00401, and 06G00801. The State MCL for chromium is 100 ppb (Chapter 62-550.310, FAC).



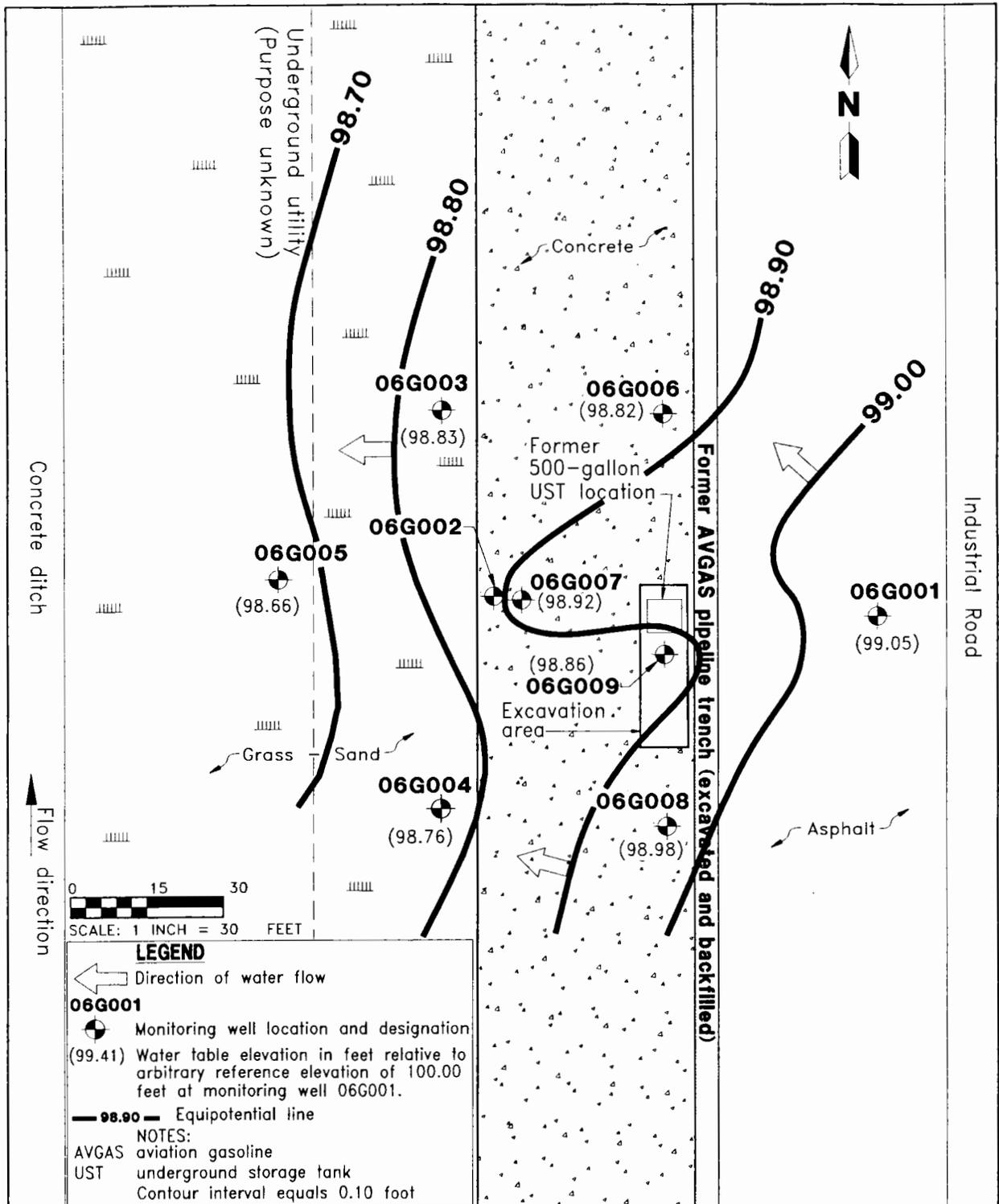
**FIGURE 2-4  
MONITORING WELL LOCATION MAP**



**CONTAMINATION ASSESSMENT  
REPORT ADDENDUM  
SITE 6, UST 119**

**NAVAL AVIATION DEPOT  
PENSACOLA, FLORIDA**

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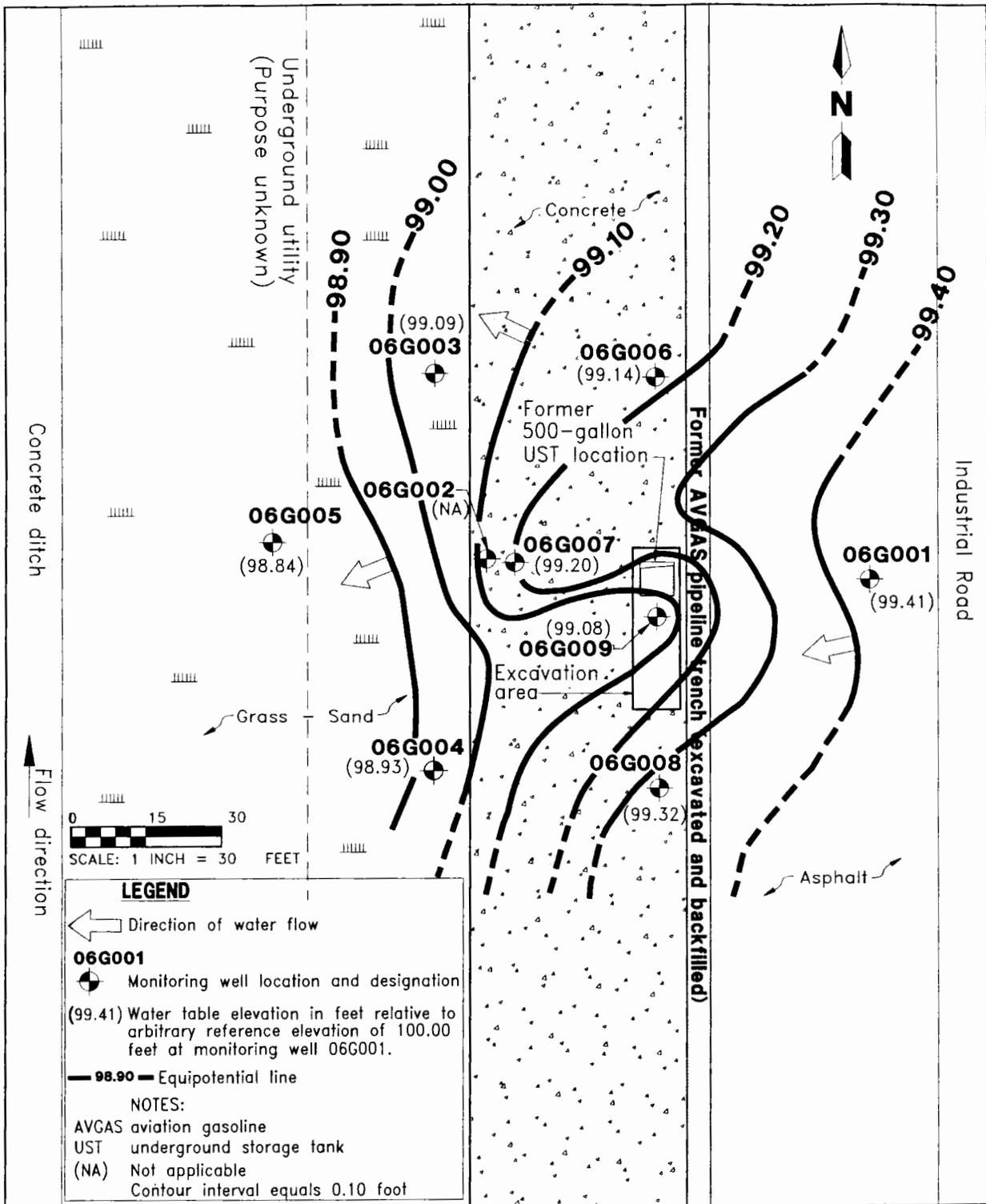


**FIGURE 2-5  
 WATER TABLE ELEVATION  
 CONTOUR MAP,  
 FEBRUARY 16, 1995**



**CONTAMINATION ASSESSMENT  
 REPORT ADDENDUM  
 SITE 6, UST 119**

**NAVAL AVIATION DEPOT  
 PENSACOLA, FLORIDA**



**FIGURE 2-6**  
**WATER TABLE ELEVATION**  
**CONTOUR MAP,**  
**MARCH 15, 1995**



**CONTAMINATION ASSESSMENT**  
**REPORT ADDENDUM**  
**SITE 6, UST 119**

**NAVAL AVIATION DEPOT**  
**PENSACOLA, FLORIDA**

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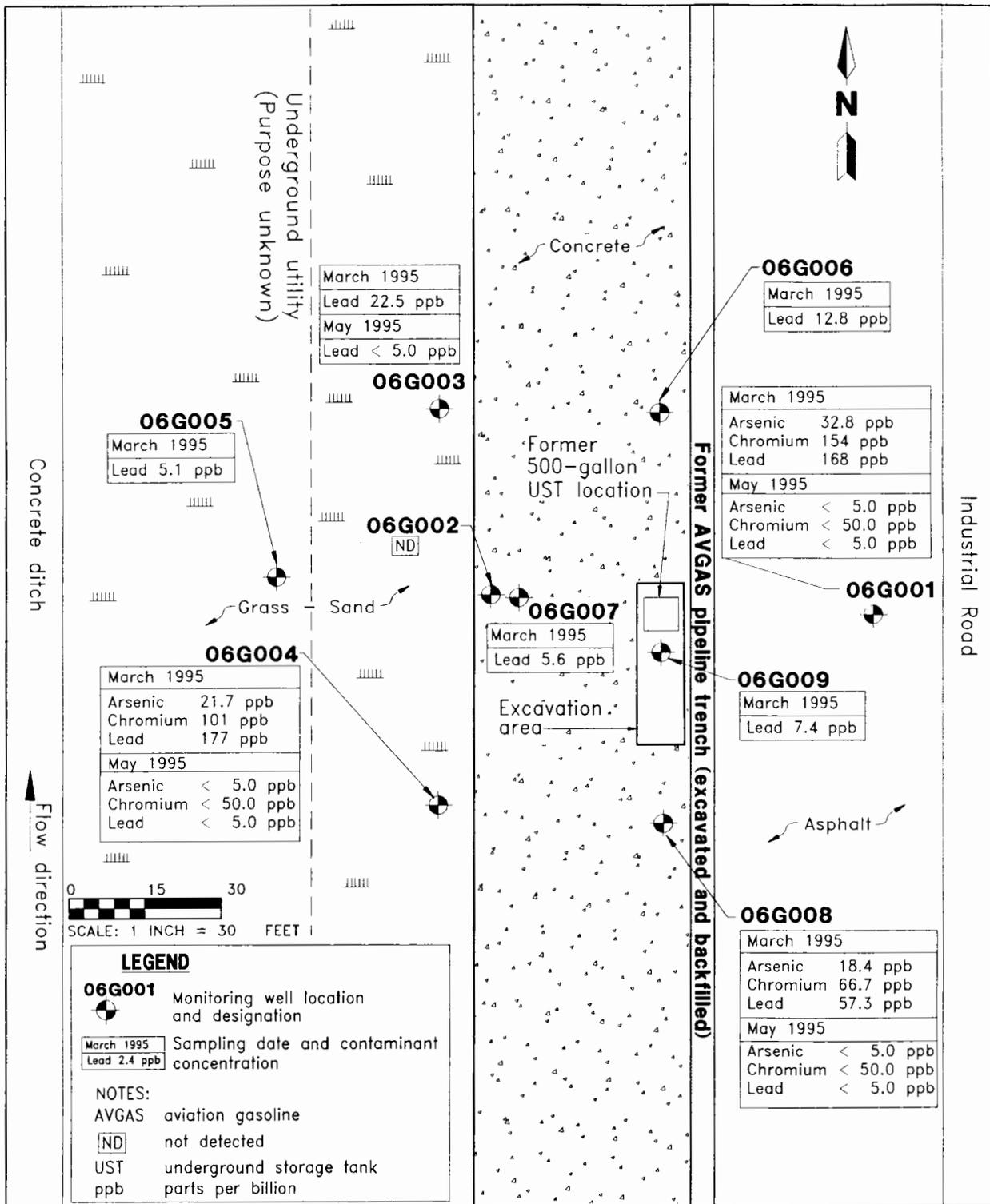
**Table 2-3  
Top-of-Casing and Groundwater Elevations,  
February 16 and March 15, 1995**

Contamination Assessment Report Addendum  
Site 6, UST 119, Naval Aviation Depot  
Pensacola, Florida

Monitoring Well Designation	Total Depth	Top-of-Casing Elevation	February 16, 1995		March 15, 1995	
			Depth to Groundwater	Groundwater Elevation	Depth to Groundwater	Groundwater Elevation
06G001	12.44	100.00	0.95	99.05	0.59	100.00
06G002	35.48	100.72	1.06	99.66	0.63	100.72
06G003	12.37	101.49	2.66	98.83	2.40	101.49
06G004	12.46	101.65	2.89	98.76	2.72	101.65
06G005	12.19	101.81	3.15	98.66	3.01	101.85
06G006	12.00	100.48	1.66	98.82	1.34	100.48
06G007	12.17	100.71	1.79	98.92	1.51	100.71
06G008	12.42	100.31	1.33	98.98	0.99	100.31
06G009	12.24	100.11	1.25	98.86	1.03	100.11

Notes: All depths and elevations are recorded in feet.  
Elevations are based on an arbitrary elevation of 100.00 feet for 06G001.

UST = underground storage tank.



**FIGURE 2-7  
GROUNDWATER CONTAMINATION  
DISTRIBUTION MAP,  
MARCH AND MAY, 1995**



**CONTAMINATION ASSESSMENT  
REPORT ADDENDUM  
SITE 6, UST 119**

**NAVAL AVIATION DEPOT  
PENSACOLA, FLORIDA**

**Table 2-4,  
Summary of Groundwater Analytical Results,  
March and May 1995**

Contamination Assessment Report Addendum  
Site 6, UST 119, Naval Aviation Depot  
Pensacola, Florida

Contaminant	Groundwater Sample Designation							State Target Levels <sup>1</sup>
	06G00101	06G00102	06G00201	06G00301	06G00302	06G00401	06G00402	
<b>Volatile Organic Compounds. Reported in parts per billion (ppb).</b>								
Benzene	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	1
Total VOA	<4.0	NA	<4.0	<4.0	NA	<4.0	NA	50
<b>Total Recoverable Petroleum Hydrocarbons (TRPH). Reported in parts per million (ppm).</b>								
TRPH	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	5
<b>Total Metals. Reported in ppb.</b>								
Total arsenic	32.8	<5.0	<5.0	<5.0	<5.0	21.7	<5.0	50
Chromium	154	<50.0	<50.0	<50.0	<50.0	101	<50.0	100
Total lead	168	<5.0	<5.0	22.5	<5.0	177	<5.0	50
See notes at end of table.								

**Table 2-4 (Continued)  
Summary of Groundwater Analytical Results,  
March and May 1995**

Contamination Assessment Report Addendum  
Site 6, UST 119, Naval Aviation Depot  
Pensacola, Florida

Contaminant	Groundwater Sample Designation						State Target Levels <sup>1</sup>
	06G00501	06G00601	<sup>2</sup> 06G00701	06G00801	06G00802	06G00901	
<b>Volatile Organic Compounds. Reported in ppb.</b>							
Benzene	<1.0	<1.0	<1.0	<1.0	NA	<1.0	1
Total VOA	<4.0	<4.0	<4.0	<4.0	NA	<4.0	50
<b>TRPH. Reported in ppm.</b>							
TRPH	<1.0	<1.0	<1.0	<1.0	NA	<1.0	5
<b>Total Metals. Reported in ppb.</b>							
Total arsenic	<5.0	<5.0	<5.0	18.4	<5.0	<5.0	50
Chromium	<50.0	<50.0	<50.0	66.7	<50.0	<50.0	50
Total lead	5.1	12.8	5.6	57.3	<5.0	7.4	50

<sup>1</sup> Chapters 62-770.730(5)(a) and 62-550.310(1)(a) Florida Administrative Code (FAC).

<sup>2</sup> The concentrations reported in this column is the highest concentrations detected in either groundwater sample 06G00701 or its duplicate 06G00701D. Groundwater samples collected during the first sampling event in March 1995 are designated with the suffix "01". Groundwater samples collected during the second sampling event in May 1995 are designated with the suffix "02".

Notes: UST = underground storage tank.

< = less than.

NA = groundwater sample not analyzed for listed contaminant.

Total VOA = the sum concentration of benzene, ethyl benzene, toluene, and xylenes.

**Table 2-5  
Summary of Tentatively Identified Compounds,  
March 1995**

Contamination Assessment Report Addendum  
Site 6, UST 119, Naval Aviation Depot  
Pensacola, Florida

Contaminant	Groundwater Sample Designation								
	06G00101	06G00201	06G00301	06G00401	06G00501	06G00601	06G00701 <sup>1</sup>	06G00801	06G00901
<b>Tentatively Identified Compounds (TICs). Estimated concentrations in part per billion (ppb).</b>									
Methylene Chloride <sup>2</sup>	40	30	30	25	ND	ND	29	21	21
Propylene Glycol <sup>2</sup>	11	9	8	9	ND	8	17	13	13
(E)-3-Chloro-2-methyl-2-pentenal <sup>2</sup>	110	ND	29	56	68	70	28	15	65
1,4,-Dichlorobenzene-d4 <sup>2</sup>	85	ND	ND	56	46	50	ND	58	57
Benzene, 1-methyl-4-(1-methylethyl)	ND	6	ND	ND	ND	ND	ND	ND	ND
Benzene, (1,3,3,3-tetrachloropropyl)-	ND	ND	ND	ND	ND	ND	ND	9	ND
N,N'-Bis(pentamethylene)thiuramtetrasulf	ND	ND	ND	ND	ND	11	ND	ND	ND
Benzene, 1,2,3,4-d4,5,6-dichloro	ND	55	51	ND	ND	ND	57	ND	ND
5-Imidazolic acid	ND	ND	6	ND	ND	ND	ND	ND	ND
2-Nitro-.alpha.,.alpha.,.alpha.-trifluor	ND	ND	7	ND	ND	ND	ND	ND	ND
Pyridine, 1,2,3,6-tetrahydro-1-nitroso	ND	ND	4	ND	ND	ND	ND	10	ND
Stirofos	ND	ND	19	7	ND	ND	ND	ND	ND
Oxazole, 2-phenyl	ND	ND	6	ND	ND	ND	10	ND	ND
1-Ethyl-4-piperidone	ND	ND	ND	ND	ND	ND	18	ND	ND
2-Cyclopenten-1-one, 2-hydroxy-3-methyl	ND	ND	ND	ND	ND	ND	15	ND	ND
Oxyquinoline	ND	ND	ND	ND	ND	ND	ND	6	ND
4-Chloro-2-fluoraniline	ND	ND	9	ND	ND	ND	6	ND	D

See notes at end of table.

**Table 2-5 (Continued)**  
**Summary of Tentatively Identified Compounds,**  
**March 1995**

Contamination Assessment Report Addendum  
Site 6, UST 119, Naval Aviation Depot  
Pensacola, Florida

Contaminant	Groundwater Sample Designation								
	06G00101	06G00201	06G00301	06G00401	06G00501	06G00601	06G00701 <sup>1</sup>	06G00801	06G00901
<b>TICs. Estimated concentrations in ppb.</b>									
2-Chloro-4-fluoroaniline	ND	ND	ND	ND	ND	ND	19	ND	ND
4-Aminothiophenol	ND	ND	ND	ND	ND	ND	6	ND	ND
Acetazolamide	ND	ND	4	ND	ND	ND	ND	ND	ND
2-Acetyl-5-methylthiophene	ND	ND	ND	ND	ND	ND	ND	6	ND
5-Quinololinol	ND	ND	ND	ND	ND	ND	ND	8	ND
Phenol, 4-fluoro-	ND	ND	ND	ND	ND	ND	25	ND	ND
3-Cyclohexene-1-methanol, .alpha,-.alpha	ND	18	ND	ND	ND	ND	ND	ND	ND
Benzenamine, 2,4,6-tribromo	ND	35	ND	ND	ND	ND	24	16	ND
1,2-Cyclopentanedione, dichloro-methyl	ND	ND	ND	7	ND	ND	ND	ND	5
Benzenamine, ar,ar,ar-tribromo-	ND	ND	ND	ND	ND	ND	ND	ND	6
1,2-Benzenedicarboxylic acid, bis(2-methyl)	ND	ND	ND	ND	ND	ND	ND	ND	5
Betazole	ND	ND	ND	5	ND	ND	ND	ND	ND
Maleic hydrazide	13	13	8	ND	ND	ND	22	8	ND
(S)-(+)-1,2-Propanediol	ND	ND	ND	ND	8	ND	ND	ND	ND
Caprolactam	11	31	16	18	8	16	28	35	12

<sup>1</sup> These TICs were also identified in the equipment blank.

Note: UST = underground storage tank.  
ND = listed compound not detected below method detection limit.

Lead concentration ranging from 5.1 ppb to 177 ppb were detected in Site 6 groundwater samples. The State no further action target level for lead is 50 ppb (FDEP, 1990).

The suspected source of excessive chromium and lead concentrations detected in some groundwater samples was suspended sediment. Monitoring wells 06G001, 06G004, and 06G008 were resampled for total metals on May 3, 1995, using a low-flow sampling technique designed to reduce suspended sediment in groundwater samples. Monitoring well 06G003 was also resampled at that time. The May 3, 1995, sample results are designated with the suffix "02" in Table 2-4.

No metal concentrations were detected in the four monitoring wells sampled during the second sampling event.

Due to the BRAC construction, all Site 6 monitoring wells were properly abandoned in May 1995, after the final round of sampling.

### 3.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

3.1 SUMMARY. Based on the findings of the CA field investigation and laboratory analytical results, the following is a summary of existing conditions at Site 6.

- Site soil consists of very fine- to fine-grained, moderately sorted sand. The color of the soil ranges from very pale orange to dark gray.
- The source of contamination, UST 119, has been removed.
- Excessively contaminated soil from the UST 119 excavation area was removed. No visual evidence of soil contamination was observed on the excavation walls. The excavation was backfilled with clean soil. Contaminated soil was removed from the site and thermally treated.
- Seven confirmatory soil samples were collected from outside the UST 119 excavation. No contaminant concentrations detected in the confirmatory soil samples exceeded State maximum contaminant levels.
- Eight shallow monitoring wells and one deep monitoring well were installed to assess the impact of soil contamination on the groundwater at Site 6.
- The groundwater flow direction at Site 6 is predominantly to the west.
- No groundwater contaminant concentration detected in the Site 6 groundwater samples exceeded any State target level except chromium and lead. Excessive concentrations of both metals were detected in the groundwater samples collected from monitoring wells 06G001 and 06G004. The monitoring wells were resampled for total metals using low-flow sampling techniques. No metal concentrations were detected in any groundwater sample collected during the second sampling event.
- All Site 6 monitoring wells were properly abandoned subsequent to sampling.

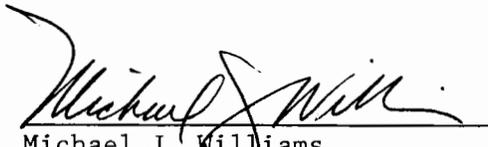
3.2 CONCLUSIONS. Based on the findings of the CA and site conditions, the following can be concluded.

- All excessively contaminated soil was removed from Site 6.
- The groundwater at Site 6 has not been impacted by soil contamination detected during this investigation. High metals concentrations detected during the first sampling event can be attributed to suspended sediment.

3.3 RECOMMENDATIONS. Based on the findings, conclusions, and interpretations of the CA, ABB-ES recommends a no further action proposal for Site 6.

4.0 PROFESSIONAL REVIEW CERTIFICATION

This contamination assessment report addendum was prepared under the direct supervision of a Professional Geologist registered in the State of Florida. This assessment was conducted using sound hydrogeologic principles and professional judgement and is based on the geologic investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of any additional information on the assessment described in this report. This report meets the criteria set in Chapter 492 of the Florida Statutes with regard to good professional practices as applied to Chapter 62-770 of the Florida Administrative Code. This report was developed for the AVGAS Pipeline Area sites at NADEP Pensacola, Pensacola, Florida, and should not be construed to apply to any other site.

  
\_\_\_\_\_  
Michael J. Williams  
Professional Geologist  
P.G. No. 344  
  
\_\_\_\_\_  
11/13/95  
Date

## REFERENCES

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

Florida Department of Environmental Protection (FDEP), 1990, No Further Action and Monitoring Only Guidelines for Petroleum Contaminated Sites.

FDEP, 1994, Guidelines for Assessment and Remediation of Petroleum-Contaminated Soil, Division of Waste Management, May.

Florida Department of Transportation, 1982, Florida official transportation map.

**APPENDIX A**

**GT ENVIRONMENTAL SERVICES (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.



GT ENVIRONMENTAL SERVICES, I E.  
One Purlicu Place, Suite 205  
Winter Park, Florida 32792  
(407) 671-0125  
FAX (407) 671-2705

FILE

September 13, 1994

Phoenix Construction Services, Inc.  
1305 Tennessee Avenue  
Lynn Haven, FL 32444

Attn: Terry Wilson

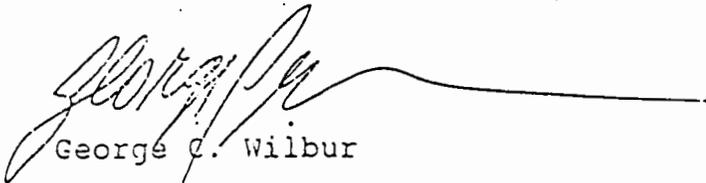
RE: Fuel Tankage Project  
NAS, Pensacola, FL  
Contract N62467-90-C-0485

Dear Terry:

In reference to the above captioned project, contaminated groundwater was detected visually in Tank #119. Minimal soil staining was around the tank.

Sincerely,

G T Environmental Services, Inc.



George C. Wilbur

xc: PCS  
PCS/GT

**APPENDIX B**  
**LITHOLOGIC LOGS**

TITLE: NADEP Pensacola		LOG of WELL: 06G001	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7527-34
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/3/95	COMPLTD: 2/3/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 2.4-12.4 FT	PROTECTION LEVEL: 0
TOC ELEV.: 100.00* FT.	MONITOR INST.: OVA	TOT DPTH: 12.44FT.	DPTH TO $\nabla$ 0.95 FT.
LOGGED BY: H. Governick	WELL DEVELOPMENT DATE: 2/5/95		SITE: Site 6

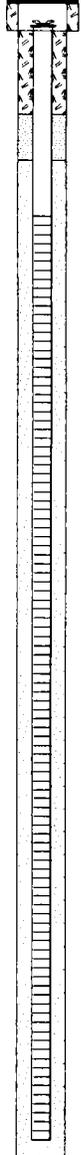
DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Asphalt.				
				SAND: Very fine- to fine-grained, well sorted, mottled - pale orange and gray, damp.		SP		
5				SAND: Very fine- to fine-grained, moderate sorting, dry, mottled light gray to dark gray.				
10				SAND: Fine-grained, damp, moderate sorting, very dark brown.				
15				* TOC elevation based on an arbitrarily selected elevation.				

TITLE: NADEP Pensacola		LOG of WELL: 06G002	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7527-34
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/3/95	COMPLTD: 2/5/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 30-35 FT	PROTECTION LEVEL: D
TOC ELEV.: 100.72* FT.	MONITOR INST.: OVA	TOT DPTH: 35.48FT.	DPTH TO $\nabla$ 1.06 FT.
LOGGED BY: H. Governick	WELL DEVELOPMENT DATE: 2/5/95		SITE: Site 6

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Concrete.				
				SAND: Very fine- to fine-grained, moderately sorted, dry, very pale orange.		SP		
5				SAND: Fine-grained, well sorted, medium gray, saturated.				
10				SAND: Very fine- to fine-grained, trace medium-grained, trace shell material, dark gray, saturated.				
15				SAND: Fine-grained, well sorted, medium gray, saturated.				
20				SAND: Very fine-grained, some silt, moderately sorted, saturated, dark brownish gray.		SM		
25				SAND: Very fine-grained, some silt, moderately sorted, saturated, dark brownish gray with small pieces of pine bark and pine needles.				
30								
35								
40								

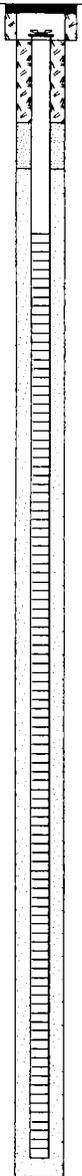
\*TOC elevation based on an arbitrarily selected elevation.

TITLE: NADEP Pensacola		LOG of WELL: 06G003	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7527-34
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/3/95	COMPLTD: 2/3/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 2.4-12.4 FT	PROTECTION LEVEL: D
TOC ELEV.: 101.49* FT.	MONITOR INST.: OVA	TOT DPTH: 12.37FT.	DPTH TO $\nabla$ 2.66 FT.
LOGGED BY: H. Governick	WELL DEVELOPMENT DATE: 2/5/95		SITE: Site 6

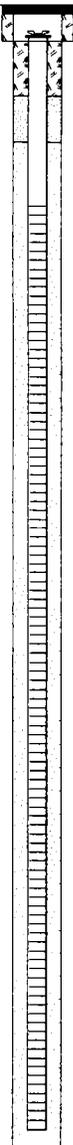
DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			SAND: Fine-grained, moderately sorted, trace rock fragments, dry, brown.		SP		
			SAND: Very fine- to fine-grained, moderately sorted, light tan, dry to damp.				
			SAND: Very fine- to fine-grained, moderately sorted, saturated, dark gray.				
5							
10							
15							

\* TOC elevation based on an arbitrarily selected elevation.

TITLE: NADEP Pensacola		LOG of WELL: 06G004	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7527-34	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/3/95	COMPLTD: 2/3/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 2.5-12.5 FT	PROTECTION LEVEL: D
TOC ELEV.: 101.65* FT.	MONITOR INST.: OVA	TOT DPTH: 12.46FT.	DPTH TO $\nabla$ 2.89 FT.
LOGGED BY: H. Governick	WELL DEVELOPMENT DATE: 2/5/95		SITE: Site 6

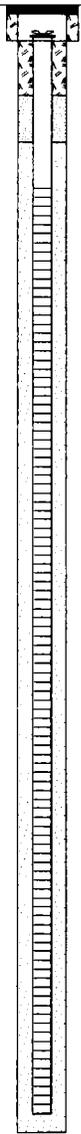
DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				SAND: Fine-grained, moderately sorted, trace rock fragments, dry, brown.		SP		
				SAND: Fine-grained, well sorted, light tan, saturated.				
5				SAND: Very fine- to fine-grained, moderately sorted, saturated, medium gray.				
10				SAND: Very fine- to fine-grained, moderately sorted, saturated, dark gray.				
15				* TOC elevation based on an arbitrarily selected elevation.				

TITLE: NADEP Pensacola		LOG of WELL: 06G005	BORING NO.
CLIENT: SOUTHNAVFACENCOM			PROJECT NO: 7527-34
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/13/95	COMPLTD: 2/13/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 2.2-12.2 FT	PROTECTION LEVEL: D
TOC ELEV.: 101.81* FT.	MONITOR INST.: OVA	TOT DPTH: 12.19FT.	DPTH TO $\nabla$ 3.15 FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE: 2/13/95		SITE: Site 6

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0				SAND: Very fine- to fine-grained, moderately sorted, dry to wet, very light gray to very pale orange.		SP		
5				SAND: Very fine- to fine-grained, moderately sorted, brownish gray, wet.				
10								
15								

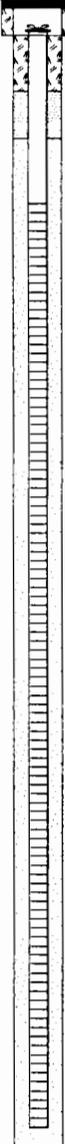
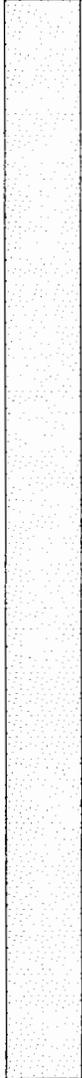
\* TOC elevation based on an arbitrarily selected elevation.

TITLE: NADEP Pensacola		LOG of WELL: 06G006	BORING NO.
CLIENT: SOUTHNAVFACENCOM			PROJECT NO: 7527-34
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/6/95	COMPLTD: 2/6/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 2.0-12.0 FT	PROTECTION LEVEL: D
TOC ELEV.: 100.48* FT.	MONITOR INST.: OVA	TOT DPTH: 12.00FT.	DPTH TO $\nabla$ 1.66 FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE: 2/6/95		SITE: Site 6

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND: Very fine- to fine-grained, moderately sorted, very pale orange, dry to wet.		SP		
5					SAND: Fine-grained, trace of very fine-grained, well sorted, brownish gray, saturated.				
10					SAND: Fine-grained, trace of very fine-grained, trace of dark brown silt, well sorted, saturated, brownish gray.				
15									

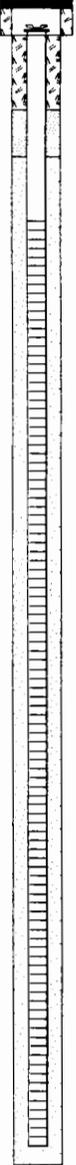
\* TOC elevation based on an arbitrarily selected elevation.

TITLE: NADEP Pensacola		LOG of WELL: 06G007	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7527-34
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/6/95	COMPLTD: 2/6/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 2.2-12.2 FT	PROTECTION LEVEL: D
TOC ELEV.: 100.71* FT.	MONITOR INST.: OVA	TOT DPTH: 12.17FT.	DPTH TO $\nabla$ 1.79 FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE: 2/6/95		SITE: Site 6

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Concrete.		SP		
					SAND: Very fine- to fine-grained, moderately sorted, very pale orange, dry to wet.				
5					SAND: Very fine- to fine-grained, moderately sorted, trace of silt, saturated, dark brownish gray.				
10									
15									

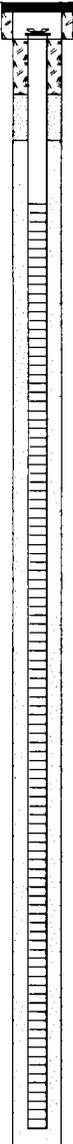
\* TOC elevation based on an arbitrarily selected elevation.

TITLE: NADEP Pensacola		LOG of WELL: 06G008	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7527-34
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/6/95	COMPLTD: 2/6/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 2.4-12.4 FT	PROTECTION LEVEL: D
TOC ELEV.: 100.31* FT.	MONITOR INST.: OVA	TOT DPTH: 12.42FT.	DPTH TO $\nabla$ 1.33 FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE: 2/6/95		SITE: Site 6

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Concrete.				
				SAND: Very fine- to fine-grained, moderately sorted, light gray, dry to wet.		SP		
5				SAND: Very fine- to fine-grained, moderately sorted, trace silt, saturated, dark gray.				
10								
15								

\* TOC elevation based on an arbitrarily selected elevation.

TITLE: NADEP Pensacola		LOG of WELL: 06G009	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7527-34
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/6/95	COMPLTD: 2/6/95
METHOD: 4.25" ID HSA	CASE SIZE: 2 inches	SCREEN INT.: 2.2-12.2 FT	PROTECTION LEVEL: D
TOC ELEV.: 100.11* FT.	MONITOR INST.: OVA	TOT DPTH: 12.24FT.	DPTH TO $\nabla$ 1.25 FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE: 2/6/95		SITE: Site 6

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			FILL		FILL		
			SAND: Very fine- to fine-grained, moderately sorted, medium gray, wet.		SP		
5			SAND: Very fine- to fine-grained, moderately sorted, trace silt, saturated, dark gray.				
10							
15							

\* TOC elevation based on an arbitrarily selected elevation.

**APPENDIX C**  
**LABORATORY ANALYTICAL DATA**

Lab Sample Number: B4K0400180  
 Site NADEP-6  
 Locator 06800701  
 Collect Date: 03-NOV-94

VALUE QUAL UNITS DL

## GC/MS Volatiles

Acrolein	5.4 U	ug/kg	5.4
Acrylonitrile	5.4 U	ug/kg	5.4
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	350 U	ug/kg	350
1,3-Dichlorobenzene	350 U	ug/kg	350
1,4-Dichlorobenzene	350 U	ug/kg	350
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	350 U	ug/kg	350
Acenaphthylene	350 U	ug/kg	350
Anthracene	350 U	ug/kg	350
Benidine	1800 U	ug/kg	1800
Benzo(a)anthracene	350 U	ug/kg	350
Benzo(b)fluoranthene	350 U	ug/kg	350
Benzo(k)fluoranthene	350 U	ug/kg	350
Benzo (g,h,i) perylene	350 U	ug/kg	350
Benzo(a)pyrene	350 U	ug/kg	350
Bis(2-chloroethoxy)methane	350 U	ug/kg	350
Bis(2-chloroethyl)ether	350 U	ug/kg	350
Bis(2-chloroisopropyl)ether	350 U	ug/kg	350
Bis(2-ethylhexyl)phthalate	350 U	ug/kg	350
4-Bromophenyl phenyl ether	350 U	ug/kg	350

Lab Sample Number: B4K0400180  
 Site NADEP-6  
 Locator 06800701  
 Collect Date: 03-NOV-94

VALUE QUAL UNITS DL

	VALUE	QUAL	UNITS	DL
Butyl benzyl phthalate	350	U	ug/kg	350
4-Chloro-3-methylphenol	350	U	ug/kg	350
2-Chloronaphthalene	350	U	ug/kg	350
2-Chlorophenol	350	U	ug/kg	350
4-Chlorophenyl phenyl ether	350	U	ug/kg	350
Chrysene	350	U	ug/kg	350
Dibenz (a,h) anthracene	350	U	ug/kg	350
Di-n-butyl phthalate	350	U	ug/kg	350
1,2-Dichlorobenzene	350	U	ug/kg	350
1,3-Dichlorobenzene	350	U	ug/kg	350
1,4-Dichlorobenzene	350	U	ug/kg	350
3,3'-Dichlorobenzidine	1800	U	ug/kg	1800
2,4-Dichlorophenol	350	U	ug/kg	350
Diethyl phthalate	350	U	ug/kg	350
2,4-Dimethylphenol	350	U	ug/kg	350
Dimethyl phthalate	350	U	ug/kg	350
Di-n-octyl phthalate	350	U	ug/kg	350
4,6-Dinitro-2-methylphenol	1800	U	ug/kg	1800
2,4-Dinitrophenol	1800	U	ug/kg	1800
2,4-Dinitrotoluene	350	U	ug/kg	350
2,6-Dinitrotoluene	350	U	ug/kg	350
Fluoranthene	350	U	ug/kg	350
Fluorene	350	U	ug/kg	350
Hexachlorobenzene	350	U	ug/kg	350
Hexachlorocyclopentadiene	350	U	ug/kg	350
Hexachloroethane	350	U	ug/kg	350
Indeno(1,2,3-cd)pyrene	350	U	ug/kg	350
Isophorone	350	U	ug/kg	350
Naphthalene	350	U	ug/kg	350
Nitrobenzene	350	U	ug/kg	350
2-Nitrophenol	350	U	ug/kg	350
4-Nitrophenol	1800	U	ug/kg	1800
N-Nitrosodimethylamine	350	U	ug/kg	350
N-Nitrosodi-n-propylamine	350	U	ug/kg	350
N-Nitrosodiphenylamine	350	U	ug/kg	350
Pentachlorophenol	1800	U	ug/kg	1800
Phenanthrene	350	U	ug/kg	350
Phenol	350	U	ug/kg	350
Pyrene	350	U	ug/kg	350
1,2,4-Trichlorobenzene	350	U	ug/kg	350
2,4,6-Trichlorophenol	350	U	ug/kg	350
Hexachlorobutadiene	350	U	ug/kg	350
TOTAL METALS				
Cadmium	.54	U	mg/kg	.54
Chromium	1.9	U	mg/kg	2.7
Arsenic	.53	U	mg/kg	.27
Lead	4.6	U	mg/kg	.27
TRPH				
Total petroleum hydrocarbons	106	U	mg/kg	5.4

## 09/21/95 NADEP AVGAS PIPELINE SITE 6 13:28:16

Lab Sample Number:	B5B0800440	B5B0800440	B5B0800440	B5B0800440								
Site	NADEP-6	NADEP-6	NADEP-6	NADEP-6								
Locator	06B00802	06B00902	06B01002	06B01102								
Collect Date:	05-FEB-95	06-FEB-95	06-FEB-95	06-FEB-95								
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

TOTAL METALS												
Cadmium	.61 U	mg/kg	.61	.62 U	mg/kg	.62	.61 U	mg/kg	.61	.62 U	mg/kg	.62
Chromium	3.1 U	mg/kg	3.1									
Arsenic	.31 U	mg/kg	.31									
Lead	1.5	mg/kg	.31	20.2	mg/kg	.31	.9	mg/kg	.31	1.9	mg/kg	.31
TRPH												
Total petroleum hydrocarbons	6.1 U	mg/kg	6.1	26.3	mg/kg	6.2	21	mg/kg	6.1	6.2 U	mg/kg	6.2
TOTAL SOLIDS												
Total Solids	81.5	PERCE	1	81	PERCE	1	81.4	PERCE	1	80.1	PERCE	1

U = Not Detected J = Estimated Value

09/21/95 NADEP AVGAS PIPELINE SITE 6 13:28:16

Lab Sample Number:  
Site  
Locator  
Collect Date:

B5H0901110  
NADEP-6  
06801203  
08-AUG-95

B5H0901110  
NADEP-6  
06801303  
08-AUG-95

B5H0901110  
NADEP-6  
06801404  
08-AUG-95

B4K0400180  
NADEP-6  
EQUIPMENTBLANK  
03-NOV-94

VALUE QUAL UNITS DL VALUE QUAL UNITS DL VALUE QUAL UNITS DL VALUE QUAL UNITS DL

TOTAL METALS

Parameter	Value	Qual	Units	DL	Value	Qual	Units	DL	Value	Qual	Units	DL	Value	Qual	Units	DL
Cadmium	.97	U	mg/kg	.57	.58	U	mg/kg	.58	.56	U	mg/kg	.56	5	U	ug/l	5
Chromium	3.4		mg/kg	2.8	2.9	U	mg/kg	2.9	3.2		mg/kg	2.8	50	U	ug/l	50
Arsenic	9.1	U	mg/kg	9.1	9.2	U	mg/kg	9.2	8.9	U	mg/kg	8.9	2.4	J	ug/l	5
Lead	2.8	U	mg/kg	2.8	4.1		mg/kg	2.9	2.8	U	mg/kg	2.8	1.9	J	ug/l	5

TRPH

Parameter	Value	Qual	Units	DL	Value	Qual	Units	DL	Value	Qual	Units	DL	Value	Qual	Units	DL
Total petroleum hydrocarbons	5.7	U	mg/kg	5.7	5.8	U	mg/kg	5.8	5.6	U	mg/kg	5.6	1	U	mg/l	1

TOTAL SOLIDS

Parameter	Value	Qual	Units	DL												
Total Solids	88.3		PERCE	1	86.6		PERCE	1	89.5		PERCE	1	-			

U = Not Detected J = Estimated Value

Lab Sample Number:	B5C3100470	B5C3100470	B5C3100470	B5C3100470											
Site	NADEP-6	NADEP-6	NADEP-6	NADEP-6											
Locator	06G00101	06G00201	06G00301	06G00401											
Collect Date:	30-MAR-95	30-MAR-95	30-MAR-95	30-MAR-95											
VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	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	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
1,3-Dichlorobenzene	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
1,4-Dichlorobenzene	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	1	U	ug/l	1
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	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Acenaphthylene	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Anthracene	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Benztidine	50	U	ug/l	50	68	U	ug/l	68	50	U	ug/l	50	50	U	ug/l	50
Benzo(a)anthracene	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Benzo(b)fluoranthene	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Benzo(k)fluoranthene	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Benzo(g,h,i) perylene	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Benzo(a)pyrene	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Bis(2-chloroethoxy)methane	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Bis(2-chloroethyl)ether	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Bis(2-chloroisopropyl)ether	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
Bis(2-ethylhexyl)phthalate	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10
4-Bromophenyl phenyl ether	10	U	ug/l	10	14	U	ug/l	14	10	U	ug/l	10	10	U	ug/l	10

Lab Sample Number:  
Site  
Locator  
Collect Date:

B5C3100470  
NADEP-6  
06G00101  
30-MAR-95

B5C3100470  
NADEP-6  
06G00201  
30-MAR-95

B5C3100470  
NADEP-6  
06G00301  
30-MAR-95

B5C3100470  
NADEP-6  
06G00401  
30-MAR-95

VALUE QUAL UNITS DL VALUE QUAL UNITS DL VALUE QUAL UNITS DL VALUE QUAL UNITS DL

Butyl benzyl phthalate	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
4-Chloro-3-methylphenol	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
2-Chloronaphthalene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
2-Chlorophenol	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
4-Chlorophenyl phenyl ether	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Chrysene	10 U	ug/l	10									
Dibenz (a,h) anthracene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Di-n-butyl phthalate	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
1,2-Dichlorobenzene	1 U	ug/l	1	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
1,3-Dichlorobenzene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
1,4-Dichlorobenzene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	1 U	ug/l	1
3,3'-Dichlorobenzidine	50 U	ug/l	50									
2,4-Dichlorophenol	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Diethyl phthalate	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
2,4-Dimethylphenol	10 U	ug/l	10									
Dimethyl phthalate	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Di-n-octyl phthalate	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
4,6-Dinitro-2-methylphenol	50 U	ug/l	50	68 U	ug/l	68	50 U	ug/l	50	50 U	ug/l	50
2,4-Dinitrophenol	50 U	ug/l	50									
2,4-Dinitrotoluene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
2,6-Dinitrotoluene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Fluoranthene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Fluorene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Hexachlorobenzene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Hexachlorocyclopentadiene	10 U	ug/l	10									
Hexachloroethane	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Indeno(1,2,3-cd)pyrene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Isophorone	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Naphthalene	10 U	ug/l	10									
Nitrobenzene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
2-Nitrophenol	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
4-Nitrophenol	50 U	ug/l	50									
N-Nitrosodimethylamine	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
N-Nitrosodi-n-propylamine	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
N-Nitrosodiphenylamine	10 U	ug/l	10									
Pentachlorophenol	50 U	ug/l	50	68 U	ug/l	68	50 U	ug/l	50	50 U	ug/l	50
Phenanthrene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Phenol	10 U	ug/l	10									
Pyrene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
1,2,4-Trichlorobenzene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
2,4,6-Trichlorophenol	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
Hexachlorobutadiene	10 U	ug/l	10	14 U	ug/l	14	10 U	ug/l	10	10 U	ug/l	10
TRPH												
Total petroleum hydrocarbons	1 U	mg/l	1									
TOTAL METALS												
Cadmium	5 U	ug/l	5									
Chromium	154	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	101	ug/l	50
Arsenic	32.8	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	21.7	ug/l	5
Lead	168	ug/l	5	5 U	ug/l	5	20.5	ug/l	5	177	ug/l	5

U = Not Detected J = Estimated Value

Lab Sample Number:	B5C3100470		B5C3100470		B5C3100470		B5C3100470		
Site	NADEP-6TIC		NADEP-6TIC		NADEP-6TIC		NADEP-6TIC		
Locator	06G00101		06G00201		06G00301		06G00401		
Collect Date:	30-MAR-95		30-MAR-95		30-MAR-95		30-MAR-95		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

TENTATIVELY IDENTIFIED COMPOUNDS.

Maleic Hydrazide	13	ug/l								
Caprolactam	11	ug/l								
Maleic Hydrazide				17	ug/l					
3-Cyclohexene-1-Methanol, .Alp				19	ug/l					
3-Cyclohexene-1-Methanol, .Alp				18	ug/l					
Caprolactam				31	ug/l					
Benzene, 1-Methyl-3-(1-Methyle				6	ug/l					
Caprolactam				35	ug/l					
2-Unknowns				17	ug/l					
Benzene, 1-Methyl-3-(1-Methyle				10	ug/l					
Benzene, 1-Methyl-4-(1-Methyle				6	ug/l					
2-Nitro-.Alpha., .Alpha., .Alpha							7	ug/l		
Oxazole, 2-Phenyl-							6	ug/l		
Maleic Hydrazide							8	ug/l		
5-Imidazolic Acid							6	ug/l		
Caprolactam							16	ug/l		
Pyridine, 1,2,3,6-Tetrahydro-1							4	ug/l		
Stirofos							19	ug/l		
Acetazolamide							4	ug/l		
4-Chloro-2-Fluoroaniline							9	ug/l		
1,2-Cyclopentanedione, Dichlor									7	ug/l
Betazole									5	ug/l
Caprolactam									18	ug/l
Stirofos									11	ug/l

U = Not Detected J = Estimated Value

Lab Sample Number:	B5C3100470	B5C3100470	B5C3100470	B5C3100470							
Site	NADEP-6	NADEP-6	NADEP-6	NADEP-6							
Locator	06G00501	06G00601	06G00701	06G00701D							
Collect Date:	30-MAR-95	30-MAR-95	30-MAR-95	30-MAR-95							
VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	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	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,3-Dichlorobenzene	10 U	ug/l	10	10 U	ug/l	10	1 U	ug/l	1	10 U	ug/l	10
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	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
Acenaphthylene	10 U	ug/l	10									
Anthracene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
Benzidine	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	58 U	ug/l	58

Lab Sample Number: Site Locator Collect Date:	B5C3100470 NADEP-6 06G00501 30-MAR-95			B5C3100470 NADEP-6 06G00601 30-MAR-95			B5C3100470 NADEP-6 06G00701 30-MAR-95			B5C3100470 NADEP-6 06G00701D 30-MAR-95		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
Benzo(a)anthracene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
Benzo(b)fluoranthene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
Benzo(k)fluoranthene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
Benzo (g,h,i) perylene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Benzo(a)pyrene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Bis(2-chloroethoxy)methane	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Bis(2-chloroethyl)ether	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Bis(2-chloroisopropyl)ether	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Bis(2-ethylhexyl)phthalate	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
4-Bromophenyl phenyl ether	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Butyl benzyl phthalate	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
4-Chloro-3-methylphenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
2-Chloronaphthalene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
2-Chlorophenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
4-Chlorophenyl phenyl ether	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Chrysene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Dibenz (a,h) anthracene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Di-n-butyl phthalate	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,2-Dichlorobenzene	1 U	ug/l	1	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,3-Dichlorobenzene	10 U	ug/l	10	10 U	ug/l	10	1 U	ug/l	1	10 U	ug/l	10
1,4-Dichlorobenzene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
3,3'-Dichlorobenzidine	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	58 U	ug/l	58
2,4-Dichlorophenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Diethyl phthalate	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
2,4-Dimethylphenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
Dimethyl phthalate	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Di-n-octyl phthalate	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
4,6-Dinitro-2-methylphenol	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50
2,4-Dinitrophenol	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	58 U	ug/l	58
2,4-Dinitrotoluene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
2,6-Dinitrotoluene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Fluoranthene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Fluorene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Hexachlorobenzene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Hexachlorocyclopentadiene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Hexachloroethane	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Indeno(1,2,3-cd)pyrene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Isophorone	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Naphthalene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Nitrobenzene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
2-Nitrophenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
4-Nitrophenol	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50
N-Nitrosodimethylamine	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
N-Nitrosodi-n-propylamine	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
N-Nitrosodiphenylamine	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Pentachlorophenol	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50
Phenanthrene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
Phenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Pyrene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,2,4-Trichlorobenzene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	12 U	ug/l	12
2,4,6-Trichlorophenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Hexachlorobutadiene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10

09/22/95 NADEP AVGAS PIPELINE SITE 6 09:50:28

Lab Sample Number:	B5C3100470	B5C3100470	B5C3100470	B5C3100470					
Site	NADEP-6	NADEP-6	NADEP-6	NADEP-6					
Locator	06G00501	06G00601	06G00701	06G00701D					
Collect Date:	30-MAR-95	30-MAR-95	30-MAR-95	30-MAR-95					
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

TRPH												
Total petroleum hydrocarbons	1 U	mg/l	1									
TOTAL METALS												
Cadmium	5 U	ug/l	5									
Chromium	50 U	ug/l	50									
Arsenic	5 U	ug/l	5									
Lead	5.1	ug/l	5	12.8	ug/l	5	5.6	ug/l	5	5 U	ug/l	5

U = Not Detected J = Estimated Value  
 B = Compound detected in Method Blank associated with this sample

Lab Sample Number:	B5C3100470	B5C3100470	B5C3100470	B5C3100470					
Site	NADEP-6TIC	NADEP-6TIC	NADEP-6TIC	NADEP-6TIC					
Locator	06G00501	06G00601	06G00701	06G00701D					
Collect Date:	30-MAR-95	30-MAR-95	30-MAR-95	30-MAR-95					
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

TENTATIVELY IDENTIFIED CMPNDS.

Caprolactam									
N,N'-Bis(Pentamethylene)Thiura				11	ug/l				
4-Aminothiophenol							5	ug/l	
Caprolactam							28	ug/l	
Maleic Hydrazide							23	ug/l	
1-Ethyl-4-Piperidone							18	ug/l	
Oxazole, 2-Phenyl-							10	ug/l	
2-Chloro-4-Fluoroaniline									23 ug/l
4-Aminothiophenol									6 ug/l
1-Unknown									6 ug/l
Caprolactam									27 ug/l
2-Cyclopenten-1-One, 2-Hydroxy									15 ug/l
Maleic Hydrazide									33 ug/l
Oxazole, 2-Phenyl-									6 ug/l
Phenol, 4-Fluoro-									25 ug/l
Caprolactam									49 ug/l

U = Not Detected J = Estimated Value

## 09/22/95 NADEP AVGAS PIPELINE SITE 6 09:50:28

Lab Sample Number:	B5C3100470		B5C3100470		B5C3100470		B5C3100470		
Site	NADEP-6		NADEP-6		NADEP-6		NADEP-6		
Locator	06G00801		06G00901		06G0EB01		06G0T801		
Collect Date:	30-MAR-95		30-MAR-95		30-MAR-95		30-MAR-95		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

	VALUE	QUAL UNITS	DL									
<b>GC/MS Volatiles</b>												
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	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	1 U	ug/l	1
1,3-Dichlorobenzene	13 U	ug/l	13	1 U	ug/l	1	10 U	ug/l	10	1 U	ug/l	1
1,4-Dichlorobenzene	10 U	ug/l	10	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
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									

	VALUE	QUAL UNITS	DL									
<b>GC/MS Semi-Volatiles</b>												
Acenaphthene	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
Acenaphthylene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Anthracene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Benzidine	63 U	ug/l	63	50 U	ug/l	50	50 U	ug/l	50	-		

## 09/22/95 NADEP AVGAS PIPELINE SITE 6 09:50:28

Lab Sample Number:	B5C3100470											
Site	NADEP-6											
Locator	06G00801	06G00901										
Collect Date:	30-MAR-95											
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
Benzo(a)anthracene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Benzo(b)fluoranthene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Benzo(k)fluoranthene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Benzo (g,h,i) perylene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Benzo(a)pyrene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Bis(2-chloroethoxy)methane	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Bis(2-chloroethyl)ether	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Bis(2-chloroisopropyl)ether	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Bis(2-ethylhexyl)phthalate	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
4-Bromophenyl phenyl ether	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Butyl benzyl phthalate	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
4-Chloro-3-methylphenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
2-Chloronaphthalene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
2-Chlorophenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
4-Chlorophenyl phenyl ether	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Chrysene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Dibenz (a,h) anthracene	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
Di-n-butyl phthalate	10 U	ug/l	10	10 U	ug/l	10	36 B	ug/l	10	-		
1,2-Dichlorobenzene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	1 U	ug/l	1
1,3-Dichlorobenzene	13 U	ug/l	13	1 U	ug/l	1	10 U	ug/l	10	1 U	ug/l	1
1,4-Dichlorobenzene	10 U	ug/l	10	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
3,3'-Dichlorobenzidine	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	-		
2,4-Dichlorophenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Diethyl phthalate	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
2,4-Dimethylphenol	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Dimethyl phthalate	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Di-n-octyl phthalate	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
4,6-Dinitro-2-methylphenol	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	-		
2,4-Dinitrophenol	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	-		
2,4-Dinitrotoluene	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
2,6-Dinitrotoluene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Fluoranthene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Fluorene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Hexachlorobenzene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Hexachlorocyclopentadiene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Hexachloroethane	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
Indeno(1,2,3-cd)pyrene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Isophorone	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
Naphthalene	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
Nitrobenzene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		
2-Nitrophenol	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
4-Nitrophenol	63 U	ug/l	63	50 U	ug/l	50	50 U	ug/l	50	-		
N-Nitrosodimethylamine	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
N-Nitrosodi-n-propylamine	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
N-Nitrosodiphenylamine	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
Pentachlorophenol	63 U	ug/l	63	50 U	ug/l	50	50 U	ug/l	50	-		
Phenanthrene	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
Phenol	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
Pyrene	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
1,2,4-Trichlorobenzene	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
2,4,6-Trichlorophenol	13 U	ug/l	13	10 U	ug/l	10	10 U	ug/l	10	-		
Hexachlorobutadiene	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-		

09/22/95 NADEP AVGAS PIPELINE SITE 6 09:50:28

Lab Sample Number:	B5C3100470	B5C3100470	B5C3100470	B5C3100470					
Site	NADEP-6	NADEP-6	NADEP-6	NADEP-6					
Locator	06G00801	06G00901	06G0E801	06G0T801					
Collect Date:	30-MAR-95	30-MAR-95	30-MAR-95	30-MAR-95					
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

TRPH										
Total petroleum hydrocarbons	1 U	mg/l	1	1 U	mg/l	1	1 U	mg/l	1	-
TOTAL METALS										
Cadmium	5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	-
Chromium	66.7	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	-
Arsenic	18.4	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	-
Lead	37.3	ug/l	5	7.4	ug/l	5	6.1	ug/l	5	-

U = Not Detected J = Estimated Value  
 B = Compound detected in Method Blank associated with this sample

Lab Sample Number:	B5C3100470		B5C3100470		
Site	NADEP-6TIC		NADEP-6TIC		
Locator	06G00801		06G00901		
Collect Date:	30-MAR-95		30-MAR-95		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS
				DL	

## TENTATIVELY IDENTIFIED COMPOUNDS.

Caprolactam	35	ug/l			
Pyridine, 1,2,3,6-Tetrahydro-1	10	ug/l			
5-Quinololinol	8	ug/l			
1-Unknown	6	ug/l			
Maleic Hydrazide	19	ug/l			
Benzene, (1,3,3,3-Tetrachlorop	9	ug/l			
Oxyquinoline	6	ug/l			
2-Acetyl-5-Methylthiophene	6	ug/l			
Glycocyanidine	6	ug/l			

1,2-Cyclopentanedione, Dichlor			5	ug/l	
Caprolactam			12	ug/l	
1,2-Benzenedicarboxylic Acid,			5	ug/l	

U = Not Detected J = Estimated Value

Lab Sample Number:	B5E0500040		B5E0500040		B5E0500040		B5E0500040		
Site	NADEP-6		NADEP-6		NADEP-6		NADEP-6		
Locator	06G00102		06G00302		06G00402		06G00802		
Collect Date:	03-MAY-95		03-MAY-95		03-MAY-95		03-MAY-95		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

TOTAL METALS

Cadmium	5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	5 U	ug/L'	5
Chromium	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50	50 U	ug/l	50
Arsenic	5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5
Lead	5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5

U = Not Detected J = Estimated Value